FAMILY HEALTH SURVEY 2009

Medchal Mandal

A REPORT

SHARE INDIA

MediCiti Institute of Medical Sciences
Ghanpur Village, Medchal Mandal,
Rangareddy District, Andhra Pradesh
2009

FAMILY HEALTH SURVEY IN MEDCHAL MANDAL

BACKGROUND

A census type of Family Health Survey was undertaken during 2008-09 in all the 40 REACH (Rural Effective Affordable Comprehensive Health) project villages in Medchal mandal of Ranga Reddy district in the State of Andhra Pradesh .The main objective of the survey was to provide estimates of fertility, contraceptive prevalence, infant and child mortality, maternal and child health, child immunization, morbidity and health care, and utilization of ICDS services by children under six years of age, pregnant women and lactating mothers.

Figure 1: Map of medchal mandal

The need to undertake a cross-sectional National Family Health Survey (NFHS) type of survey in Medchal mandal was keenly felt for two main reasons:

1) REACH project has been in operation in Medchal mandal since 1994 and so far no systematic independent evaluation of the project has been carried out. It was thought that a cross-sectional census type of survey would help cross-check and validate the results of the on-going REACH project.

2) A survey of this type would generate good quality data on key demographic and health indicators, provide baseline information as well as facilitate needs assessment for any future interventions in the project area.

Instruments of Survey

Two types of questionnaires (Household Questionnaire and Women's Questionnaire) were developed keeping in view the objectives of the study and the nature of information needed to be collected. The questionnaires were translated into Telugu and were also back-translated to verify the accuracy and authenticity of translation. The printed questionnaires contained the questions both in English and Telugu.

The **Household Questionnaire** was used to list all usual residents plus any visitors who stayed in the household (HH) the night before the interview. Socio-demographic characteristics of all listed persons were collected. Information was gathered at HH level on the prevalence of asthma, tuberculosis, diabetes, goiter, malaria and jaundice, as well as three lifestyle indicators - chewing paan masala or tobacco, drinking alcohol, and smoking. Information was collected on birth

registration in respect of persons under 5 years of age. In addition, the household questionnaire envisaged collection of information on HH conditions, source of lighting, cooking fuel, ownership of agricultural land and livestock as well as ownership of consumable durable items.

The **Women's Questionnaire** was formulated to collect information from all currently married women age 15-49 years who were usual residents of the households or visitors who stayed in the household the night before the interview. Information was obtained on the background characteristics of women, their reproductive history, contraceptive use, antenatal care, delivery and postnatal care, child immunizations and child health and utilization of ICDS services.

Investigators

A survey team consisting of three supervisors and 12 investigators conducted the fieldwork in REACH villages during October 2008 – February 2009. All the investigators including the Supervisors underwent training for a period of about 2 weeks in the administration of questionnaires. The training included, apart from classroom lectures and discussions, role play, field visits and mock surveys.

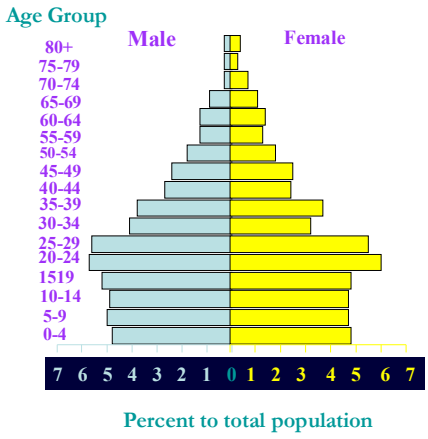
The key findings of the survey are presented in the following paragraphs.

POPULATION AND LIVING CONDITIONS

Population

Among the 10,176 households surveyed in 40 villages in the mandal, a total population of 22,633 males and 21,859 females was enumerated, giving a **gender *ratio*** (females per 1000 males) of 966. Comparable figures from the 2001 census are 956 for rural Rangareddy district, 983 for rural Andhra Pradesh and 946 for rural India.

Figure 2
Population pyramid by age & gender



The **age pyramid** of the household population shown in Figure 2 reveals that 29% of the population is below 15 years of age and 7% is above age 59, with the remaining 64% in the age group 15-59 years. The corresponding figures for rural Andhra Pradesh are 33, 59 and 8 as per 2001 census. The *dependency ratio*, defined as the number of children below 15 years of age and older persons aged 60 and above per 100 persons in the working ages 15-59 years, is 57 in the present survey as compared to 66 for the state of Andhra Pradesh in 2001. The total dependency burden is almost entirely due to the high proportion of children below 15 years of age. The average age of the household

population works out to be 26.8 years, while the median age is 24 years. These values indicate that the age structure of the population is young, suggesting a good potential for population of Medchal mandal to grow in future.

Household Composition

One in 8 households is headed by a woman. Ninety-one percent of household heads are Hindu, 5% are Muslims and 3% Christians. One out of 5 household heads (19.6%) belongs to a scheduled caste, 1 out of 15 (6.6%) belongs to a scheduled tribe and the rest to other caste groups. The average household size was 4.4.

Educational Status

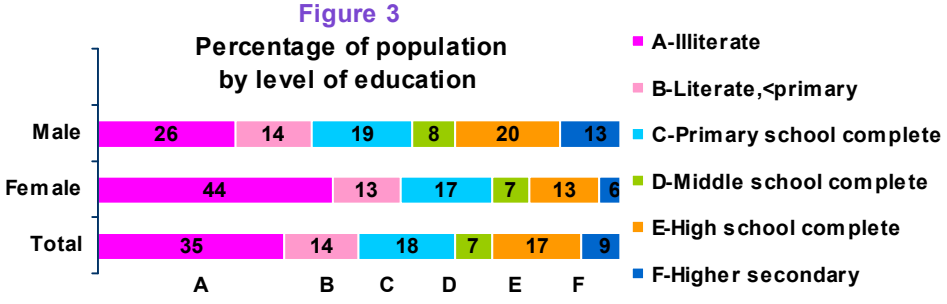
Household literacy is an important indicator of social development. Overall, about 10% of the households in Medchal mandal do not have even a single literate member. All members aged 5 years and above are literate in about a quarter of the households.

Female literacy (age 5 years and above), an important indicator of empowerment of women is 56%, which is slightly higher than the state average of 51.2% revealed by 2001 census. The gender ratio of literate population (female literates per 1000 male literates) is 537, highlighting the fact that women in Medchal mandal have to go a long way to achieve gender parity in literacy.

It is disheartening to note that 35% of the population of age 5 and above is illiterate. Only 18% have completed middle schooling and another 26% have completed high school or above.

A higher percentage of males over females is observed on completion of each level of schooling. For instance, the percentage of males who have completed high school and above is 33 as compared to 19 for females (Figure 3).

