

This chapter presents findings related to maternal and child health in Tanzania. The areas examined include maternity care, vaccinations, and the prevalence and treatment of common childhood illnesses. The 1999 TRCHS information is important as it provides a critical look into the performance of the Maternal Child Health programme in Tanzania. The programme was initiated to support one of the health policy objectives, namely, the reduction of infant and maternal morbidity and mortality. The programme tries to improve the survival and development of women and children, who constitute 75 percent of the population of Tanzania. Provision of medical care during pregnancy and at delivery is essential for the survival of both the mother and the infant. Therefore, the survey results provide an opportunity to identify critical issues affecting the situation of women and children in Tanzania. The information will assist policy makers, planners, and other collaborators in the health sector to formulate appropriate strategies to improve maternal and child health care.

## 8.1 ANTENATAL CARE

### Prevalence and Source of Antenatal Care

Table 8.1 shows the percent distribution of the most recent births to women who had a birth in the five years preceding the survey by source of antenatal care received by the mother, according to selected background characteristics. Interviewers asked women about all the people who provided care during the pregnancy; however, if more than one person was mentioned, then the one with the highest qualifications was recorded.

The results show that almost all pregnant women in Tanzania (98 percent) receive antenatal care. More than nine in ten births receive antenatal care from a medical professional (93 percent), mostly from health aides (44 percent) or nurses and midwives (43 percent) (see Figure 8.1). Doctors and medical assistants provide about 6 percent of all antenatal care services. Birth attendants provide only 1 percent of antenatal care.

Data on antenatal care by mother's age at birth shows that younger women are more likely to obtain antenatal care from more medically qualified personnel than older women. For example, 53 percent of women below age 20 who gave birth received antenatal care from a doctor or nurse or midwife, compared with 39 percent of women age 35 or above. The same pattern is observed for women according to birth order: lower order births are more likely to receive antenatal care from a doctor or nurse or midwife.

Significant variation in antenatal care is noted between rural and urban areas. Urban women are more likely than rural women to receive antenatal care from a doctor, nurse, or midwife (76 versus 41 percent). Half of pregnant women in rural areas receive antenatal care from a less-trained rural medical aide or maternal and child health (MCH) aide, probably because rural people receive most of their health care services from dispensaries that are run by these health aides.

In the Mainland, a greater percentage of antenatal care is provided by nurses and midwives than in Zanzibar (44 versus 14 percent); however, in Zanzibar, three-quarters of antenatal care is provided by health aides. Mothers in Unguja were more likely than those in Pemba to attend antenatal care clinics with doctors and nurses or midwives.

**Table 8.1 Antenatal care**

Among women who had births in the five years preceding the survey, percent distribution of the most recent births by source of antenatal care received by the mother, according to selected background characteristics, Tanzania 1999

| Background characteristic    | Antenatal care provider <sup>1</sup> |                |             |                 |       |        | Total | Number of births |
|------------------------------|--------------------------------------|----------------|-------------|-----------------|-------|--------|-------|------------------|
|                              | Doctor                               | Nurse/ Midwife | Health aide | Birth attendant | Other | No one |       |                  |
| <b>Mother's age at birth</b> |                                      |                |             |                 |       |        |       |                  |
| < 20                         | 2.2                                  | 50.5           | 39.5        | 0.6             | 3.8   | 3.4    | 100.0 | 368              |
| 20-34                        | 7.1                                  | 43.0           | 43.8        | 0.6             | 4.0   | 1.5    | 100.0 | 1,486            |
| 35+                          | 3.1                                  | 35.6           | 47.6        | 2.3             | 5.9   | 5.6    | 100.0 | 329              |
| <b>Birth order</b>           |                                      |                |             |                 |       |        |       |                  |
| 1                            | 6.3                                  | 49.7           | 37.1        | 0.0             | 3.1   | 3.9    | 100.0 | 498              |
| 2-3                          | 7.5                                  | 44.4           | 41.8        | 1.6             | 3.8   | 0.8    | 100.0 | 719              |
| 4-5                          | 4.6                                  | 41.0           | 49.1        | 0.0             | 4.8   | 0.5    | 100.0 | 479              |
| 6+                           | 3.4                                  | 36.7           | 47.7        | 1.6             | 5.5   | 5.2    | 100.0 | 487              |
| <b>Residence</b>             |                                      |                |             |                 |       |        |       |                  |
| Urban                        | 15.3                                 | 60.9           | 22.0        | 0.3             | 0.9   | 0.5    | 100.0 | 502              |
| Rural                        | 2.8                                  | 37.8           | 50.1        | 1.0             | 5.2   | 3.0    | 100.0 | 1,681            |
| <b>Mainland/Zanzibar</b>     |                                      |                |             |                 |       |        |       |                  |
| Mainland                     | 5.6                                  | 43.8           | 42.9        | 0.9             | 4.3   | 2.4    | 100.0 | 2,131            |
| Urban                        | 15.5                                 | 62.0           | 20.8        | 0.3             | 1.0   | 0.4    | 100.0 | 487              |
| Rural                        | 2.7                                  | 38.5           | 49.4        | 1.1             | 5.3   | 3.0    | 100.0 | 1,644            |
| Zanzibar                     | 7.1                                  | 14.2           | 76.1        | 0.0             | 0.2   | 2.3    | 100.0 | 52               |
| Pemba                        | 2.2                                  | 7.4            | 88.2        | 0.0             | 0.4   | 1.8    | 100.0 | 24               |
| Unguja                       | 11.2                                 | 20.1           | 65.9        | 0.0             | 0.0   | 2.8    | 100.0 | 28               |
| <b>Mother's education</b>    |                                      |                |             |                 |       |        |       |                  |
| No education                 | 1.5                                  | 31.2           | 49.5        | 2.4             | 8.6   | 6.8    | 100.0 | 581              |
| Primary incomplete           | 6.5                                  | 41.7           | 46.2        | 0.3             | 3.3   | 2.0    | 100.0 | 370              |
| Primary complete             | 6.1                                  | 49.3           | 41.0        | 0.4             | 2.7   | 0.5    | 100.0 | 1,143            |
| Secondary+                   | 23.7                                 | 47.2           | 28.9        | 0.0             | 0.0   | 0.2    | 100.0 | 89               |
| Total                        | 5.7                                  | 43.1           | 43.7        | 0.9             | 4.2   | 2.4    | 100.0 | 2,183            |

Note: "Health aide" refers to both rural medical aides and MCH aides; "birth attendant" refers to both trained and traditional birth attendants. Village health workers are included in the "other" category.

<sup>1</sup> If the respondent mentioned more than one provider, only the most qualified provider was considered.

More-educated mothers are more likely to receive antenatal care from qualified medical personnel, such as doctors, nurses, and midwives, than are mothers with less education or no education. Some of this pattern is due to the concentration of doctors, nurses, and midwives, as well as more highly educated women, in urban areas.

### Number and Timing of Antenatal Visits

Pregnant women are advised to start attending antenatal clinics before the 20<sup>th</sup> week of gestation so that their normal baseline health can be assessed and monitored regularly. At the first antenatal visit, a detailed history should be obtained and a full examination should be carried out. The recommended protocol for antenatal care calls for a woman with a normal pregnancy to visit an antenatal clinic at monthly intervals until the 28<sup>th</sup> week of pregnancy, then fortnightly until the 36<sup>th</sup> week, and weekly thereafter until labour begins. If the schedule is followed consistently, it is

anticipated that about 12 to 13 visits will be made. Pregnancy monitoring and detection of complications are the main objectives of antenatal care. The Ministry of Health considers women with the following characteristics to be at higher risk: gravida 5 or over, age under 16 or over 35, height under 150 cm, three consecutive abortions, prior caesarean section, anaemia, oedema, high blood pressure, proteinuria, failure to gain weight, antepartum haemorrhage, and abnormal lie. In the event of any complication, either more frequent antenatal visits are advisable or admission to a hospital may become necessary.

Table 8.2 presents data on the number of antenatal visits made by pregnant mothers and the stage of pregnancy at the first visit. Seventy percent of women whose last birth occurred in the five years before the survey made four or more antenatal care visits. However, the median number of antenatal visits is four, which indicates that most women do not make the recommended 12 to 13 antenatal visits. This low number of antenatal care visits is partly because pregnant women start antenatal care late, with the median month of first visit being 5.5 months. Comparing data from the 1991-92, 1996, and 1999 surveys shows only minor variation in antenatal care coverage, the number of visits, and the timing of the first visit.

### Antenatal Care Content

In the TRCHS, women who delivered a child in the five years before the survey were asked several questions about the types of antenatal care they received during the pregnancy that led to their most recent birth. Specifically, they were asked whether they were informed of the signs associated with serious pregnancy complications; whether they received a card listing the immunisations they received; and whether they were given or bought iron tablets or antimalarial medication.

As shown in Table 8.3, about four in ten women said they were informed about pregnancy complications, while roughly the same proportion said they were given a card that showed the immunisations they had received. Forty-four percent of women said they were given or bought iron tablets during their last pregnancy, and about one-third said they had access to anti-malarial medicine. Differences in antenatal care content by background characteristics are not large. Generally, urban women are more likely than rural women to have received all four items asked about, except that immunisation cards are more commonly given to rural women than to urban women. Similarly, better-educated women are more likely to receive all four antenatal care services than women with less education.

**Table 8.2** Number of antenatal care visits and stage of pregnancy

Percent distribution of live births in the past five years by number of antenatal care visits (ANC), and by the stage of pregnancy at the time of the first visit, Tanzania 1991-1999

| Number and timing of ANC visits                 | TDHS 1991-92 | TDHS 1996 | TRCHS 1999 <sup>a</sup> |
|---|--------------|-----------|-------------------------|
| <b>Number of visits</b>                         |              |           |                         |
| None  | 3.6          | 2.1       | 2.4                     |
| 1   | 1.1          | 1.5       | 2.9                     |
| 2-3 visits                                      | 23.5         | 22.5      | 23.1                    |
| 4+ visits                                       | 69.5         | 69.5      | 69.9                    |
| Don't know/missing                              | 2.4          | 4.4       | 1.6                     |
| Total   | 100.0        | 100.0     | 100.0                   |
| Median <sup>b</sup>                             | 5.0          | 3.9       | 4.1                     |
| <b>Number of months pregnant at first visit</b> |              |           |                         |
| No antenatal care                               | 3.6          | 2.1       | 2.4                     |
| < 6 months                                      | 60.1         | 60.5      | 61.4                    |
| 6-7 months                                      | 34.0         | 34.7      | 32.0                    |
| 8+ months                                       | 1.7          | 1.7       | 2.9                     |
| Don't know/missing                              | 0.5          | 1.0       | 1.2                     |
| Total   | 100.0        | 100.0     | 100.0                   |
| Median <sup>b</sup>                             | 5.6          | 5.6       | 5.5                     |
| Number of births                                | 8,032        | 6,916     | 2,183                   |