Figure 3



Household characteristics

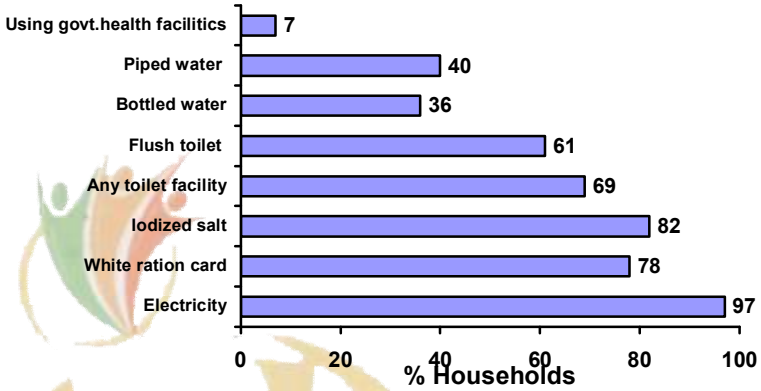
The percentage of households possessing white ration card, which indicates the prevalence of BPL in the study area, is 78, while 17% do not possess any card. Type of house could be an indicator of economic status of the household. About 60% of households live in *pucca* (permanent structure) houses and 10% live in *kachcha* (made from low quality material, used for the roof, walls and floor) houses. Nearly all the households (97%) in the study area do have electricity (Figure 4). It may be pointed out that the government provides assistance for construction of *pucca* houses for the socio-economically poor.

Access to potable drinking water, improved sanitation facilities and safe cooking fuel are important indicators of good living conditions. Six in 10 households use an improved source for their drinking water. About 40% of households have piped drinking water supply in their homes or yards and another one-third of households rely on bottled water supplied by various agencies at subsidized price. Other households rely on public taps, tube wells or bore wells (Figure 4).

Regarding sanitation facilities, 60% of households have a flush toilet, 8% have a pit toilet and 31% have no facility.

Several types of **cooking fuel** are used, firewood being the most common type (50%), 45% depend on LPG and about 6% on kerosene. Smoke from solid cooking fuels such as wood can lead to a range of serious health problems including respiratory infections, low birth weight, and eye problems.

Figure 4
Selected household characteristics



A lack of iodine in the diet can lead to Iodine Deficiency Disorders (IDD), which can cause miscarriages, brain disorders, goiter and related psychomotor development. Iodine deficiency can be avoided by using salt that has been fortified with iodine.

In this survey, interviewers measured the iodine content of cooking salt in each interviewed household using a rapid-test kit. The test kit consists of ampoules of a stabilized starch solution and of a weak acid-based solution. The interviewer squeezes one drop of starch solution on a sample of cooking salt obtained from the household respondent. If the colour changes (from light blue through dark violet), the interviewer matches the colour of the salt as closely as possible to a colour chart on the test kit and records the iodine level as 7, 15 or 30 ppm.

The use of iodized salt is quite high in the Medchal villages. Overall, more than 80% of households use cooking salt that has been iodized at the recommended level of 15 ppm or more.

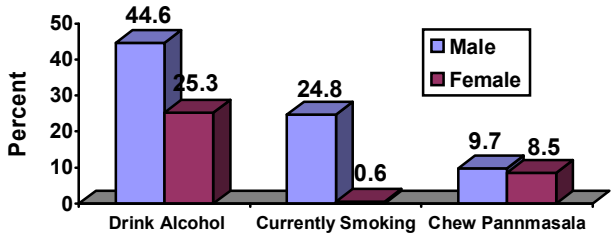
Asset ownership

Seven out o 10 households own a house. Seventy-one percent of households own agricultural land and 60% own agricultural land that is irrigated. While a quarter of households own a television set, 7 in 10 households own a mobile telephone.

Lifestyle Indicators

According to information provided by household respondents, 45% of males aged 15 years and above consume alcohol, 25% smoke and 10% chew paan masala or tobacco. While a few women chew paan masala or tobacco (8.5%) or smoke (0.6%), alcohol consumption is quite prevalent (25%) even among women in the villages of the mandal (Figure 5).

Figure 5
Percent of men and women according to tobacco and aicohol use



Source of Health Care

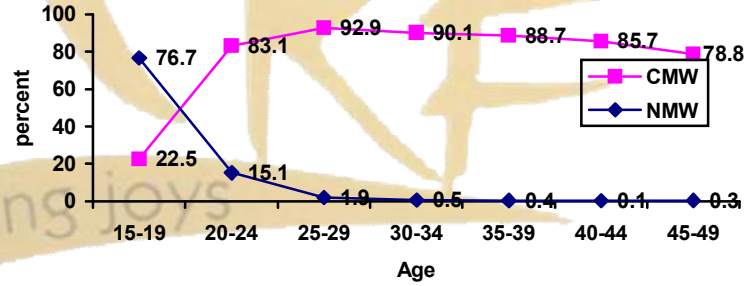
More than 90% of households generally use private medical and health facilities whenever a household member gets sick and only 7% reportedly use the public medical sector. In the private medical sector, hospitals (60%) are the most popular source of health care, followed by private doctors (29%). Reliance on government hospitals and government dispensary (5.6%) is higher in public medical sector.

MARRIAGE, FERTILITY AND CONTRACEPTIVE USE

Marriage

Marital Status

Figure 6
Percentage of women married and never married, by age



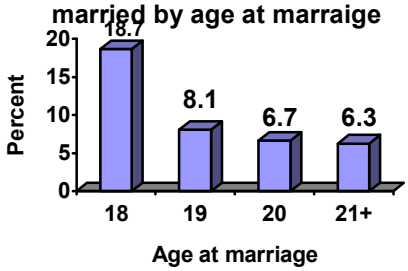
The survey includes information on the marital status of all household members aged 10 years and above. Among the females aged 15-49 years, 76% are currently married and 17% have never been married. The proportion of never married in this age group is higher for males (37%) than for females (17%). The proportion of divorced, separated or deserted is small, and widowhood is low until the older ages. About 6% of women in reproductive ages 15-49 years are widowed.

The proportion of married women in reproductive ages is an important indicator of the marriage pattern. Marriage is virtually universal in the study area and takes place at relatively young ages. The proportion of single women drops down steeply, from 77% in 15-19 years age group to less than 2% in 25-29 years age group, and further to 0.5% in the next higher age group (Figure 6).

Age at Marriage of Women

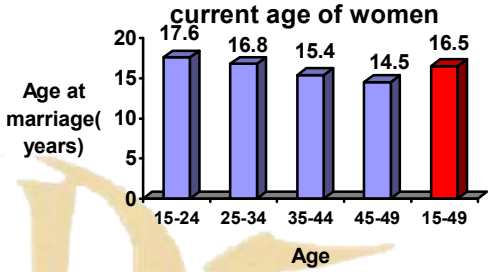
Also of interest is the proportion of women getting married at young age. In the present survey, data on age at marriage were collected from all currently married women under 50 years of age who were normally present in the household. The high frequency of early marriage of girls is striking. About 60% of women were married before the age of 18 years; and 87% were married before the age of 20 years. Thus a large proportion of women were getting married before the legal age at marriage of 18 years (Figure 7).

Figure 7
Percentage of women married by age at marraige



The average age at marriage for women in reproductive ages 15-49 years is 16.5 years. However, a comparison of mean values by current age of the women indicates that the mean age at marriage has been increasing over time. For younger cohorts of women in the age group 15-24 years the mean age at marriage is 17.6 years as compared to 14.5 years for older cohorts of women aged 45-49 years (Figure 8).

Figure 8
Mean age at marriage by current age of women



Consanguinity

Another important aspect of the institution of marriage is the prevalence of consanguineous marriage. This is a form of inbreeding that has implications for mortality and morbidity as well as fertility. About one-fourth of currently married women in the study area married their close relatives. Such marriages occur mainly between first cousins (either on father's side or their mother's side) and about 2% married a brother-in-law or uncle. Thus marriages between relatives are prevalent in the villages in Medchal mandal.

FERTILITY LEVEL

Crude Birth Rate

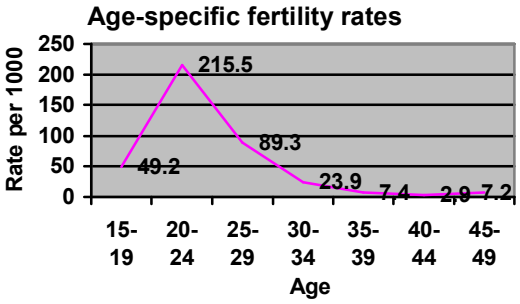
Fertility refers to the actual reproductive performance of a population. There are several indicators which can be used to measure the level of fertility in a population. The birth rate (also called crude birth rate) indicates the number of births per 1000 population in a given year. Although birth rate is not a sensitive indicator, it is widely used as a measure of fertility. The estimated **crude birth rate** for the survey population based on births during the one year period preceding the survey is 21.6.

Age-specific fertility rate

The age-specific fertility rates (ASFRs) and total fertility rate (TFR) are more refined measures than the birth rate, since the former are not affected by the age structure of the population. Both the ASFRs and the TFR are based on births during

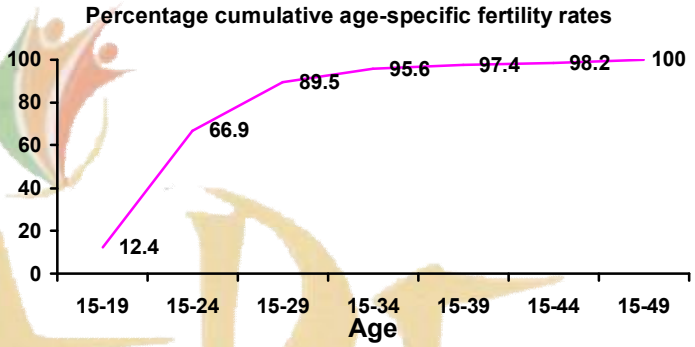
the year preceding the survey. The TFR, a summary measure that is calculated as five times the sum of ASFRs, is interpreted as the number of children a woman would bear during her reproductive years if she were to experience the age-specific fertility rates prevailing in the year preceding the survey.

Figure 9



Fertility in Medchal mandal has declined to below replacement-level. A TFR of 1.97 children per woman is estimated for the one year period preceding the survey. The age-specific fertility rates follow the expected bell-shaped pattern. The peak fertility is observed for the 20-24 years age group. Fertility rates decline sharply after age 25, reaching extremely low levels for women age 40-44 years (Figure 9).Current fertility in Medchal is characterized by a substantial amount of early childbearing: 67% of total fertility is accounted for births in the age group 15-24, and the contribution of women age 30 years and above to total fertility is just about 10% (Figure 10).

Figure 10



The number of children a woman has ever borne is a cohort measure of fertility. Reflecting fertility in the past, it provides a somewhat different picture of fertility levels and trends than do period measures of fertility, such as the CBR and TFR. Among currently married women age 15-49 years, the mean number of children ever born is 2.3. The mean value increases steadily with age, reaching a high of 3.6 children per woman for the 45-49 age group(Table 1).

Table 1

Average No. of children ever born and surviving

Age of Women	Av.number of children Ever born	Surviving	Dead	Percentage children dead
15-19	0.39	0.37	0.02	5.1
20-24	1.26	1.19	0.07	5.5
25-29	2.12	1.97	0.15	7.1
30-34	2.56	2.38	0.18	7.0
35-39	2.90	2.65	0.25	8.6
40-44	3.18	2.89	0.29	9.1
45-49	3.62	3.23	0.39	10.8
15-49	**2.26**	**2.08**	**0.18**	**8.0**

Completed fertility is measured by the average number of children ever born to women age 45-49 years at the time of the survey. If there had been no change in fertility during the period prior to the survey, the current fertility (TFR) and completed fertility (average number of children ever born to women age 45-49 years) would be identical. If fertility had declined, current fertility would be lower than completed fertility, with larger differences generally indicating more rapid decline.

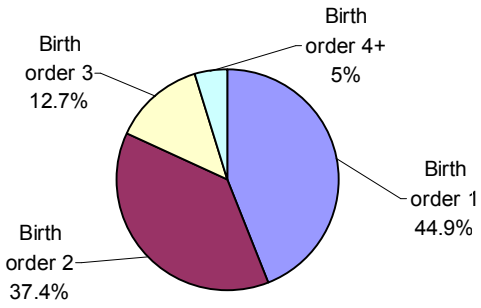
The gap between the TFR (1.97) and the mean number of children ever born to women age 45-49 years (3.62) suggests that a significant decline in fertility has occurred in the study area.

The average number of dead children per currently married woman is 0.18. Eight percent of children ever born to all currently married women have died. The proportion of children ever born who have died increases from 5% for women age 15-19 years to 11% for women age 45-49 years; 8% of children ever born to women in reproductive ages 15-49 have died (Table 1).

Higher Order Births

The distribution of births by birth order is yet another way to view fertility. Figure 11 shows the percentage distribution of births by birth order during the one-year period before the survey. Overall, as would be expected, the number of births at each order is larger than the number at the next higher order. Forty-five percent of all births are first-order births, 37 percent are second-order births, 13 percent are third-order births, and the remainder of 5 percent is of order four and above (Figure 11).

Figure 11
Distribution of birth by order of birth



There exists a high degree of relationship between the incidence of higher order births and TFR of the population. The correlation coefficient between the proportion of higher order births (birth order 4 and above) and TFR as computed from Sample Registration System data for the year 2006 for 20 major states of India, is 0.91. A linear regression was fitted between TFR (dependent variable) and the proportion of higher order births (independent variable) using 2006 SRS data for 20 states of India. The following regression equation was obtained:

$$TFR = 1.37 + 0.09\ B; \quad R^2 = 0.81; \quad N = 20$$

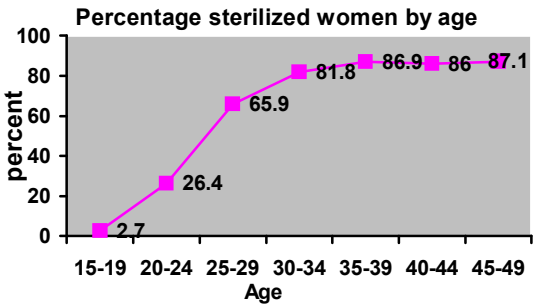
Where B = percentage of births of order 4 and above

For a given incidence of higher order births, one can estimate the corresponding expected value of the total fertility rate. By substituting the value of 5%, which is the proportion of 4+ order births, obtained from the present survey in the above equation, the expected TFR works out to 1.82, which is slightly lower than our direct estimate of 1.9, suggesting that the present survey estimates of TFR and incidence of higher order births are consistent.