<sup>a</sup> Refers to most recent birth only

<sup>b</sup> For those with ANC

**Table 8.3 Antenatal care content**

Among women who have had births in the five years preceding the survey, percentage of the most recent births for which specific antenatal care was received, by content of antenatal care and selected background characteristics, Tanzania 1999

| Background characteristic    | Content of antenatal care           |                               |                            |                              | Number of births |
|------------------------------|-------------------------------------|-------------------------------|----------------------------|------------------------------|------------------|
|                              | Informed of pregnancy complications | Has a card with immunisations | Given/ bought iron tablets | Given/ bought anti-malarials |                  |
| <b>Mother's age at birth</b> |                                     |                               |                            |                              |                  |
| < 20                         | 33.2                                | 39.3                          | 45.4                       | 23.0                         | 368              |
| 20-34                        | 43.0                                | 40.7                          | 45.4                       | 34.7                         | 1,486            |
| 35+                          | 42.4                                | 33.2                          | 38.8                       | 32.5                         | 329              |
| <b>Birth order</b>           |                                     |                               |                            |                              |                  |
| 1                            | 37.6                                | 38.2                          | 45.9                       | 33.2                         | 498              |
| 2-3                          | 42.2                                | 43.4                          | 47.0                       | 30.0                         | 719              |
| 4-5                          | 44.0                                | 41.4                          | 44.1                       | 35.9                         | 479              |
| 6+                           | 41.1                                | 32.6                          | 39.5                       | 31.7                         | 487              |
| <b>Residence</b>             |                                     |                               |                            |                              |                  |
| Urban                        | 52.6                                | 37.0                          | 49.8                       | 41.9                         | 502              |
| Rural                        | 37.9                                | 40.0                          | 42.8                       | 29.6                         | 1,681            |
| <b>Mainland/Zanzibar</b>     |                                     |                               |                            |                              |                  |
| Mainland                     | 41.4                                | 39.4                          | 44.6                       | 32.4                         | 2,131            |
| Urban                        | 52.7                                | 37.1                          | 49.9                       | 42.2                         | 487              |
| Rural                        | 38.0                                | 40.0                          | 43.0                       | 29.5                         | 1,644            |
| Zanzibar                     | 38.5                                | 39.0                          | 38.1                       | 31.7                         | 52               |
| Pemba                        | 26.7                                | 37.6                          | 29.3                       | 35.2                         | 24               |
| Unguja                       | 48.4                                | 40.1                          | 45.6                       | 28.7                         | 28               |
| <b>Mother's education</b>    |                                     |                               |                            |                              |                  |
| No education                 | 28.9                                | 33.8                          | 36.8                       | 26.7                         | 581              |
| Primary incomplete           | 41.2                                | 38.6                          | 43.6                       | 27.5                         | 370              |
| Primary complete             | 46.2                                | 42.5                          | 86.3                       | 47.5                         | 1,143            |
| Secondary+                   | 58.6                                | 37.2                          | 86.5                       | 58.6                         | 89               |
| Total                        | 41.3                                | 39.3                          | 44.4                       | 32.4                         | 2,183            |

Note: "Health aide" refers to both rural medical aides and MCH aides; while "birth attendant" refers to both trained and traditional birth attendants. Village health workers are included in the "other" category.

<sup>1</sup> If the respondent mentioned more than one provider, only the most qualified provider was considered.

## Tetanus Toxoid Vaccination

Another important aspect of antenatal care is tetanus toxoid immunisation. Tetanus is still a relatively common cause of death among newborns in Tanzania and other developing countries. To address this problem, the Ministry of Health requires all women of reproductive age to be vaccinated with tetanus toxoid before they become pregnant. A baby is considered protected if the

mother received two doses of tetanus toxoid during pregnancy, with the second at least two weeks before delivery. However, if a woman was vaccinated during a previous pregnancy, she may only require one dose for the current pregnancy. Five doses are considered adequate to provide lifetime protection. To assess the status of tetanus vaccination coverage, women who gave birth during the five years before the survey were asked if they had received tetanus toxoid injections during the pregnancy for their most recent birth and, if so, how many.

The results reveal that 83 percent of women receive tetanus toxoid vaccinations during pregnancy (Table 8.4). However, only 61 percent receive the recommended two doses of the vaccine (Figure 8.1). Younger mothers and women pregnant with their first births are more likely than other women to receive two doses of tetanus toxoid. Urban women are also more likely than rural women to receive two doses of tetanus toxoid during pregnancy. The data imply that a substantial proportion of births in rural areas (around 42 percent) may not be protected against tetanus.

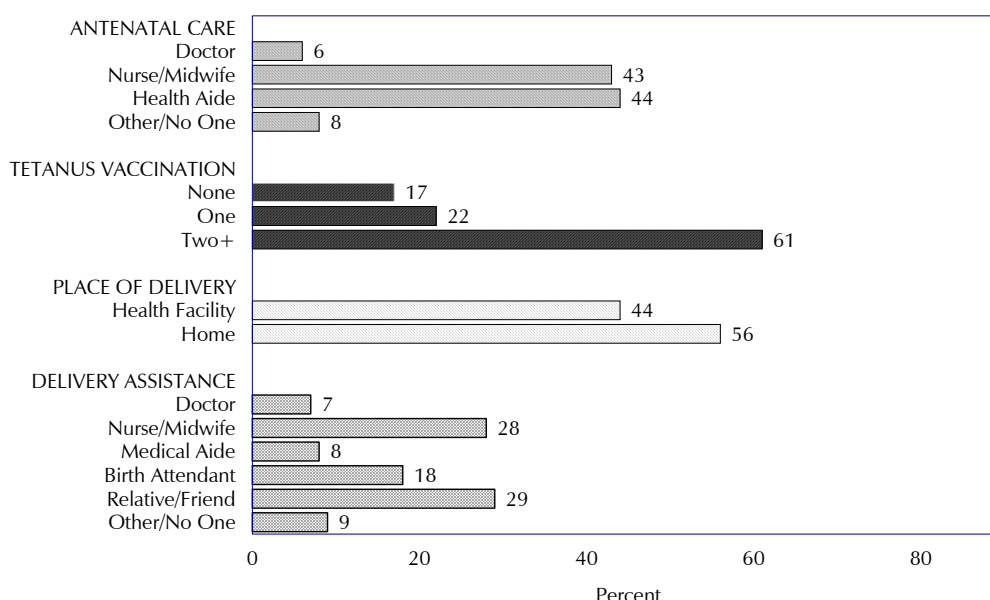
Pregnant women in the Mainland are substantially more likely than women in Zanzibar to

**Table 8.4 Tetanus toxoid vaccinations**

Among women who had births in the years preceding the survey, percent distribution of the most recent births by number of tetanus toxoid injections received during pregnancy, according to selected background characteristics, Tanzania 1999

| Background characteristic    | Number of tetanus toxoid injections |          |                   |                    | Total | Number of births |
|------------------------------|-------------------------------------|----------|-------------------|--------------------|-------|------------------|
|                              | None                                | One dose | Two doses or more | Don't know/missing |       |                  |
| <b>Mother's age at birth</b> |                                     |          |                   |                    |       |                  |
| < 20                         | 12.8                                | 15.4     | 70.8              | 0.9                | 100.0 | 368              |
| 20-34                        | 15.1                                | 23.1     | 60.9              | 0.9                | 100.0 | 1,486            |
| 35+                          | 26.9                                | 21.5     | 51.3              | 0.3                | 100.0 | 329              |
| <b>Birth order</b>           |                                     |          |                   |                    |       |                  |
| 1                            | 11.4                                | 14.3     | 73.1              | 1.1                | 100.0 | 498              |
| 2-3                          | 14.4                                | 25.9     | 59.1              | 0.6                | 100.0 | 719              |
| 4-5                          | 15.2                                | 22.9     | 61.2              | 0.7                | 100.0 | 479              |
| 6+                           | 26.0                                | 21.5     | 51.6              | 0.8                | 100.0 | 487              |
| <b>Residence</b>             |                                     |          |                   |                    |       |                  |
| Urban                        | 7.9                                 | 16.9     | 74.4              | 0.7                | 100.0 | 502              |
| Rural                        | 19.1                                | 23.0     | 57.1              | 0.8                | 100.0 | 1,681            |
| <b>Mainland/Zanzibar</b>     |                                     |          |                   |                    |       |                  |
| Mainland                     | 16.5                                | 21.2     | 61.5              | 0.8                | 100.0 | 2,131            |
| Urban                        | 7.8                                 | 16.4     | 75.1              | 0.7                | 100.0 | 487              |
| Rural                        | 19.1                                | 22.7     | 57.4              | 0.8                | 100.0 | 1,644            |
| Zanzibar                     | 16.9                                | 35.8     | 45.4              | 1.9                | 100.0 | 52               |
| Pemba                        | 19.5                                | 35.4     | 43.2              | 1.9                | 100.0 | 24               |
| Unguja                       | 14.6                                | 36.2     | 47.2              | 2.0                | 100.0 | 28               |
| <b>Mother's education</b>    |                                     |          |                   |                    |       |                  |
| No education                 | 25.0                                | 24.4     | 50.0              | 0.6                | 100.0 | 581              |
| Primary incomplete           | 15.8                                | 22.5     | 61.1              | 0.5                | 100.0 | 370              |
| Primary complete             | 12.7                                | 19.6     | 66.8              | 0.9                | 100.0 | 1,143            |
| Secondary+                   | 11.8                                | 25.5     | 61.0              | 1.8                | 100.0 | 89               |
| Total                        | 16.5                                | 21.6     | 61.1              | 0.8                | 100.0 | 2,183            |

**Figure 8.1 Antenatal and Delivery Care Indicators**



Note: Percentages are based on most recent birth in the five years preceding the survey. "Birth attendant" includes both trained and traditional birth attendants.

TRCHS 1999

receive two doses of tetanus toxoid (62 versus 45 percent). As expected, the proportion of regnant women who are vaccinated against tetanus increases with education.

## 8.2 DELIVERY CARE

### Place of Delivery

Information about the place of delivery provides insight into the quality of services provided since deliveries at health facilities are regarded as more hygienic than those occurring at home. Proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that can cause death or serious illness to either the mother or the baby. Table 8.5 presents the distribution of births in the five years preceding the survey by place of delivery.

Just under half (44 percent) of births in Tanzania are delivered at a health facility of any kind, while 56 percent are delivered at home (Figure 8.1). It is interesting to note that the proportion of births delivered in health facilities has been declining steadily over time, from 53 percent in 1991-92 to 47 percent in 1996 and to 44 percent in 1999 (Ngallaba et al., 1993: 84 and Bureau of Statistics and Macro International, 1997: 110).

The proportion of births that take place in health facilities differs according to characteristics of the mother and the child. Births to younger women, first births, and births to urban women are much more likely than others to take place in a health facility. Women in the Mainland are also somewhat more likely to deliver in a health facility than women in Zanzibar. As expected, births to more-educated women are more likely to take place in hospitals and health centres.