Contraceptive Prevalence

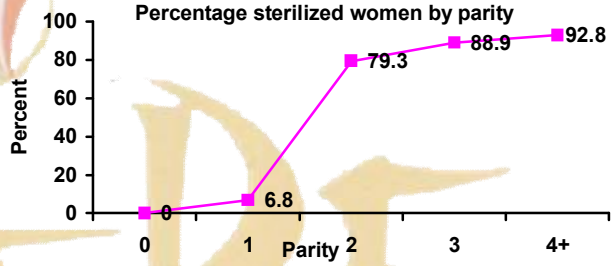
Contraception is one of the important proximate determinants of fertility. The principal characteristic of a proximate determinant is its direct impact on fertility. If a proximate determinant such as contraceptive use changes, then fertility necessarily changes provided other proximate variables remain constant. The current use of contraception among currently married women of reproductive age 15-49 years is 59 percent. The terminal methods contribute to 58.6%, while temporary spacing methods account for a negligible part (less than 1%). Female sterilization dominates contraceptive use, accounting for 99% of current contraceptive prevalence.

Figure 12



By age, contraceptive use increases from 3% for women age 15-19 years to a peak of 87% for women age 35-39 years, and then stabilizes around that level for older women. Likewise, contraceptive use increases sharply from 6.8% for first parity women to 89% for third parity women and further to 93% for women with 4 or more children. Almost 80% of 2nd parity women have been sterilized. Because of growing number of women accepting sterilization at younger ages and at lower parities, the fertility impact of contraception has been quite significant in bringing down the TFR to below replacement-level (Figures 12 and 13).

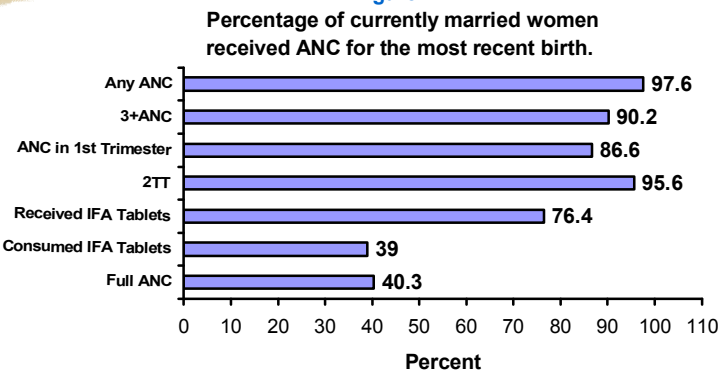
Figure 13



Maternal Care

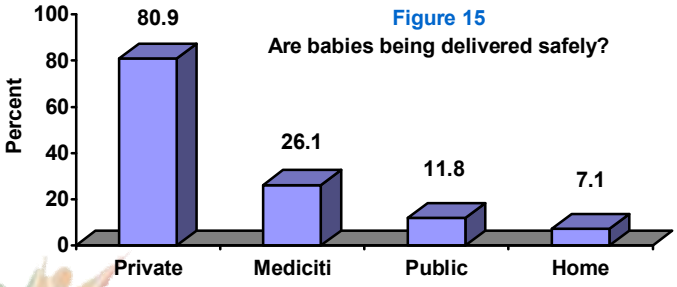
The study obtained information on several indicators of maternal health. Antenatal care (ANC) refers to pregnancy-related health care provided to women by a doctor or an ANM or any health professional. The Reproductive and Child Health (RCH) programme recommends that as part of antenatal care, women receive two doses of Tetanus Toxoid injections, one hundred IFA tablets and at least three antenatal check-ups.

Figure 14



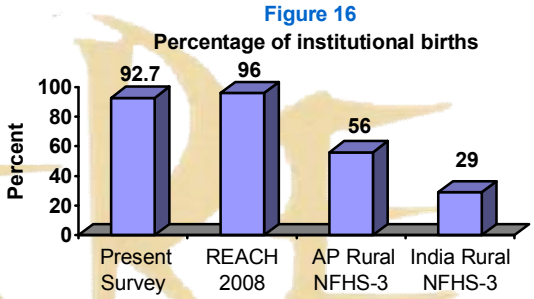
Ninety-eight percent of mothers in reproductive ages who delivered during the 4-year period preceding the survey had received at least one antenatal check-up. About 90% of mothers received at least 3 antenatal check-ups. Among

mothers who received antenatal check-up, 87% received it in the first trimester. The main source of antenatal care is private medical sector (82 %) followed by government hospital (7.5%) and government dispensary / community health center (6%). Almost 96% of mothers received 2 doses of TT injections. However, only 76% of women received iron and folic acid supplements during pregnancy, and only 39% consumed the supplements for at least 90 days, as recommended. The full recommended antenatal care (i.e. at least 3 antenatal check-ups, 2TT injections and 90+ IFA tablets) care was received by only 40% of women (Figure 14).



An overwhelming share of 93% of births took place in health care institutions and only 7% took place at home. About 80% of births took place in a private health facility; only 12% in public institutions (Fig. 15).

The NFHS-3 reported that hospital-based deliveries constituted only about 56% in rural Andhra Pradesh and 29% in rural India. As compared to the state and all-India figures, the proportion of deliveries occurring in health care facilities is very much higher in Medchal Mandal (Figure 16).



CHILD HEALTH

Childhood illnesses

In the two weeks before the survey, 2.5 percent of children under the age of 4 years had cough accompanied by fast breathing (symptoms of acute lower respiratory infection). Of them, 82 percent were taken to a health facility or health provider. Nine percent of children were reported to have had fever in the two weeks preceding the survey and 5.4% suffered from diarrhea. Among the children who had diarrhea, 86% were taken to a health facility, mostly to a private hospital (44.6%) and private doctor (21.2%). About 50% children were treated with oral dehydration salts and 16.5 % were given gruel. During the episode of diarrhea, children should receive more fluids than usual. However, only 17% received more fluids than normal. Almost 1 in 10 children with episode of diarrhea received less to drink than normal, which can increase the risk of dehydration.

Breastfeeding

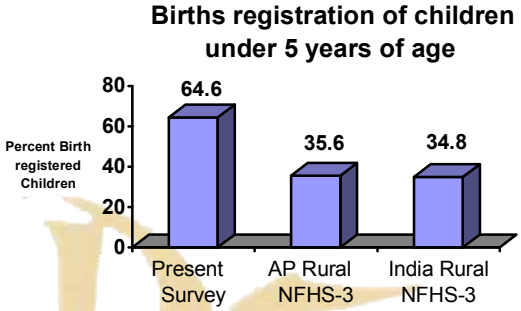
Breastfeeding is nearly universal in the study area, and 96% of all children born during the four years preceding the survey were breastfed. It is recommended that the first secretion should be given to children because it contains colostrums, which provides natural immunity to children. However, a substantial proportion of women (36.5%) who

breast feed squeeze the first milk from the breast before they begin breastfeeding their babies. Only 6.4% of the babies are put to the breast immediately after birth or within one hour after birth, indicating the need to disseminate messages to the mothers highlighting the importance of commencement of breastfeeding immediately after delivery.