**Table 8.5 Place of delivery**

Percent distribution of births in the five years preceding the survey by place of delivery, according to selected background characteristics, Tanzania 1999

| Background characteristic    | Place of delivery |      |                    | Total | Number of births |
|------------------------------|-------------------|------|--------------------|-------|------------------|
|                              | Health facility   | Home | Don't know/missing |       |                  |
| <b>Mother's age at birth</b> |                   |      |                    |       |                  |
| < 20                         | 54.0              | 46.0 | 0.0                | 100.0 | 575              |
| 20-34                        | 43.9              | 55.8 | 0.3                | 100.0 | 2,286            |
| 35+                          | 27.1              | 72.6 | 0.2                | 100.0 | 422              |
| <b>Birth order</b>           |                   |      |                    |       |                  |
| 1                            | 59.9              | 40.0 | 0.0                | 100.0 | 769              |
| 2-3                          | 46.6              | 53.3 | 0.1                | 100.0 | 1,100            |
| 4-5                          | 38.3              | 61.2 | 0.5                | 100.0 | 715              |
| 6+                           | 25.8              | 73.7 | 0.5                | 100.0 | 698              |
| <b>Residence</b>             |                   |      |                    |       |                  |
| Urban                        | 82.8              | 17.2 | 0.1                | 100.0 | 614              |
| Rural                        | 34.5              | 65.3 | 0.3                | 100.0 | 2,668            |
| <b>Mainland/Zanzibar</b>     |                   |      |                    |       |                  |
| Mainland                     | 43.7              | 56.1 | 0.2                | 100.0 | 3,196            |
| Urban                        | 83.4              | 16.5 | 0.1                | 100.0 | 591              |
| Rural                        | 34.7              | 65.0 | 0.3                | 100.0 | 2,605            |
| Zanzibar                     | 36.6              | 62.8 | 0.6                | 100.0 | 86               |
| Pemba                        | 26.2              | 72.8 | 1.0                | 100.0 | 42               |
| Unguja                       | 46.3              | 53.4 | 0.2                | 100.0 | 45               |
| <b>Mother's education</b>    |                   |      |                    |       |                  |
| No education                 | 24.4              | 75.2 | 0.4                | 100.0 | 907              |
| Primary incomplete           | 44.2              | 55.7 | 0.1                | 100.0 | 548              |
| Primary complete             | 51.0              | 48.7 | 0.2                | 100.0 | 1,711            |
| Secondary+                   | 78.8              | 21.2 | 0.0                | 100.0 | 116              |
| Total                        | 43.5              | 56.3 | 0.2                | 100.0 | 3,282            |

## Assistance during Delivery

The type of assistance a woman receives during childbirth has important health consequences for both mother and child. Therefore, besides collecting information on the place of delivery, the 1999 TDHS collected data on the type of personnel who assisted during delivery. Table 8.6 shows the percent distribution of births in the five years before the survey by type of assistance during delivery, according to background characteristics.

Overall, 36 percent of births are assisted by the most highly trained medical personnel (doctors, nurses and midwives), while 8 percent are assisted by lower-level health aides (rural medical aides and MCH aides). About 20 percent of deliveries are assisted by birth attendants (trained birth attendants and traditional birth attendants) or village health workers, some of whom may have received special training. Finally, 29 percent of births are assisted by only relatives and friends of the mother, while 7 percent are delivered without assistance.

First births and births to younger women are more likely than other births to be assisted by highly qualified health personnel. This finding is encouraging, given that medical staff recommend that young women and women expecting their first child deliver in a hospital since they are subject to higher risks.

Table 8.6 Assistance during delivery

Percent distribution of births in the five years preceding the survey by type of assistance during delivery, according to selected background characteristics, Tanzania 1999

| Background characteristic    | Attendant assisting during delivery <sup>1</sup> |                |                    |          |                       |                       |                     |                 |        |                     | Total | Number of births |
|------------------------------|--|----------------|--------------------|----------|-----------------------|-----------------------|---------------------|-----------------|--------|---------------------|-------|------------------|
|                              | Doctor   | Nurse/ Midwife | Rural medical aide | MCH aide | Village health worker | Trained birth attend. | Trad. birth attend. | Relative/ other | No one | Don't know/ missing |       |                  |
| <b>Mother's age at birth</b> |  |                |                    |          |                       |                       |                     |                 |        |                     |       |                  |
| < 20                         | 9.8  | 33.2           | 4.8                | 5.4      | 3.0                   | 8.1                   | 5.7                 | 27.6            | 2.5    | 0.0                 | 100.0 | 575              |
| 20-34                        | 7.0  | 29.5           | 2.3                | 5.6      | 1.6                   | 11.3                  | 7.3                 | 28.1            | 6.9    | 0.3                 | 100.0 | 2,286            |
| 35+                          | 6.5  | 16.0           | 2.0                | 3.1      | 1.3                   | 12.6                  | 5.6                 | 39.2            | 13.8   | 0.0                 | 100.0 | 422              |
| <b>Birth order</b>           |  |                |                    |          |                       |                       |                     |                 |        |                     |       |                  |
| 1                            | 11.5   | 38.5           | 5.2                | 3.9      | 2.4                   | 7.3                   | 6.8                 | 23.0            | 0.8    | 0.4                 | 100.0 | 769              |
| 2-3                          | 7.5  | 31.4           | 2.2                | 6.3      | 1.6                   | 12.0                  | 6.1                 | 27.9            | 4.8    | 0.1                 | 100.0 | 1,100            |
| 4-5                          | 6.6  | 25.1           | 0.8                | 6.0      | 2.0                   | 12.4                  | 7.0                 | 30.9            | 8.8    | 0.5                 | 100.0 | 715              |
| 6+                           | 3.7  | 16.1           | 2.6                | 4.3      | 1.3                   | 11.4                  | 7.5                 | 37.5            | 15.5   | 0.1                 | 100.0 | 698              |
| <b>Residence</b>             |  |                |                    |          |                       |                       |                     |                 |        |                     |       |                  |
| Urban                        | 16.6   | 60.1           | 3.5                | 3.1      | 0.7                   | 6.1                   | 2.4                 | 6.0             | 1.1    | 0.4                 | 100.0 | 614              |
| Rural                        | 5.3  | 21.1           | 2.5                | 5.8      | 2.1                   | 12.0                  | 7.8                 | 34.8            | 8.4    | 0.2                 | 100.0 | 2,668            |
| <b>Mainland/Zanzibar</b>     |  |                |                    |          |                       |                       |                     |                 |        |                     |       |                  |
| Mainland                     | 7.6  | 28.2           | 2.8                | 5.3      | 1.9                   | 10.5                  | 6.2                 | 30.2            | 7.2    | 0.2                 | 100.0 | 3,196            |
| Urban                        | 17.1   | 60.0           | 3.6                | 3.1      | 0.8                   | 6.0                   | 1.9                 | 6.1             | 1.1    | 0.4                 | 100.0 | 591              |
| Rural                        | 5.4  | 21.1           | 2.6                | 5.8      | 2.1                   | 11.5                  | 7.1                 | 35.6            | 8.6    | 0.2                 | 100.0 | 2,605            |
| Zanzibar                     | 1.5  | 35.3           | 0.5                | 3.9      | 0.1                   | 26.1                  | 28.9                | 2.2             | 0.6    | 0.8                 | 100.0 | 86               |
| Pemba                        | 0.8  | 24.5           | 0.2                | 3.1      | 0.3                   | 44.3                  | 24.1                | 1.2             | 0.0    | 1.4                 | 100.0 | 42               |
| Unguja                       | 2.0  | 45.4           | 0.7                | 4.7      | 0.0                   | 9.1                   | 33.5                | 3.1             | 1.2    | 0.2                 | 100.0 | 45               |
| <b>Mother's education</b>    |  |                |                    |          |                       |                       |                     |                 |        |                     |       |                  |
| No education                 | 5.3  | 14.1           | 2.0                | 4.0      | 1.4                   | 7.7                   | 8.2                 | 46.5            | 10.4   | 0.3                 | 100.0 | 907              |
| Primary incomplete           | 5.1  | 28.7           | 3.0                | 6.4      | 1.9                   | 10.8                  | 5.1                 | 30.6            | 8.1    | 0.1                 | 100.0 | 548              |
| Primary complete             | 8.4  | 33.8           | 3.1                | 5.9      | 2.1                   | 12.9                  | 6.4                 | 21.6            | 5.3    | 0.2                 | 100.0 | 1,711            |
| Secondary+                   | 20.0   | 59.6           | 0.9                | 0.9      | 0.0                   | 5.4                   | 8.9                 | 4.1             | 0.1    | 0.1                 | 100.0 | 116              |
| Total                        | 7.4  | 28.4           | 2.7                | 5.3      | 1.8                   | 10.9                  | 6.8                 | 29.4            | 7.0    | 0.2                 | 100.0 | 3,282            |

<sup>1</sup> If the respondent mentioned more than one attendant, only the most qualified attendant was considered.

As expected, births in urban areas are more likely than rural births to be assisted by qualified medical personnel. More than three-quarters of births in urban areas are assisted by doctors, nurses or midwives, compared with only 26 percent of births in rural areas. In the Mainland, births are more likely to be assisted by relatives and friends (30 percent) or to be delivered without assistance; however, in Zanzibar, births are more likely to be supervised by nurses or midwives or by birth attendants, whether trained or traditional.

The mother's education is also associated with the type of delivery assistance. The percentage of births assisted by doctors, nurses and midwives increases from 19 percent of births to women with no education to 80 percent of births to women who have some secondary school.

### Characteristics of Delivery

Other aspects of maternal health that were included in the survey are information on delivery by caesarean section, birth weight, and the mother's estimate of the baby's size at birth (Table 8.7). Only 3 percent of babies are delivered by caesarean section, which is fractionally higher than the 2 percent found in the 1996 TDHS. Caesarean deliveries decline among older



Table 8.7 Delivery characteristics: caesarean section, birth weight and size

Among births in the five years preceding the survey, the percentage of deliveries by caesarean section, and the percent distribution by birth weight and by the mother's estimate of baby's size at birth, according to selected background characteristics, Tanzania 1999