Birth Registration

Information was obtained for all children in the household under 5 years on whether they have a birth certificate, and if not, whether their birth was registered with the civil authorities. About 65% of children under age five years had their births registered with the civil authorities. However, only 58% of children have a birth certificate. The extent of registration of births declines steadily with increasing age, from 69% among children under 2 years of age to 54% among children age 4 years. Girls and boys are equally likely to have their births registered and to have birth certificates. According to NFHS-3, the completeness of birth registration among children age 0-4 years is about 35% in rural Andhra Pradesh as well as in rural India. The extent of completeness of birth registration is much higher in Medchal mandal as compared to Andhra Pradesh and the country as a whole (Figure 17).

Figure 17



Child Immunization

Immunization provided at the right age, offers almost complete protection against six of the most common diseases of childhood. The immunization schedule recommended by the Government of India requires all children to receive one dose of BCG vaccine, three doses each of polio and DPT vaccine, and one dose of measles vaccine before the first birthday. The first dose of OPV is recommended to be administered to the child along with the first dose of DPT vaccine at 6 weeks of age. The second doses of OPV and DPT are to be administered at 10 weeks of age, while the third doses are to be given at 14 weeks. The measles injection is recommended to be given when the child is between 9 and 12 months of age. The polio vaccine (OPV '0') is also recommended to be given to the child immediately after birth or on the day of birth.

In this survey, mothers of children born since January 2005 were asked whether the child had a vaccination card. If the card was available, interviewer was required to copy carefully the dates when the child received vaccination against each disease. If the mother could not show a vaccination card, she was asked whether the child had received any vaccinations. If any vaccinations had been received, the mother was asked whether the child had received a vaccination against tuberculosis (BCG); diphtheria, whooping cough and tetanus (DPT); poliomyelitis (polio); and measles. Information on hepatitis-B vaccination was also obtained. Administration of hepatitis-B vaccine (that is an injection given in the thigh) was introduced in the regular immunization programme in the state of Andhra Pradesh in 2001 in a phased manner. As per primary immunization schedule, three doses of hepatitis-B vaccine have to be administered to the

child along with DPT injections at 6 weeks, 10 weeks and 14 weeks of age, respectively. In respect of DPT, polio and hepatitis-B, information was obtained on the number of doses of the vaccine given to the child. Mothers were also asked whether the child was given polio 'o' (drops in the mouth given immediately after birth or on the day of birth).

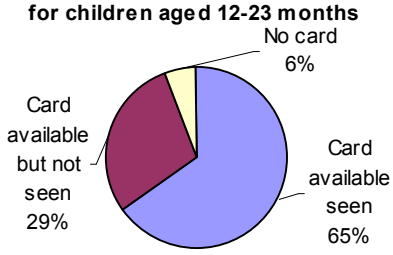
For the computation of coverage rates by vaccine, the number of children in the age group 12-23 months is taken in the denominator since children in this age group should have completed primary immunization schedule. For the present analysis, children in the age group 12-23 months who had received BCG, three doses each of DPT and OPV (excluding OPV'0') and measles are considered to be fully immunized.

Availability of Immunization Card

Immunization card of the child is an important document which needs to be preserved since it would help the mother to monitor the immunization schedule. A number of studies revealed that levels of immunization coverage are directly related to the percentage of mothers possessing the immunization card.

Among 840 children in the age group 12-23 months of age, immunization cards were seen by the interviewer for 65% of the children. In another 29% of the children, it was reported that immunization cards were available but were not shown to the interviewer at the time of interview. Immunization cards were not available only for 6% of the children (Figure 18). According to NFHS-3, the percentage of children with a vaccination card seen by the interviewer was only 37 for the state of Andhra Pradesh as well as for the country. This is one of the reasons for low coverage of child immunization observed for Andhra Pradesh as well as for the country as a whole. It is, therefore, imperative that mothers and household adult members need to be educated about the importance of preserving the immunization cards to monitor the immunization schedule of children in the household.

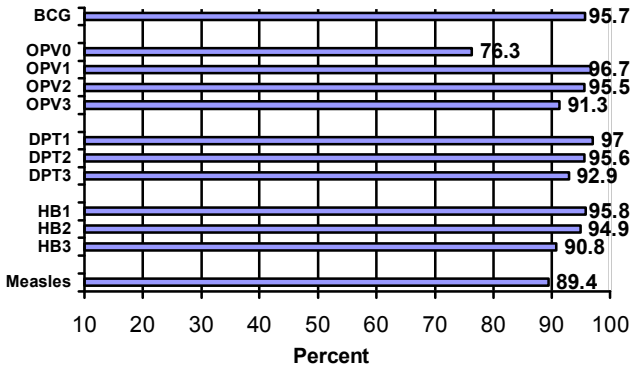
Figure 18
Availability of immunization card for children aged 12-23 months



Immunization Coverage

Immunization coverage rates by vaccine were worked out based on information obtained from a card or as reported by the mother. Among children aged 12-23 months, 82.3% are fully immunized, 17.1% are partially immunized and the remaining 0.6% has not received any vaccinations. The coverage rates of individual vaccines are higher than the percentage of children fully immunized. Coverage of BCG, DPT, Polio and hepatitis-B vaccinations was much higher than the percentage of

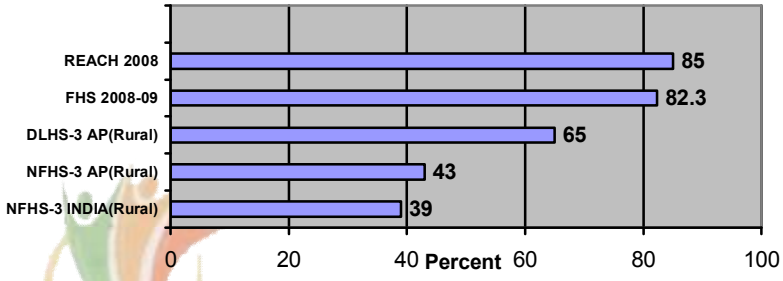
Figure 19
Percentage of children age 12-23 months who have received specific vaccination.



children fully immunized. BCG, the first dose of polio vaccine and the first dose of DPT have each been received by at least 95% of children. Between 91% and 93% of children had received three doses of polio and DPT vaccine. Immunization against measles has been received by 89% of children (Figure 19).

The full immunization coverage in Medchal mandal indicated in the present survey is more than twice the rate for rural India (39%) and is about 40 percentage points higher than the rate for rural Andhra Pradesh (43%). The district level household and facility survey (DLHS-3) conducted in Andhra Pradesh under Reproductive and Child Health Project gave full immunization coverage of 65% for rural Andhra Pradesh for the year 2007-08. Hence, the child immunization programme has been quite successful in REACH villages in achieving a protection rate of more than 82% among children aged 12-23 months (Figure 20).