| Background characteristic | Delivery by C-section | Birth weight     |                |            | Total | Size of child at birth |                      |                   |            | Total | Number of births |
|---------------------------|-----------------------|------------------|----------------|------------|-------|------------------------|----------------------|-------------------|------------|-------|------------------|
|                           |                       | Less than 2.5 kg | 2.5 kg or more | Don't know |       | Very small             | Smaller than average | Average or larger | Don't know |       |                  |
| Mother's age at birth     |                       |                  |                |            |       |                        |                      |                   |            |       |                  |
| <20                       | 4.9                   | 6.9              | 46.9           | 46.1       | 100.0 | 5.7                    | 7.6                  | 86.5              | 0.2        | 100.0 | 575              |
| 20-34                     | 2.9                   | 3.4              | 41.5           | 55.1       | 100.0 | 3.1                    | 7.3                  | 89.4              | 0.1        | 100.0 | 2,286            |
| 35+                       | 0.7                   | 1.5              | 25.0           | 73.6       | 100.0 | 3.9                    | 7.8                  | 88.3              | 0.0        | 100.0 | 422              |
| Birth order               |                       |                  |                |            |       |                        |                      |                   |            |       |                  |
| 1                         | 7.6                   | 6.5              | 51.3           | 42.2       | 100.0 | 5.9                    | 7.7                  | 86.2              | 0.2        | 100.0 | 769              |
| 2-3                       | 2.4                   | 2.9              | 45.2           | 51.9       | 100.0 | 2.5                    | 6.4                  | 91.0              | 0.0        | 100.0 | 1,100            |
| 4-5                       | 0.9                   | 2.7              | 38.0           | 59.3       | 100.0 | 1.9                    | 7.5                  | 90.2              | 0.4        | 100.0 | 715              |
| 6+                        | 0.7                   | 3.4              | 22.7           | 74.0       | 100.0 | 4.8                    | 8.8                  | 86.5              | 0.0        | 100.0 | 698              |
| Residence                 |                       |                  |                |            |       |                        |                      |                   |            |       |                  |
| Urban                     | 6.8                   | 6.2              | 75.9           | 17.9       | 100.0 | 4.5                    | 4.7                  | 90.7              | 0.2        | 100.0 | 614              |
| Rural                     | 2.1                   | 3.2              | 32.1           | 64.7       | 100.0 | 3.5                    | 8.1                  | 88.3              | 0.1        | 100.0 | 2,668            |
| Mainland/Zanzibar         |                       |                  |                |            |       |                        |                      |                   |            |       |                  |
| Mainland                  | 3.0                   | 3.8              | 40.6           | 55.6       | 100.0 | 3.6                    | 7.3                  | 89.0              | 0.1        | 100.0 | 3,196            |
| Urban                     | 7.0                   | 6.2              | 76.6           | 17.2       | 100.0 | 4.5                    | 4.5                  | 90.9              | 0.1        | 100.0 | 591              |
| Rural                     | 2.1                   | 3.2              | 32.4           | 64.4       | 100.0 | 3.4                    | 7.9                  | 88.6              | 0.1        | 100.0 | 2,605            |
| Zanzibar                  | 1.1                   | 4.0              | 29.6           | 66.4       | 100.0 | 7.0                    | 14.3                 | 78.0              | 0.7        | 100.0 | 86               |
| Pemba                     | 0.9                   | 3.4              | 17.3           | 79.4       | 100.0 | 9.6                    | 19.8                 | 69.4              | 1.2        | 100.0 | 42               |
| Unguja                    | 1.2                   | 4.6              | 41.1           | 54.2       | 100.0 | 4.5                    | 9.2                  | 86.1              | 0.2        | 100.0 | 45               |
| Mother's education        |                       |                  |                |            |       |                        |                      |                   |            |       |                  |
| No education              | 0.9                   | 3.3              | 21.0           | 75.7       | 100.0 | 2.9                    | 10.1                 | 86.9              | 0.1        | 100.0 | 907              |
| Primary incomplete        | 1.4                   | 3.8              | 42.4           | 53.8       | 100.0 | 4.5                    | 5.9                  | 89.4              | 0.3        | 100.0 | 548              |
| Primary complete          | 4.4                   | 4.1              | 47.5           | 48.5       | 100.0 | 3.7                    | 6.8                  | 89.3              | 0.2        | 100.0 | 1,711            |
| Secondary+                | 4.2                   | 3.2              | 75.6           | 21.2       | 100.0 | 4.2                    | 3.7                  | 92.1              | 0.0        | 100.0 | 116              |
| Total                     | 2.9                   | 3.8              | 40.3           | 55.9       | 100.0 | 3.7                    | 7.4                  | 88.7              | 0.1        | 100.0 | 3,282            |

mothers and among higher-order births. Also, caesarean sections are less common among rural women, women in Zanzibar, and women with little or no education.

Information on birth weight was available for only 44 percent of births. However, it shows that 9 percent of those weighed (4 percent of all births) were reported to have a weight of less than 2.5 kg, which is considered low birth weight. Younger mothers are more likely to give birth to babies of low birth weight than older mothers. Although it appears as if urban mothers have a higher percentage of low birth weight babies than rural mothers, the differential disappears when only those who were weighed are considered.

According to the respondent's assessment of her baby's size at birth, the vast majority of births (89 percent) are classified as average or larger than average. Only 11 percent of births were reported to be either small (7 percent) or very small (4 percent). There has been no significant change in these proportions since 1996.

### 8.3 POSTNATAL CARE

Postnatal care is the care provided to the mother after delivery to check for any complications arising from the delivery and to provide the mother with important information on how to care for herself and her child. The timing of postnatal care is important. The optimal timing is within two days of delivery, since most maternal and neonatal deaths occur in this period. Proper postnatal care can reduce the risk of maternal mortality, which is still very high in Tanzania.

Table 8.8 presents information on postnatal care after the most recent birth for women who gave birth in the five years preceding the survey. Since it was assumed that women who delivered in health facilities would receive a routine postnatal examination, only women who delivered at home were asked about postnatal care. The data show that a large proportion of women do not receive any postnatal care (38 percent). If it is assumed that all women who deliver in health facilities are examined within two days of delivering, then only about half (52 percent) of all new mothers receive postnatal care within the critical two-day period. Encouraging women to seek postnatal care and to do so soon after their child's birth could serve to reduce maternal morbidity and mortality. This message should be aimed at older mothers in rural areas and in Zanzibar, a large

Table 8.8 Postnatal care

Among women who had births in the five years preceding the survey, percent distribution of the most recent births by whether mother received postnatal care, and timing of first postnatal check-up for women who delivered at home, according to background characteristics, Tanzania 1999

| Background characteristic | Delivered in health facility (received postnatal care) | Timing of first postnatal check-up for women who delivered at home |                      |                       |                      |                    | Total | Number of births |
|---------------------------|--|--|----------------------|-----------------------|----------------------|--------------------|-------|------------------|
|                           |  | Within 2 days of birth   | 3-7 days after birth | 8-27 days after birth | 4+ weeks after birth | No post-natal care |       |                  |
| Mother's age at birth     |  |  |                      |                       |                      |                    |       |                  |
| < 20                      | 54.5   | 6.0  | 1.7                  | 0.9                   | 4.6                  | 32.3               | 100.0 | 368              |
| 20-34                     | 47.3   | 5.8  | 2.9                  | 0.4                   | 7.7                  | 35.8               | 100.0 | 1,486            |
| 35+                       | 27.8   | 7.3  | 3.1                  | 0.0                   | 5.9                  | 55.9               | 100.0 | 329              |
| Birth order               |  |  |                      |                       |                      |                    |       |                  |
| 1                         | 62.1   | 3.9  | 1.6                  | 0.2                   | 3.9                  | 28.3               | 100.0 | 498              |
| 2-3                       | 49.3   | 5.9  | 2.9                  | 1.0                   | 7.4                  | 33.5               | 100.0 | 719              |
| 4-5                       | 41.2   | 7.5  | 2.9                  | 0.0                   | 8.1                  | 40.4               | 100.0 | 479              |
| 6+                        | 27.7   | 7.2  | 3.5                  | 0.3                   | 7.9                  | 53.4               | 100.0 | 487              |
| Residence                 |  |  |                      |                       |                      |                    |       |                  |
| Urban                     | 83.4   | 3.0  | 2.2                  | 0.4                   | 1.9                  | 9.1                | 100.0 | 502              |
| Rural                     | 34.3   | 7.0  | 2.9                  | 0.5                   | 8.4                  | 47.0               | 100.0 | 1,681            |
| Mainland/Zanzibar         |  |  |                      |                       |                      |                    |       |                  |
| Mainland                  | 45.7   | 6.1  | 2.8                  | 0.5                   | 7.0                  | 37.9               | 100.0 | 2,131            |
| Urban                     | 83.9   | 2.9  | 2.3                  | 0.4                   | 1.9                  | 8.6                | 100.0 | 487              |
| Rural                     | 34.4   | 7.1  | 2.9                  | 0.5                   | 8.5                  | 46.6               | 100.0 | 1,644            |
| Zanzibar                  | 39.9   | 4.7  | 0.6                  | 0.0                   | 1.0                  | 53.8               | 100.0 | 52               |
| Pemba                     | 29.5   | 2.9  | 0.9                  | 0.0                   | 1.1                  | 65.6               | 100.0 | 24               |
| Unguja                    | 48.7   | 6.3  | 0.3                  | 0.0                   | 0.9                  | 43.8               | 100.0 | 28               |
| Mother's education        |  |  |                      |                       |                      |                    |       |                  |
| No education              | 24.5   | 6.7  | 3.7                  | 0.0                   | 8.7                  | 56.4               | 100.0 | 581              |
| Primary incomplete        | 47.2   | 8.0  | 3.3                  | 0.0                   | 5.9                  | 35.6               | 100.0 | 370              |
| Primary complete          | 53.2   | 5.4  | 2.3                  | 0.8                   | 6.5                  | 31.9               | 100.0 | 1,143            |
| Secondary+                | 78.8   | 3.5  | 0.0                  | 1.2                   | 3.9                  | 12.6               | 100.0 | 89               |
| Total                     | 45.6   | 6.1  | 2.7                  | 0.4                   | 6.9                  | 38.3               | 100.0 | 2,183            |

majority of whom do not receive any postnatal care.

Adequate stores of vitamin A are necessary to maintain good health and fight disease. Since pregnancy and childbirth deplete the body's supply of vitamin A, women are encouraged to take supplements soon after giving birth (vitamin A supplementation during pregnancy can be toxic). To monitor postpartum supplementation coverage, women who gave birth within 12 months prior to the survey were asked in the TRCHS whether they received a vitamin A supplement within 2 months after the delivery.

As shown in Table 8.9, only 12 percent of new mothers said they had received a vitamin A supplement. Coverage is much higher among mothers in the Mainland, among women who deliver in health facilities, and among better-educated women.

#### 8.4 BIRTH REGISTRATION

One of the universal rights of children is to have their birth registered and to have a birth certificate. Collection of vital statistics started in Tanzania in the early 1960s. By 1985, the system covered 12 districts in 5 regions. Today most regions and districts are fully covered, except seven regions where the project is yet to extend its services: Lindi, Mtwara, Ruvuma, Rukwa, Kigoma, Kagera, and Mbeya. In the 1999 TRCHS, mothers of children under five were asked whether their child's birth had been registered and whether they had a birth certificate for the child. Because it was expected that respondents might confuse hospital or baptism certificates for official birth certificates, interviewers were instructed to examine the certificate carefully. A child's birth was considered to have been registered if his or her mother could either produce a birth certificate or said the birth was registered.

Only 6 percent of births in Tanzania are registered (Table 8.10). The main reasons for not registering births are not knowing that it is necessary to register them and not knowing where to go to do so. As might be expected, birth registration is more common in urban areas and among women with more education. It is also considerably higher in Zanzibar than in the Mainland.

**Table 8.9 Postpartum vitamin A supplements**

Percentage of women with a birth in the 12 months preceding the survey who received a vitamin A supplement within two months after delivery, Tanzania 1999

| Background characteristic | Received vitamin A | Number of women |
|---------------------------|--------------------|-----------------|
| <b>Residence</b>          |                    |                 |
| Urban                     | 13.9               | 125             |
| Rural                     | 11.2               | 559             |
| <b>Mainland/Zanzibar</b>  |                    |                 |
| Mainland                  | 12.0               | 666             |
| Urban                     | 14.2               | 121             |
| Rural                     | 11.4               | 545             |
| Zanzibar                  | 2.1                | 18              |
| Pemba                     | 1.0                | 9               |
| Unguja                    | 3.2                | 9               |
| <b>Mother's education</b> |                    |                 |
| No education              | 9.7                | 193             |
| Primary incomplete        | 9.4                | 108             |
| Primary complete          | 12.8               | 358             |
| Secondary+                | 20.5               | 25              |
| <b>Place of delivery</b>  |                    |                 |
| Health facility           | 18.1               | 250             |
| Home                      | 8.0                | 432             |
| Total                     | 11.7               | 684             |

Table 8.10 Birth registration coverage

Percent distribution of children under five by whether birth is registered or a certificate seen and reasons for non-registration, Tanzania 1999

| Background characteristic | Birth is registered | Reason birth not registered |                     |                                |                                |                               |       |         | Total | Number of children |
|---------------------------|---------------------|-----------------------------|---------------------|--------------------------------|--------------------------------|-------------------------------|-------|---------|-------|--------------------|
|                           |                     | Cost too much               | Must travel too far | Didn't know must be registered | Late, did not want to pay fine | Didn't know where to register | Other | Missing |       |                    |
| Child's age in months     |                     |                             |                     |                                |                                |                               |       |         |       |                    |
| < 6 months                | 6.5                 | 4.3                         | 3.1                 | 31.3                           | 2.7                            | 36.2                          | 7.8   | 8.0     | 100.0 | 326                |
| 6-11 months               | 5.3                 | 2.1                         | 5.6                 | 29.3                           | 3.2                            | 46.0                          | 2.5   | 6.0     | 100.0 | 310                |
| 12-23 months              | 5.0                 | 3.3                         | 4.1                 | 37.8                           | 2.6                            | 37.8                          | 3.5   | 5.9     | 100.0 | 593                |
| 24-35 months              | 9.5                 | 3.0                         | 2.9                 | 38.3                           | 3.4                            | 32.3                          | 3.9   | 6.7     | 100.0 | 588                |
| 36-47 months              | 5.3                 | 2.6                         | 4.1                 | 34.7                           | 1.5                            | 39.4                          | 4.0   | 8.4     | 100.0 | 528                |
| 48-59 months              | 6.4                 | 3.2                         | 2.6                 | 41.0                           | 1.6                            | 33.8                          | 2.2   | 9.3     | 100.0 | 554                |
| Sex                       |                     |                             |                     |                                |                                |                               |       |         |       |                    |
| Male                      | 7.5                 | 2.5                         | 3.2                 | 37.5                           | 2.1                            | 36.3                          | 4.0   | 6.9     | 100.0 | 1,463              |
| Female                    | 5.4                 | 3.6                         | 4.0                 | 35.1                           | 2.8                            | 37.5                          | 3.6   | 7.9     | 100.0 | 1,436              |
| Residence                 |                     |                             |                     |                                |                                |                               |       |         |       |                    |
| Urban                     | 21.8                | 5.5                         | 1.3                 | 30.6                           | 6.2                            | 20.8                          | 8.1   | 5.7     | 100.0 | 546                |
| Rural                     | 2.9                 | 2.5                         | 4.1                 | 37.6                           | 1.6                            | 40.6                          | 2.8   | 7.8     | 100.0 | 2,353              |
| Mainland/Zanzibar         |                     |                             |                     |                                |                                |                               |       |         |       |                    |
| Mainland                  | 4.7                 | 3.0                         | 3.6                 | 37.1                           | 2.5                            | 37.8                          | 3.7   | 7.6     | 100.0 | 2,820              |
| Urban                     | 18.7                | 5.7                         | 1.4                 | 31.9                           | 6.5                            | 21.7                          | 8.3   | 5.9     | 100.0 | 523                |
| Rural                     | 1.5                 | 2.4                         | 4.1                 | 38.3                           | 1.6                            | 41.5                          | 2.7   | 7.9     | 100.0 | 2,297              |
| Zanzibar                  | 68.9                | 4.5                         | 3.7                 | 8.4                            | 1.8                            | 5.4                           | 6.1   | 1.2     | 100.0 | 78                 |
| Pemba                     | 52.4                | 7.3                         | 7.0                 | 13.2                           | 1.5                            | 9.7                           | 7.7   | 1.2     | 100.0 | 38                 |
| Unguja                    | 84.4                | 1.9                         | 0.6                 | 3.8                            | 2.0                            | 1.4                           | 4.6   | 1.3     | 100.0 | 40                 |
| Mother's education        |                     |                             |                     |                                |                                |                               |       |         |       |                    |
| No education              | 2.7                 | 0.8                         | 2.7                 | 41.6                           | 0.2                            | 38.8                          | 2.7   | 10.3    | 100.0 | 807                |
| Primary incomplete        | 3.7                 | 4.5                         | 5.2                 | 33.3                           | 3.1                            | 40.2                          | 3.6   | 6.5     | 100.0 | 476                |
| Primary complete          | 6.2                 | 4.0                         | 3.3                 | 36.1                           | 3.3                            | 36.6                          | 4.0   | 7.8     | 100.0 | 1,506              |
| Secondary+                | 49.2                | 0.1                         | 6.8                 | 13.6                           | 4.6                            | 12.5                          | 9.6   | 3.5     | 100.0 | 108                |
| Total                     | 6.4                 | 3.1                         | 3.6                 | 36.3                           | 2.4                            | 36.9                          | 3.8   | 7.4     | 100.0 | 2,898              |

## 8.5 CHILDHOOD VACCINATIONS

Diseases caused by viruses, bacteria, and parasites cause immense human misery and kill many thousands annually, especially young children. One of Tanzania's health policy objectives is to reduce infant and child mortality by controlling communicable diseases. Vaccines have proven invaluable in fighting several childhood illnesses, including poliomyelitis, measles, rubella, and tetanus. The immunisation programme in Tanzania is implemented by the Ministry of Health through the Expanded Programme on Immunisation (EPI), which started in 1975 and was established throughout the country in 1996.

The EPI programme in Tanzania follows the World Health Organisation's (WHO) guidelines for vaccinating children. To be considered fully vaccinated, a child should receive a dose of BCG vaccine against tuberculosis at birth or soon after; three doses of DPT for the prevention of diphtheria, pertussis (whooping cough), and tetanus; at least three doses of polio vaccine; and a vaccination against measles. The DPT and polio vaccinations should be given at approximately 4,

8, and 12 weeks of age; more recently, a dose of polio vaccine at birth has been added to the schedule. Measles vaccine should be given at or soon after the child reaches nine months. Although in Tanzania children's vaccination schedules are followed up until the child reaches five years of age, WHO recommends that children receive the complete schedule of vaccinations before 12 months of age and that the vaccinations be recorded on a health card given to the parents or caretaker.

Information on vaccination status was collected from vaccination cards shown to the interviewer and from mothers' verbal reports if no card was available. The Child Health Card is given to children at their first contact with health services and is used until the child's fifth birthday. It is used for recording information on growth monitoring, child immunisations, and morbidity. If the cards were available, the interviewers copied vaccination dates directly onto the questionnaire. If a vaccination card was presented but a vaccine had not been recorded on the card as having been given, the mother was asked to recall whether that particular vaccine had been given. The mother was then asked whether the child had received other vaccinations that were not recorded on the card, and, if so, they too were noted on the questionnaire. If the mother was not able to provide a card for the child, she was asked to recall whether the child had received BCG, polio, DPT (including the number of doses for each), and measles vaccinations. The information collected covered all children under age five, although data presented here are restricted to children age 12-23 months to better reflect children who have reached the age by which they should be fully vaccinated.

Information on vaccination coverage among children age 12-23 months is shown in Table 8.11 according to the source of information used to determine coverage, i.e., vaccination record or mother's report. Health cards were presented for almost three-quarters (74 percent) of the children age 12-23 months. The third row of the table shows the proportion of children who were immunised at any age up to the time of the survey, while the last row shows the proportion who were vaccinated by age 12 months, the age at which vaccination coverage should be complete.

According to information from both the vaccination records and mothers' recall, only 68 percent of Tanzanian children 12-23 months can be considered fully immunised. Although the level of coverage for BCG and the first doses of DPT and polio exceeds 90 percent, the proportion

Table 8.11 Vaccinations by source of information

Percentage of children 12-23 months who had received specific vaccines at any time before the survey, by source of information about vaccination, and the percentage vaccinated by 12 months of age, Tanzania 1999

| Source of information                               | Percentage of children who had received: |      |      |      |                    |      |      |      |         |                  | No vacci-<br>nations | Number<br>of<br>children |
|---|--|------|------|------|--------------------|------|------|------|---------|------------------|----------------------|--------------------------|
|   | BCG                                      | DPT  |      |      | Polio <sup>1</sup> |      |      |      | Measles | All <sup>2</sup> |                      |                          |
|   |  | 1    | 2    | 3    | 0                  | 1    | 2    | 3    |         |                  |                      |                          |
| <b>Vaccinated at any time<br/>before the survey</b> |  |      |      |      |                    |      |      |      |         |                  |                      |                          |
| Vaccination card                                    | 73.1                                     | 73.1 | 70.5 | 68.9 | 41.1               | 73.3 | 71.0 | 67.7 | 63.7    | 60.9             | 0.0                  | 439                      |
| Mother's report                                     | 19.6                                     | 18.8 | 16.9 | 12.1 | 8.0                | 19.8 | 18.6 | 12.2 | 14.4    | 7.4              | 5.3                  | 154                      |
| Either source                                       | 92.7                                     | 91.9 | 87.4 | 81.0 | 49.1               | 93.1 | 89.6 | 79.9 | 78.1    | 68.3             | 5.3                  | 593                      |
| <b>Vaccinated by<br/>12 months of age</b>           | 92.0                                     | 91.4 | 86.1 | 77.3 | 49.1               | 92.6 | 88.4 | 77.2 | 69.3    | 58.5             | 5.3                  | 593                      |

Note: For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination.

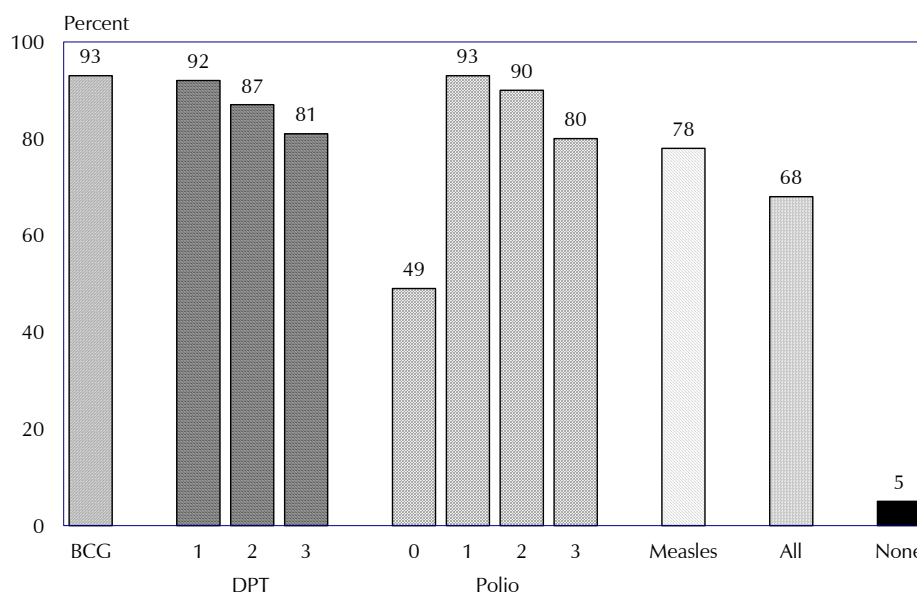
<sup>1</sup> Polio 0 is given at birth.

<sup>2</sup> Children who are fully vaccinated (i.e., those who have received BCG, measles, and three doses of DPT and polio (excluding polio 0).

who go on to receive the third dose of these last two vaccines falls off to 81 percent for DPT and 80 for polio (Figure 8.2); dropout rates<sup>1</sup> between the first and third doses of DPT and polio are thus 12 and 14 percent, respectively. Seventy-eight percent of children age 12-23 months have received the measles vaccine. Only 5 percent of children have not received any vaccinations at all.