Figure 20
Percentage of children age 12-23 months fully immunized



All children who received a particular vaccine may not continue to completely receive the full doses for that vaccine, or they do not complete all the different vaccinations. A scrutiny of the figures given in Table 2 indicates that 4.2% of children who had received the first dose of DPT did not continue to receive its third dose. The dropout rate is slightly higher (5.6%) in the case of polio vaccine. A greater problem seems to be that related to the completion of measles vaccination. About 8% of those who had received DPT first dose did not receive measles vaccination while around 4% of children who had received all the three doses of DPT did not receive measles vaccination.

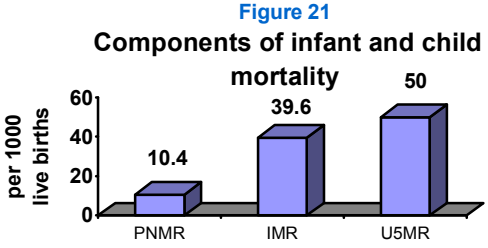
Table 2
Immunization dropout rates by vaccine

Vaccine	Dropout Rate (%)
DPT1 to DPT3	4.2
OPV1 to OPV3	5.6
DPT1 to measles	7.8
DPT3 to measles	3.8
OPV1 to measles	7.9
OPV3 to measles	2.1

Childhood Mortality

Based on births and child deaths that occurred in 12 months period preceding the survey, the mortality rates among infants and children were estimated. The estimated infant mortality rate is 39.6 per

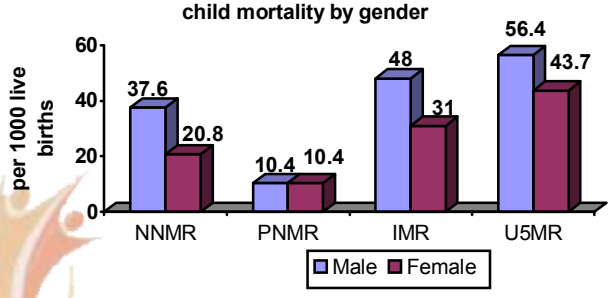
Figure 21
Components of infant and child mortality



1000 live births (Figure 21). The present survey estimate is three points lower than the REACH's figure of 42.9. As compared to NFHS–3 estimates of 64 for rural Andhra Pradesh and 62 for rural India, infant mortality rate in Medchal is considerably lower. However, this is much higher than Kerala's level of 15.

The neonatal mortality rate, which reflects a component of congenital conditions, constitutes a substantial portion of about three–fourths of infant mortality rate. Further, the rate is considerably higher for males (37.6) than for females (20.8). On the other hand, the post neonatal mortality rate is same for both genders (Figure 22). The risk of dying between birth and age 1 is 50% higher for males than for females. Also, an under-5 mortality rate is about 30% higher for males than females. The NFHS-3 data also show similar pattern of gender differentials in IMR.

Figure 22
Components of infant and child mortality by gender



Utilization of ICDS

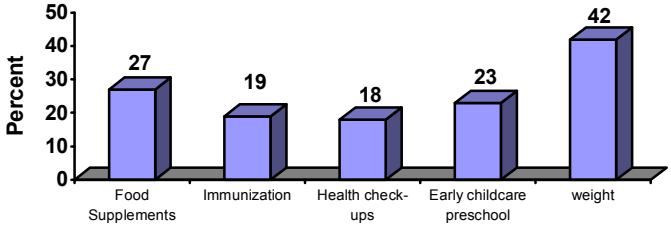
The Integrated Child Development Services (ICDS) scheme, initiated in 1975, is the primary government programme providing health and nutrition services for children under age six years, pregnant women, and nursing mothers, as well as preschool education for children age 3-6 years. These services are provided through a network of village-based *anganwadi centers* (AWCs).

To get information on the coverage of the ICDS programme, data were collected on the utilization of services by children under age 6 years and by their mothers (during pregnancy and when breastfeeding) of selected nutrition, health and education services provided through AWCs. In respect of each child under age six years, the survey asked the mothers questions regarding the services received, during the 12 months preceding the survey, particularly pertaining to supplementary food, immunizations, health check-ups, and early childhood care or preschool education from an AWC and whether the child had been weighed at an AWC, and counseling provided after the child was weighed. Information was also obtained on the frequency with which each service was obtained. In addition, each of the mother of children age 0-71 months was asked whether she herself had received supplementary food, health check-ups, and health and nutrition education, during pregnancy and during the period of lactation.

In Medchal mandal, *anganwadi centers* have been functioning in 33 villages providing services to 98% of the population of the mandal. In the seven small villages where AWCs are not available, the services are being made available through the AWC that is situated in the neighboring village. While the coverage of children by AWCs is relatively high in the villages in Medchal mandal, only 30% of children have received any service from an AWC in the year preceding the survey. Among children under six years of age, one in four (26%) received supplementary food, one in

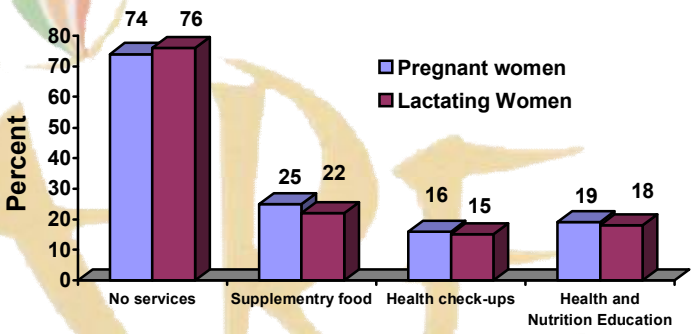
five (19%) received an immunization, and about the same proportion received health check-ups. Nearly one-fourth of children of age 36-71 months went for early childhood care or preschool education to an AWC, and about 42% of children age 0-59 months had their weight measured in an AWC (Figure 23).

Figure 23
Percent of children under age 6 who received ICDS services in the 12 months preceding the survey.



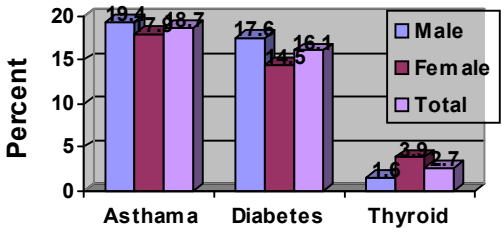
Pregnant women and lactating mothers are expected to receive supplementary food from an AWC. In addition, AWCs are supposed to monitor the health status of mothers during pregnancy and breastfeeding and provide them with health and nutrition education. However, for a significant majority of births, women in Medchal did not avail any service from an AWC during pregnancy (73%) or during the lactation period (76%). Only 27% of women had received supplementary food during their last pregnancy, 16% received health check-ups, and 19% received health and nutrition education. Similarly, only 22% of breastfeeding mothers received supplementary food, 15% received health check-ups and 18% received health and nutrition education. In general, the pattern of utilization of services providing supplementary food, health check-ups and nutrition education by lactating mothers is similar to that by pregnant women (Figure 24).