Taking into account WHO recommendations that children should receive the complete schedule by 12 months of age, 59 percent of children age 12-23 months received all of the

**Figure 8.2 Percentage of Children Age 12-23 Months with Specific Vaccinations according to Vaccination Cards and Mothers' Reports**



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recommended vaccinations before their first birthday.

Overall vaccination coverage since 1991-92 has declined slightly, from 71 to 68 percent of children 12-23 months fully immunised.

Table 8.12 shows vaccination coverage among children age 12-23 months by sex, birth order, residence, and mother's education. The table also includes information on the percentage of children for whom a vaccination card was shown to the interviewer. Boys have slightly higher vaccination coverage than girls, 70 versus 67 percent. The proportion of children fully immunised declines as birth order increases, from 79 percent for first births to 60 percent of sixth and higher births.

<sup>1</sup> Dropout rate = (Dose 1 - Dose 3) \* 100 / Dose 1

Table 8.12 Vaccinations by background characteristics

Percentage of children 12-23 months who had received specific vaccines by the time of the survey (according to the vaccination card or the mother's report), and the percentage with a vaccination card, according to selected background characteristics, Tanzania 1999

| Background characteristic | Percentage of children who received: |      |      |      |                    |      |      |      |         |                  | Percent-<br>No<br>vacci-<br>nations | age<br>with<br>a card | Number<br>of<br>children |
|---------------------------|--------------------------------------|------|------|------|--------------------|------|------|------|---------|------------------|-------------------------------------|-----------------------|--------------------------|
|                           | BCG                                  | DPT  |      |      | Polio <sup>1</sup> |      |      |      | Measles | All <sup>2</sup> |                                     |                       |                          |
|                           |                                      | 1    | 2    | 3    | 0                  | 1    | 2    | 3    |         |                  |                                     |                       |                          |
| <b>Child's sex</b>        |                                      |      |      |      |                    |      |      |      |         |                  |                                     |                       |                          |
| Male                      | 91.7                                 | 92.6 | 88.6 | 83.1 | 45.8               | 93.1 | 90.1 | 80.4 | 79.8    | 69.8             | 6.0                                 | 72.5                  | 334                      |
| Female                    | 94.0                                 | 91.1 | 85.9 | 78.2 | 53.3               | 93.2 | 88.9 | 79.4 | 76.0    | 66.5             | 4.5                                 | 76.2                  | 259                      |
| <b>Birth order</b>        |                                      |      |      |      |                    |      |      |      |         |                  |                                     |                       |                          |
| 1                         | 93.8                                 | 96.0 | 93.9 | 87.7 | 62.0               | 97.0 | 93.1 | 85.3 | 91.6    | 78.8             | 3.0                                 | 74.5                  | 115                      |
| 2-3                       | 92.4                                 | 92.9 | 86.4 | 84.2 | 52.2               | 92.9 | 91.0 | 84.2 | 76.3    | 70.2             | 6.6                                 | 73.5                  | 210                      |
| 4-5                       | 95.2                                 | 90.6 | 88.6 | 81.1 | 53.1               | 91.2 | 88.4 | 73.9 | 77.5    | 65.0             | 3.9                                 | 78.4                  | 136                      |
| 6+                        | 89.8                                 | 88.2 | 82.2 | 69.9 | 28.6               | 92.3 | 85.4 | 74.8 | 70.1    | 59.6             | 6.7                                 | 70.1                  | 131                      |
| <b>Residence</b>          |                                      |      |      |      |                    |      |      |      |         |                  |                                     |                       |                          |
| Urban                     | 100.0                                | 96.0 | 95.5 | 89.9 | 74.8               | 96.5 | 95.1 | 84.8 | 90.3    | 80.5             | 0.0                                 | 69.6                  | 112                      |
| Rural                     | 91.0                                 | 91.0 | 85.6 | 78.9 | 43.1               | 92.4 | 88.3 | 78.8 | 75.3    | 65.5             | 6.5                                 | 75.1                  | 481                      |
| <b>Mainland/Zanzibar</b>  |                                      |      |      |      |                    |      |      |      |         |                  |                                     |                       |                          |
| Mainland                  | 92.6                                 | 91.8 | 87.3 | 80.9 | 49.3               | 93.0 | 89.5 | 79.9 | 78.2    | 68.3             | 5.4                                 | 74.0                  | 578                      |
| Urban                     | 100.0                                | 95.9 | 95.5 | 90.0 | 76.0               | 96.3 | 95.0 | 84.6 | 90.6    | 80.6             | 0.0                                 | 69.1                  | 107                      |
| Rural                     | 90.9                                 | 90.9 | 85.5 | 78.9 | 43.3               | 92.3 | 88.2 | 78.8 | 75.4    | 65.5             | 6.6                                 | 75.2                  | 471                      |
| Zanzibar                  | 97.8                                 | 95.8 | 92.4 | 83.3 | 39.5               | 97.0 | 93.6 | 82.8 | 75.0    | 70.0             | 1.6                                 | 75.6                  | 15                       |
| Pemba                     | 95.8                                 | 93.5 | 88.0 | 71.6 | 35.3               | 95.7 | 90.3 | 70.6 | 61.5    | 51.8             | 3.2                                 | 66.5                  | 8                        |
| Unguja                    | 100.0                                | 98.3 | 97.0 | 95.8 | 44.0               | 98.3 | 97.0 | 95.8 | 89.4    | 89.4             | 0.0                                 | 85.4                  | 7                        |
| <b>Mother's education</b> |                                      |      |      |      |                    |      |      |      |         |                  |                                     |                       |                          |
| No education              | 86.2                                 | 85.5 | 74.8 | 65.4 | 35.5               | 87.8 | 80.7 | 67.5 | 63.3    | 49.5             | 11.3                                | 67.2                  | 155                      |
| Primary incomplete        | 90.6                                 | 86.7 | 84.3 | 74.3 | 45.4               | 87.5 | 85.3 | 74.0 | 75.3    | 66.9             | 7.6                                 | 78.7                  | 112                      |
| Primary complete          | 96.3                                 | 96.5 | 94.2 | 91.7 | 56.1               | 97.5 | 95.0 | 87.0 | 85.2    | 78.2             | 1.8                                 | 76.1                  | 302                      |
| Secondary+                | *                                    | *    | *    | *    | *                  | *    | *    | *    | *       | *                | *                                   | *                     | 24                       |
| Total                     | 92.7                                 | 91.9 | 87.4 | 81.0 | 49.1               | 93.1 | 89.6 | 79.9 | 78.1    | 68.3             | 5.3                                 | 74.1                  | 593                      |

Note: For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination. An asterisk indicates that a figure has been suppressed because it is based on fewer than 25 respondents.

<sup>1</sup> Polio 0 is given at birth.

<sup>2</sup> Children who are fully vaccinated (i.e., those who have received BCG, measles, and three doses of DPT and polio (excluding polio 0)).

As has been observed in prior surveys, vaccination coverage is slightly higher in Zanzibar than in the Mainland. Unguja has considerably higher vaccination coverage (89 percent) than Pemba (52 percent), which is due to the steep dropout rate in Pemba between the second and third doses of DPT and polio vaccine and the low rate of measles immunisation. Immunisation coverage improves substantially as mother's level of education increases, from 50 percent of children whose mothers have no education to 78 percent of children whose mothers have completed some primary school.

## 8.6 ACUTE RESPIRATORY INFECTION AND FEVER

Acute respiratory infection (ARI) is among the leading causes of morbidity and mortality among young children in Tanzania. Of the acute respiratory diseases, pneumonia is the most serious for young children. Improvement in children's nutritional status is regarded as the best and most effective strategy for reducing the severity of acute respiratory infections because children could withstand the effects and recover more quickly. Nevertheless, early diagnosis and treatment with antibiotics can prevent a large proportion of deaths from respiratory infection, especially infection

that includes fever, cough, and difficult or rapid breathing.

Fever symptoms are also associated with malaria in many cases. Malaria is a leading cause of outpatient attendance, admissions, and deaths, especially among children under five. According to a survey conducted by the Ministry of Health in three districts (Morogoro Rural, Dar es Salaam, and Hai), malaria causes about 45 percent of all deaths among children under five in Morogoro, about 25 percent in Dar es Salaam, and about 20 percent in Hai.

To quantify the prevalence of ARI and fever, mothers were asked whether their children under age five had been ill with a cough accompanied by short rapid breathing or with a fever during the two weeks before the survey. Mothers whose children had experienced these symptoms were asked whether they sought advice or treatment from a health professional or at a health facility. If the child had suffered from fever during the previous two weeks, the mother was asked whether the child took medicine for the fever and, if so, which kind. While information on disease prevalence is highly dependent on correct reporting and proper diagnosis of symptoms, the accuracy of information on treatment practices depends on how much mothers know about the medicines that were given to their children. The aim in the TRCHS was to gain a general knowledge about the management of ill children. Table 8.13 presents the percentage of children under five who were ill with a cough accompanied by fast breathing and the percentage who were ill with fever during the two weeks before the survey.

The data show that 14 percent of children had a cough and rapid breathing in the two weeks before the survey. Prevalence of ARI symptoms varies by age of the child, being highest among children age 6-11 months (26 percent) and declining slowly to 8 percent among those age 48-59 months. Variation in ARI prevalence is not significant by child's sex, birth order, or residence or by mother's level of education. Zanzibar has a higher prevalence of children with ARI symptoms (18 percent) than the Mainland (14 percent), which is entirely due to the relatively high level in Pemba (23 percent).

More than one-third of children under five were reported to have had a fever in the two weeks prior to the survey. Fever is more prevalent among children age 6-23 months and among children who live in Pemba. More than half (53 percent) of children with fever were treated with antimalarial medicine (i.e. chloroquine). More than two-thirds of children with respiratory infections and/or fever were taken to a health facility.

## **8.7 USE OF BEDNETS**

Consistent use of insecticide-treated bednets can substantially reduce the transmission of malaria. Donor organisations are supporting commercial marketing of treated bednets in an effort to expand their use. In order to gauge the extent of bednet use, respondents to the household interview were asked whether the household had any bednets and, if so, whether all, some, or none of the children under age five slept under a bednet the night before the interview. They were also asked if the bednets had been treated with an insecticide, since treated bednets are more effective than untreated ones.

The data show that use of bednets is minimal in Tanzania (Table 8.14). Of households with at least one child under five, only 21 percent reported that all children under five slept under a bednet the night prior to the interview, while 4 percent reported that only some of the children spent the night under a bednet. Of the households in which some children slept under a bednet, only 10 percent reported that the net had ever been treated with insecticide. There are substantial differences between urban and rural households, with more urban households using bednets



(52 percent) than rural households (17 percent). Use of bednets is also higher in Zanzibar than in the Mainland.