Figure 24
\Percent of children under age 6 whose mothers received ICDS services while pregnant or breastfeeding



General Morbidity

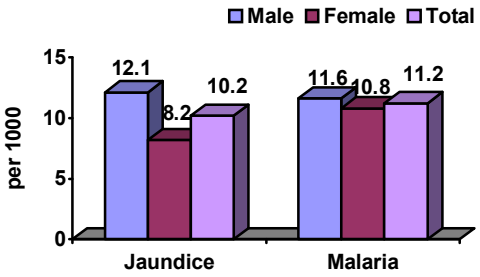
Figure 25
Percentage of asthma,diabetes & thyorid disorders



Data on morbidity for six major illnesses – tuberculosis, diabetes, asthma, goiter/thyroid disorders, malaria and jaundice were collected. The household head or other adult member in the household reported morbidity of all household members, and no attempt was made to carry out clinical tests for any of the disease conditions. It is pertinent to mention that disease prevalence based on reports from household heads must be interpreted with caution. Respondents may intentionally underreport diseases carrying a stigma, such as tuberculosis. It is also possible that household respondents may not be aware that other members of the household have the morbidity condition.

It was reported that less than 3 per 1000 population suffers from tuberculosis, 16 persons reported to suffer from diabetes, 19 per 1000 from asthma, about 3 per 1000 suffer from thyroid disorders, 11 per 1000 persons suffered from malaria during the 3 months preceding the survey, and 10 suffered from Jaundice during the 12 months preceding the survey. Prevalence in diabetes, asthma, malaria and jaundice is higher among men than among women (Figures 25 and 26).In the case of thyroid disorders, the prevalence is higher among women (3.9 per 1000) than among men (1.6 per 1000).

Figure 26
Morbidity : Jaundice & malaria per 1000 persons



OVERVIEW AND POLICY IMPLICATIONS

Fertility and Family planning

Fertility has been declining in the study area, and the total fertility rate (1.97) is below the replacement-level. The typical pattern is for a woman to marry at a relatively young age, have 2-3 children and terminate childbearing before the age of 30 years, mainly through sterilization. The most striking feature of current fertility is the substantial contribution of women aged 15-24 years (67%) to the total fertility rate. The contribution of women age 30 years and above to total fertility is only 10%. The low age at marriage is a major reason for the concentration of childbearing at relatively young ages. The mean age at marriage among women aged 15-24 years is 17.6 years, and about 23% of women in the age group 15-19 years are currently married. Among women in reproductive ages 15-49 years, about 60% were married earlier than the legal age at marriage of 18 years. Therefore, concerted efforts called for to educate the people to delay marriage in order to reduce the risks associated with early childbearing.

Currently about 59% of married women in reproductive ages 15-49 years use a contraceptive method. By far the most popular method is female sterilization, which accounts for 99% of current contraceptive use. Age and parity at acceptance of sterilization are important determinants in assessing the fertility impact of contraception. About 80% of second parity women and 89% of third parity women have been sterilized. Nearly two-thirds of women aged 25-29 years and more than 82% of women aged 30 years and above have been sterilized. Because of very high percentage of couples accepting sterilization at younger ages and at lower parities, the family welfare programme made a notable impact in reducing the fertility level.

However, several issues of concern exist despite the success of the family welfare programme in the study area. First, the predominant method used in the family welfare programme is female sterilization, which accounts for a lion's share of contraceptive prevalence. The acceptance of vasectomy is almost nil in Medchal mandal. In fact, vasectomy which is a simple and safe method of family limitation has been losing its popularity in the state of Andhra Pradesh in recent years. The NFHS-3 revealed that of the total current contraceptive prevalence of any method, female sterilization accounted for 93%, while vasectomy accounted for only 4%. Women groups argue against heavy promotion of female

sterilization which is considered as unethical because sterilization is irreversible and thus destroys women's freedom of reproductive choice. For any health-related programme to be effective and successful, men should actively participate in it if they are truly concerned with the health and well-being of their wives and families. It is therefore necessary to formulate suitable interventions for the promotion of vasectomy in the family welfare programme.

The second issue of concern is the practice of spacing methods, which accounts for less than 0.5% in the overall contraceptive prevalence. Available empirical evidences indicate that longer spacing between births improves maternal and infant survival. There is a need to prevail on young married couples to use reversible contraceptive methods for spacing purposes. Outreach efforts are needed to help young couples understand how the available spacing methods will help them meet their own fertility goals. Development of health care delivery system to provide maternal and child care on a continuing basis would enhance the acceptance of reversible methods like IUD, condom and the pill. These methods may be more readily accepted by younger couples and they may undergo sterilization at a later stage. This sequence of family planning use would reduce, for the individual couple, the risk of not having as many children as they want and increases the fertility impact of contraception. Suitable IEC messages have to be developed to popularize modern temporary contraceptive methods such the pills, IUD and condoms.

Maternal Care

It is heartening to note that about 90% of mothers underwent at least 3 antenatal check-ups and about 96% had 2 doses of TT injections. However, only 76% of women received iron and folic acid supplements during pregnancy, and only 39% consumed the supplements. The full recommended (i.e. received at least 3 antenatal check-ups, 2 TT injections and 90+ IFA tablets) antenatal care was received by only 40% of women. In addition, only 1.5% of expectant mothers took a deworming drug during pregnancy. Failure to take an iron supplement and deworming drugs increases the risk of anemia, a major problem among mothers and children. Therefore, the quality of antenatal care needs improvement. There is a need to create awareness among women on the importance of antenatal care and ensure that all pregnant women receive the full recommended antenatal care during pregnancy.

Child Health

There is substantial scope for further improvement in the full immunization coverage for children. Although the coverage of some of the individual vaccines is relatively high (above 92%), only 82% of children have received all recommended vaccines. The coverage of measles immunization needs to be improved. The drop-out rate of children from the vaccination schedule has to be reduced to achieve greater full immunization coverage for children. During the year measles immunization was deferred for some time by the government due to adverse effects reported elsewhere.

Another area of child health which needs attention is the prevention and treatment of childhood diarrhea. About 6% of children under 4 years were ill with diarrhea during the two weeks prior to the survey, and around 50% of them were treated with oral rehydration salts. However, only 17% received more fluids than normal and 1 in 10 children

received less to drink than normal, which can increase the risk of dehydration. Therefore, there is a clear need to strengthen the IEC component in the area of diarrhea management.

Although breastfeeding is nearly universal in the study population, most babies are not given breast milk soon after birth. Only 6% of the babies are put to the breast immediately after birth or within one hour after birth. Moreover, due to various cultural reasons prevailing in the villages, a significant proportion of women squeeze the first milk from the breast before they start breastfeeding, despite the fact that the first breast milk is beneficial for babies. These findings suggest that greater emphasis should be given to this aspect in the content of the IEC programme on infant feeding practices.

According to our data, the ICDS programme has not been functioning effectively in providing health and nutrition services for children under age 6 years and pregnant and lactating mothers. In areas covered by AWCs, about 60% of children under age 6 years did not receive any service from an AWC in the 12 months prior to survey. Most pregnant women (73%) and nursing mothers (76%) did not use AWC services during pregnancy or while breastfeeding. Obviously, the ICDS programme has achieved only limited success in meeting the goals set by the government of India.

Infant Survival

Another issue of concern is the persistence of high level of infant mortality which is hovering around 40 infant deaths per 1000 live births for the last few years in the study area. Further, a significant portion of infant deaths (75%) takes place within the first month of life. On the other hand, fertility continues to decline in the study area and has reached below replacement-level. Given this anomaly between the trends in IMR and TFR, the stalling of IMR decline should be of considerable concern. Possibly, the interventions on child survival that have been implemented so far by the government have not made a significant dent in reducing infant mortality, calling for alternative policy options for achieving tangible results. We need to develop strategies under RCH programme to focus on the promotion of mother-baby package of interventions at various stages of pregnancy, and during and after birth. It is important to underscore the fact that a sustained fertility decline cannot be achieved with high levels of infant mortality because the concept of a two-child family norm is relevant only in a relatively low mortality situation.

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FACT SHEET: MEDCHAL MANDAL

1. Coverage	
• No. of villages covered	40
• No. of households surveyed	10176
2. Population and Household Characteristics	
• Total population	44492
• Male population	22633
• Female population	21859
• No. of ever married women age 15-49 years	10379
• No. of currently married women age15-49 years interviewed	8971
• Gender ratio (number of females per 1000 males)	966
• Child sex ratio (age 0-6 years)	980
• Mean household size	4.4
Age distribution	
• Population age 0-4 (%)	9.6
• Population age 5-14 (%)	19.3
• Population age 15-59 (%)	63.7
• Population age 60+ (%)	7.4
• Mean age of population (years)	26.8
• Median age of population (years)	24.0
Literacy(age 5+)	
• Literate among persons (%)	65.2
• Literate among males (%)	74.2
• Literate among females (%)	55.9
• Female literates per 1000 male literates	537
• Households with no literate member (%)	9.5
• Households with all literate members (%)	24.6
Religion	
• Hindu households (%)	91.3
• Muslim households (%)	5.2
• Christian households (%)	3.2
Caste/tribe	
• Scheduled caste households (%)	19.6
• Scheduled tribe households (%)	6.6
Birth Registration	
• Percentage of births registered among children below 5 years: < 2 years 2-4 years 0-4 years	 69.1 60.9 64.6
Housing Characteristics	
• *Pucca* houses (%)	58.9
• *Kachcha* houses (%)	9.9
• Households possessing white ration card (%)	78.4
• Households possessing pink ration card (%)	4.5
• Households possessing no ration card (%)	16.8

• Households with electricity (%)	96.9
• Households with flush toilets (%)	60.9
• Households with no toilet facility (%)	31.1
• Households using iodized salt (15+ ppm) (%)	82.3
• Households using tap as main source of drinking water (%)	59.4
• Households using govt.health facilities for sickness (%)	6.7
3. Marriage, Pregnancy, Fertility and Contraceptive Use	
Marriage (currently married women age 15-49 years)	
• Percentage married women in the age group15-19 years	22.5
• Percentage married women in the age group 20-24 years	83.2
• Average age at marriage among women age 45-49 (years)	14.5
• Average age at marriage among women age 15-24 (years)	17.6
• Percentage consanguineous couples	24.6
Pregnancy	
• Number of currently pregnant women per 1000 population	12.8
• Percent of current pregnancies among CMW interviewed	6.4
• Number of currently pregnant women Percent of pregnant women in first trimester Percent of pregnant women in second trimester Percent of pregnant women in third trimester	572 17.2 44.1 38.7
Fertility	
• Crude birth rate (per 1000 population)[1] • Total fertility rate (per woman)[1] *Completed fertility among married women age 45-49 years:* Mean number of children ever born Mean number of children living Mean number of dead children *Higher order births*[1] Birth order 3 and above in total births (%) Birth order 4 and above in total births (%)	21.6 1.97 3.62 3.23 0.39 17.7 5.0
Current contraceptive use[2]	
• Any method (%) • Any modern method (%) Female sterilization Male sterilization Other spacing methods	58.9 58.9 58.4 0.26 0.27
4. Maternal care[3]	
• Mothers received antenatal check-ups (%) • Mothers received at least 3 antenatal check-ups(%) • Mothers received antenatal check-up in first trimester(%) • Mothers received 2 or more TT injections (%) • Mothers received or bought IFA tablets (%) • Mothers who consumed IFA tablets for at least 90 days(%) • Mothers received recommended ANC (%) (3+antenatal check-ups, 2+TT injections and 90+ IFA tablets)	97.6 90.2 86.6 95.6 76.4 39.0 **40.3**

• Births occurred at home(%) • Births occurred in the institution(%) • Births occurred at MediCiti(%) • Births attended by trained personnel (%)	7.1 92.7 26.1 93.4
5. Child Health	
• Children ever breastfed (%)[3] • Children who started breastfeeding within an hour after birth (%)[3]	96.0 6.4
• Children whose mothers squeezed out milk from breast[3]	36.5
• Children below age 4 years who had fever (%)[4]	9.4
• Children below age 4 years who had diarrhea (%)[4]	5.4
Immunization[5]	
Percent of children age 12-23 months who received: • BCG • DPT (3 doses) • Polio (3 doses) • Hepatitis-B(3 doses) • Measles • Fully immunized (BCG + DPT 3 + OPV 3 + Measles) • Vitamin A dose	 95.7 92.9 91.3 90.8 89.4 **82.3** 55.5
6. Childhood Mortality[6]	
• Neonatal mortality rate • Post neonatal mortality rate • Infant mortality rate • Under-five mortality rate	29.2 10.4 39.6 50.0
7. ICDS Utilization[7]	
• Percentage of children under age six years who received any service from an AWC in the past year	29.5
• Percentage of children under age six years who: Received food supplements Received immunizations Received health check-ups Availed early childhood care/Pre school education[8] Were weighed[9]	 26.5 18.7 17.5 22.7 41.6
• Percentage of women who received any service from AWC during pregnancy	26.5
• Percentage of women who received any service from an AWC during the lactation period[10]	23.8
8. Morbidity	
Number of persons per 1000 household residents suffering from: • Tuberculosis[11] • Diabetes • Asthma • Jaundice[12] • Malaria[13] • Goiter/Thyroid disorders	 2.7 16.1 18.7 10.2 11.2 2.7

Lifestyle Indicators		
Percentage of household residents (age 15+) reporting that they:	**M**	**F**
• Chew paan masala	9.7	8.5
• Drink alcohol	44.6	25.3
• Currently smoking	24.8	0.6

Note: 1. Based on births in a year preceding the survey. 2. Among currently married women age 15-49 years excluding women who attained menopause or had undergone hysterectomy. 3. Based on the most recent births during the period January 2005 to survey date. 4. Last two weeks preceding the survey. 5. Based on last two live births during the period January 2005 to the survey date. 6. Based on births and deaths under 5 years in the last one year preceding the survey. The rates are given per 1000 live births. 7. Based on all children under age 6 years. 8. Based on all children age 36-71 months. 9. Based on all children age 0-59 months. 10. Services are usually provided to breast feeding mothers during the first 6 months of breastfeeding. 11. Includes reported cases and cases under DOTS. 12. Last 12 months preceding the survey. 13. Last 3 months preceding the survey.