Table 8.13 Prevalence and treatment of acute respiratory infection and prevalence of fever

Among all children under five years of age, the percentage who were ill with a cough accompanied by rapid breathing and the percentage who were ill with fever during the two weeks preceding the survey, the percentage of children with fever given antimalarial medicine, and the percentage of children with fever or cough taken to a health facility or provider, according to selected background characteristics, Tanzania 1999

| Background characteristic | Percentage with cough accompanied by rapid breathing (ARI) | Percentage with fever | Among children with fever percentage given antimalarial medicine | Among children with fever or cough, percentage taken to a health facility or provider | Number of children with fever or cough | Number of children |
|---------------------------|--|-----------------------|--|---|--|--------------------|
| <b>Child's age</b>        |  |                       |  |   |  |                    |
| < 6 months                | 12.3   | 32.1                  | 45.4   | 55.5  | 119                                    | 326                |
| 6-11 months               | 26.1   | 50.7                  | 59.7   | 70.2  | 179                                    | 310                |
| 12-23 months              | 19.7   | 50.8                  | 54.0   | 69.3  | 319                                    | 593                |
| 24-35 months              | 12.3   | 32.0                  | 51.1   | 74.2  | 203                                    | 588                |
| 36-47 months              | 9.1  | 29.4                  | 51.6   | 66.1  | 168                                    | 528                |
| 48-59 months              | 8.1  | 20.2                  | 57.0   | 61.6  | 129                                    | 554                |
| <b>Child's sex</b>        |  |                       |  |   |  |                    |
| Male                      | 14.4   | 36.5                  | 54.3   | 69.2  | 583                                    | 1,463              |
| Female                    | 13.4   | 33.7                  | 52.4   | 65.7  | 534                                    | 1,436              |
| <b>Birth order</b>        |  |                       |  |   |  |                    |
| 1                         | 14.3   | 34.1                  | 59.2   | 69.7  | 247                                    | 655                |
| 2-3                       | 13.3   | 35.4                  | 51.6   | 65.5  | 379                                    | 974                |
| 4-5                       | 14.1   | 37.4                  | 52.4   | 70.6  | 261                                    | 642                |
| 6+                        | 14.3   | 33.4                  | 51.6   | 64.8  | 230                                    | 628                |
| <b>Residence</b>          |  |                       |  |   |  |                    |
| Urban                     | 12.2   | 33.4                  | 61.7   | 78.4  | 201                                    | 546                |
| Rural                     | 14.3   | 35.5                  | 51.6   | 65.1  | 917                                    | 2,353              |
| <b>Mainland/Zanzibar</b>  |  |                       |  |   |  |                    |
| Mainland                  | 13.8   | 35.0                  | 53.0   | 67.3  | 1,083                                  | 2,820              |
| Urban                     | 12.1   | 33.6                  | 61.2   | 78.5  | 193                                    | 523                |
| Rural                     | 14.1   | 35.4                  | 51.2   | 64.9  | 890                                    | 2,297              |
| Zanzibar                  | 18.4   | 38.6                  | 68.4   | 72.9  | 34                                     | 78                 |
| Pemba                     | 23.3   | 49.0                  | 67.5   | 69.8  | 21                                     | 38                 |
| Unguja                    | 13.8   | 28.8                  | 69.8   | 77.7  | 13                                     | 40                 |
| <b>Mother's education</b> |  |                       |  |   |  |                    |
| No education              | 13.2   | 37.1                  | 44.3   | 59.5  | 312                                    | 807                |
| Primary incomplete        | 13.4   | 33.5                  | 51.9   | 67.7  | 179                                    | 476                |
| Primary complete          | 14.3   | 35.4                  | 58.2   | 71.1  | 595                                    | 1,506              |
| Secondary+                | 15.1   | 24.6                  | (70.3)   | (77.3)  | 31                                     | 108                |
| <b>Total</b>              | <b>13.9</b>  | <b>35.1</b>           | <b>53.4</b>  | <b>67.5</b>   | <b>1,117</b>                           | <b>2,898</b>       |

Note: Codes for antimalarial medicines included both Fansidar and chloroquine; however, the proportion citing Fansidar was less than half a percent.

ARI = Acute respiratory infection

## 8.8 PREVALENCE AND TREATMENT OF DIARRHOEA

Diarrhoea is one of the major causes of morbidity and mortality among young children in Tanzania. The problem becomes more prominent in children after six months of age, when children start to crawl and eat supplementary foods. In the 1999 TRCHS, mothers were asked whether their children under five had diarrhoea in the two weeks preceding the survey. If so, the mother was asked what, if anything, had been done to treat the diarrhoea. Since the prevalence of diarrhoea varies seasonally, the results pertain only to the pattern during the September-November period when the TRCHS interviewing took place.

**Table 8.14 Use of bednets**

Percent distribution of households with children under five by use of bednets by children under five the night before the interview, and by use of insecticide to treat bednets, according to selected background characteristics, Tanzania 1999

| Background characteristic | Use of bednets by children under five during the previous night |               |             |                    | Total | Use of insecticide to treat bednets |                      |            | Number of households with children under 5 |                       |
|---------------------------|---|---------------|-------------|--------------------|-------|-------------------------------------|----------------------|------------|--|-----------------------|
|                           | All children  | Some children | No children | Don't know missing |       | Ever treated bednet                 | Never treated bednet | Don't know | Total                                      | with children under 5 |
| <b>Residence</b>          |   |               |             |                    |       |                                     |                      |            |  |                       |
| Urban                     | 47.9  | 4.5           | 46.6        | 1.0                | 100.0 | 10.1                                | 83.4                 | 6.5        | 100.0                                      | 415                   |
| Rural                     | 13.0  | 4.1           | 82.1        | 0.8                | 100.0 | 10.3                                | 87.3                 | 2.4        | 100.0                                      | 1,471                 |
| <b>Mainland/Zanzibar</b>  |   |               |             |                    |       |                                     |                      |            |  |                       |
| Mainland                  | 20.3  | 4.1           | 74.9        | 0.8                | 100.0 | 10.4                                | 85.1                 | 4.5        | 100.0                                      | 1,836                 |
| Urban                     | 47.6  | 4.4           | 47.0        | 1.0                | 100.0 | 10.3                                | 82.9                 | 6.8        | 100.0                                      | 401                   |
| Rural                     | 12.7  | 4.0           | 82.6        | 0.7                | 100.0 | 10.4                                | 87.0                 | 2.5        | 100.0                                      | 1,435                 |
| Zanzibar                  | 35.1  | 9.0           | 54.4        | 1.6                | 100.0 | 5.9                                 | 94.1                 | 0.0        | 100.0                                      | 50                    |
| Pemba                     | 27.1  | 15.4          | 56.6        | 0.9                | 100.0 | 7.0                                 | 93.0                 | 0.0        | 100.0                                      | 24                    |
| Unguja                    | 42.5  | 3.0           | 52.4        | 2.2                | 100.0 | 4.9                                 | 95.1                 | 0.0        | 100.0                                      | 26                    |
| Total                     | 20.7  | 4.2           | 74.3        | 0.8                | 100.0 | 10.2                                | 85.5                 | 4.3        | 100.0                                      | 1,886                 |

Twelve percent of children under five were reported to have had diarrhoea (Table 8.15). As with ARI and fever, children age 6 to 23 months were more likely to suffer from diarrhoea; prevalence is 2 to 3 times higher among these children than among the very young or older children.

Treatment of diarrhoea is another issue that was studied in the 1999 TRCHS. The goal was to understand diarrhoea management by mothers of children under five. The administration of oral rehydration therapy (ORT) is a simple means of countering the effects of the dehydration that accompanies diarrhoea. ORT involves giving the child a solution prepared by mixing water with commercially prepared packets of oral rehydration salts (ORS) or any kind of thin, nutritious fluids such as rice water, coconut milk, or watery soup.

**Table 8.15 Prevalence of diarrhoea**

Percentage of children under five years of age with diarrhoea during the two weeks preceding the survey, by selected background characteristics, Tanzania 1999

| Background characteristic | Diarrhoea in the preceding 2 weeks | Number of children |
|---------------------------|------------------------------------|--------------------|
| <b>Child's age</b>        |                                    |                    |
| < 6 months                | 10.1                               | 326                |
| 6-11 months               | 30.3                               | 310                |
| 12-23 months              | 20.4                               | 593                |
| 24-35 months              | 11.4                               | 588                |
| 36-47 months              | 4.1                                | 528                |
| 48-59 months              | 3.9                                | 554                |
| <b>Child's sex</b>        |                                    |                    |
| Male                      | 13.5                               | 1,463              |
| Female                    | 11.1                               | 1,436              |
| <b>Birth order</b>        |                                    |                    |
| 1                         | 12.2                               | 655                |
| 2-3                       | 11.9                               | 974                |
| 4-5                       | 13.3                               | 642                |
| 6+                        | 12.3                               | 628                |
| <b>Residence</b>          |                                    |                    |
| Urban                     | 9.8                                | 546                |
| Rural                     | 12.9                               | 2,353              |
| <b>Mainland/Zanzibar</b>  |                                    |                    |
| Mainland                  | 12.4                               | 2,820              |
| Urban                     | 9.9                                | 523                |
| Rural                     | 12.9                               | 2,297              |
| Zanzibar                  | 11.6                               | 78                 |
| Pemba                     | 16.3                               | 38                 |
| Unguja                    | 7.2                                | 40                 |
| <b>Mother's education</b> |                                    |                    |
| No education              | 8.9                                | 807                |
| Primary incomplete        | 14.4                               | 476                |
| Primary complete          | 13.9                               | 1,506              |
| Secondary+                | 7.3                                | 108                |
| <b>Total</b>              | <b>12.4</b>                        | <b>2,898</b>       |

Table 8.16 shows diarrhoea treatment practices for children who had diarrhoea in the two weeks preceding the survey. About two-thirds (63 percent) were taken to a health facility for treatment, while 55 percent were given a solution prepared from ORS packets and 32 percent were given more than the usual amount of fluids. Three-quarters of children with diarrhoea were given soup, *uji* (porridge), rice water, or coconut milk. However, almost one-third of ill children were given neither ORS nor increased fluids. Differences in diarrhoea treatment by background characteristics are surprisingly small and should be viewed cautiously, given the small numbers of ill children.

Besides being asked about what was done to treat children with diarrhoea, mothers were specifically asked whether they gave the child more or less fluids and food than usual. Table 8.17 provides information on feeding practices among children under five who had diarrhoea in the two weeks before the survey. The data indicate that 33 percent of children with diarrhoea were given the same amount of fluids as usual, 32 percent received more fluids than usual, and 34 percent received less fluids than usual. These results suggest that one-third of mothers still engage in the dangerous practice of curtailing fluid intake when their children have diarrhoea. Half of the children with diarrhoea were given less than the usual amount of food, which could exacerbate the child's illness.

## 8.9 KNOWLEDGE OF SIGNS OF ILLNESS

In order to ensure the proper management of childhood illness, it is important for caretakers of children to be aware of the signs of a serious problem that would alert them to the child's need for help. In the TRCHS, all women with children under five were asked what signs of illness would tell them that they

should take the child to a health facility immediately. As shown in Table 8.18, almost three out of four mothers could cite two or more danger signs. The most widely cited sign of serious illness was fever, reported by 91 percent of mothers. Other signs of serious illness were the child becoming sicker (46 percent of mothers), the child breathing rapidly (20 percent), and the child drinking poorly (18 percent).

In a similar line of questioning, all women were asked what signs would indicate that a pregnant woman may have a serious health problem for which she should seek medical treatment immediately. Table 8.19 shows that more than half the women know that fever can be a sign of pregnancy complications, and one-third of the women say that profuse bleeding is a sign that a

Table 8.16 Treatment of diarrhoea

Among children under five years who had diarrhoea in the two weeks preceding the survey, the percentage taken for treatment to a health facility or provider, the percentage who received oral rehydration salts (ORS), or increased fluids, the percentage who received neither ORS nor increased fluids, and the percentage given other treatments, according to selected background characteristics, Tanzania 1999

| Background characteristic | Percentage taken to a health facility or provider <sup>1</sup> | ORS packets | Increased fluids | Neither ORS or increased fluids | Soup, rice water or coconut milk | Don't know | Children with diarrhoea |
|---------------------------|--|-------------|------------------|---------------------------------|----------------------------------|------------|-------------------------|
| <b>Child's age</b>        |  |             |                  |                                 |                                  |            |                         |
| < 6 months                | (62.5)   | (57.8)      | (11.3)           | (36.9)                          | (35.9)                           | (22.3)     | 33                      |
| 6-11 months               | 65.7   | 63.8        | 26.6             | 26.3                            | 74.9                             | 7.5        | 94                      |
| 12-23 months              | 58.2   | 49.5        | 33.8             | 32.7                            | 77.7                             | 12.5       | 121                     |
| 24-35 months              | 62.4   | 54.6        | 47.2             | 28.1                            | 78.2                             | 5.7        | 67                      |
| 36-47 months              | *  | *           | *                | *                               | *                                | *          | 22                      |
| 48-59 months              | *  | *           | *                | *                               | *                                | *          | 21                      |
| <b>Child's sex</b>        |  |             |                  |                                 |                                  |            |                         |
| Male                      | 63.5   | 55.2        | 34.0             | 30.9                            | 71.0                             | 10.8       | 198                     |
| Female                    | 62.9   | 54.4        | 29.3             | 33.8                            | 76.5                             | 10.2       | 160                     |
| <b>Birth order</b>        |  |             |                  |                                 |                                  |            |                         |
| 1                         | 70.8   | 51.9        | 26.0             | 40.4                            | 64.5                             | 16.7       | 80                      |
| 2-3                       | 52.4   | 46.5        | 33.1             | 37.0                            | 80.5                             | 11.1       | 116                     |
| 4-5                       | 65.5   | 61.3        | 42.2             | 24.2                            | 68.3                             | 7.6        | 85                      |
| 6+                        | 69.2   | 63.4        | 24.8             | 25.2                            | 77.9                             | 6.5        | 77                      |
| <b>Residence</b>          |  |             |                  |                                 |                                  |            |                         |
| Urban                     | 70.1   | 51.0        | 28.9             | 35.0                            | 85.7                             | 8.3        | 54                      |
| Rural                     | 62.0   | 55.5        | 32.4             | 31.7                            | 71.3                             | 10.9       | 304                     |
| <b>Mainland/Zanzibar</b>  |  |             |                  |                                 |                                  |            |                         |
| Mainland                  | 63.6   | 55.5        | 31.7             | 31.9                            | 74.0                             | 10.2       | 349                     |
| Urban                     | 70.6   | 52.1        | 28.6             | 34.3                            | 86.8                             | 7.9        | 52                      |
| Rural                     | 62.4   | 56.1        | 32.2             | 31.5                            | 71.7                             | 10.7       | 297                     |
| Zanzibar                  | 47.7   | 29.4        | 40.2             | 42.0                            | 54.2                             | 21.2       | 9                       |
| <b>Mother's education</b> |  |             |                  |                                 |                                  |            |                         |
| No education              | 59.5   | 61.4        | 17.6             | 34.5                            | 65.9                             | 11.7       | 72                      |
| Primary incomplete        | 71.6   | 57.8        | 33.4             | 32.5                            | 72.5                             | 15.4       | 69                      |
| Primary complete          | 61.8   | 51.8        | 36.1             | 31.3                            | 76.3                             | 8.6        | 209                     |
| Secondary+                | *  | *           | *                | *                               | *                                | *          | 8                       |
| Total                     | 63.2   | 54.9        | 31.9             | 32.2                            | 73.5                             | 10.5       | 358                     |

Note: Figures in parentheses are based on 25 to 49 children who had diarrhoea. An asterisk indicates that a figure has been suppressed because it is based on fewer than 25 respondents.

<sup>1</sup> Includes health centre, hospital and private doctor.

pregnant woman should seek medical assistance. Only 17 percent of women know that swollen hands or feet is a potential warning sign (a symptom of oedema). Thirty-seven percent of women cited other symptoms of pregnancy complications, whereas 20 percent said they did not know of any signs.

In interpreting the data, it is useful to keep in mind that all women were asked the question and that knowledge is higher among women who have ever given birth or were pregnant at the time of the survey. For this reason, knowledge of signs of pregnancy complications is relatively lower for the youngest age group of women.

Table 8.17 Feeding practices during diarrhoea

Percent distribution of children under five years who had diarrhoea in the past two weeks by amount of solid foods given and amount of fluids given, Tanzania 1999

| Feeding practice              | Percentage of children |
|-------------------------------|------------------------|
| <b>Amount of fluids given</b> |                        |
| Same                          | 33.0                   |
| More                          | 31.9                   |
| Less                          | 34.4                   |
| Don't know/missing            | 0.7                    |
| <b>Amount of food given</b>   |                        |
| Same                          | 32.5                   |
| More                          | 15.8                   |
| Less                          | 51.0                   |
| Don't know/missing            | 0.7                    |
| Total                         | 100.0                  |
| Number of children            | 358                    |

Table 8.18 Knowledge of health complications

Percentage of mothers of children under five who know a sign indicating the need to seek health care immediately and percentage who know at least two signs, by specific sign and selected background characteristics, Tanzania 1999

| Background characteristic | Sign indicating need to seek health care immediately |                |                  |                     |                         |                    | Knows at least 2 signs | Number of mothers |
|---------------------------|--|----------------|------------------|---------------------|-------------------------|--------------------|------------------------|-------------------|
|                           | Drinks poorly  | Becomes sicker | Develops a fever | Has rapid breathing | Has difficult breathing | Has blood in stool |                        |                   |
| <b>Residence</b>          |  |                |                  |                     |                         |                    |                        |                   |
| Urban                     | 23.8   | 40.1           | 95.9             | 22.4                | 13.3                    | 11.5               | 77.2                   | 475               |
| Rural                     | 16.2   | 47.4           | 88.9             | 19.8                | 12.6                    | 8.3                | 70.2                   | 1,581             |
| <b>Mainland/Zanzibar</b>  |  |                |                  |                     |                         |                    |                        |                   |
| Mainland                  | 18.2   | 45.6           | 90.3             | 20.5                | 12.9                    | 9.2                | 71.9                   | 2,006             |
| Urban                     | 24.2   | 39.7           | 95.9             | 22.7                | 13.6                    | 11.7               | 77.4                   | 460               |
| Rural                     | 16.5   | 47.4           | 88.7             | 19.8                | 12.7                    | 8.4                | 70.3                   | 1,547             |
| Zanzibar                  | 7.1  | 49.3           | 96.6             | 16.1                | 7.7                     | 4.9                | 67.5                   | 50                |
| Pemba                     | 4.5  | 43.0           | 96.0             | 20.4                | 7.9                     | 6.2                | 64.0                   | 23                |
| Unguja                    | 9.3  | 54.8           | 97.2             | 12.3                | 7.5                     | 3.8                | 70.5                   | 27                |
| <b>Mother's education</b> |  |                |                  |                     |                         |                    |                        |                   |
| No education              | 14.3   | 39.5           | 83.0             | 17.3                | 12.1                    | 7.6                | 60.5                   | 549               |
| Primary incomplete        | 20.0   | 45.0           | 93.3             | 18.9                | 9.4                     | 6.2                | 70.8                   | 343               |
| Primary complete          | 18.3   | 49.5           | 93.4             | 22.6                | 13.9                    | 10.7               | 77.8                   | 1,080             |
| Secondary+                | 30.4   | 40.5           | 90.0             | 17.9                | 15.7                    | 9.7                | 73.2                   | 84                |
| Total                     | 18.0   | 45.7           | 90.5             | 20.4                | 12.8                    | 9.1                | 71.8                   | 2,056             |

**Table 8.19 Knowledge of pregnancy complications**

Percentage of all women 15-49 who know specific signs of pregnancy complications, by background characteristics, Tanzania 1999

| Background characteristic  | Sign of pregnancy complications |                    |                   |       | Doesn't know any signs | Number of births |
|----------------------------|---------------------------------|--------------------|-------------------|-------|------------------------|------------------|
|                            | Fever                           | Swollen hands/feet | Bleeding too much | Other |                        |                  |
| <b>Age</b>                 |                                 |                    |                   |       |                        |                  |
| 15-19                      | 35.5                            | 5.1                | 13.4              | 19.8  | 49.6                   | 909              |
| 20-24                      | 54.2                            | 16.2               | 31.1              | 37.4  | 19.9                   | 811              |
| 25-29                      | 58.1                            | 22.3               | 38.6              | 43.9  | 10.2                   | 749              |
| 30-34                      | 53.5                            | 20.3               | 38.8              | 42.6  | 9.4                    | 490              |
| 35-39                      | 55.9                            | 20.7               | 46.7              | 48.6  | 4.2                    | 456              |
| 40-44                      | 61.2                            | 26.5               | 42.9              | 44.8  | 5.0                    | 299              |
| 45-49                      | 56.6                            | 26.3               | 42.9              | 39.6  | 9.2                    | 315              |
| <b>Residence</b>           |                                 |                    |                   |       |                        |                  |
| Urban                      | 51.6                            | 27.1               | 42.7              | 38.2  | 17.4                   | 1,122            |
| Rural                      | 51.5                            | 13.6               | 29.3              | 36.9  | 20.7                   | 2,907            |
| <b>Mainland/Zanzibar</b>   |                                 |                    |                   |       |                        |                  |
| Mainland                   | 51.8                            | 17.3               | 33.0              | 37.3  | 19.9                   | 3,929            |
| Urban                      | 51.9                            | 27.0               | 42.8              | 38.2  | 17.6                   | 1,088            |
| Rural                      | 51.7                            | 13.5               | 29.2              | 36.9  | 20.9                   | 2,841            |
| Zanzibar                   | 41.1                            | 22.8               | 34.6              | 35.5  | 15.0                   | 100              |
| Pemba                      | 42.9                            | 17.6               | 29.7              | 35.4  | 12.7                   | 44               |
| Unguja                     | 39.7                            | 26.8               | 38.3              | 35.6  | 16.8                   | 56               |
| <b>Mother's education</b>  |                                 |                    |                   |       |                        |                  |
| No education               | 52.9                            | 11.8               | 29.5              | 36.2  | 18.3                   | 1,093            |
| Primary incomplete         | 48.9                            | 11.5               | 28.7              | 35.9  | 25.8                   | 854              |
| Primary complete           | 52.6                            | 21.7               | 35.0              | 37.9  | 18.5                   | 1,866            |
| Secondary+                 | 46.1                            | 32.3               | 51.4              | 42.8  | 15.3                   | 215              |
| <b>Reproductive status</b> |                                 |                    |                   |       |                        |                  |
| Ever had birth             | 58.0                            | 21.4               | 39.7              | 43.9  | 8.5                    | 3,013            |
| Never had birth            | 32.2                            | 5.5                | 13.2              | 17.4  | 53.5                   | 1,016            |
| Currently pregnant         | 57.3                            | 10.5               | 30.2              | 45.4  | 13.1                   | 378              |
| <b>Total</b>               | 51.5                            | 17.4               | 33.0              | 37.2  | 19.8                   | 4,029            |