

## CHAPTER 7

### MATERNAL AND CHILD HEALTH

#### 7.1 Antenatal Care

The results of the survey indicate very high utilisation of antenatal care for births in the preceding five years (94 percent), slightly higher than the 89 percent observed in the household survey on inequalities in health conducted in 1994 (Hirschowitz and Orkin, 1995). From Table 7.1 and Figure 7.1, it can be seen that only 3 percent of the births received no antenatal care. Compared with the results from the HSRC survey for the period 1988-1992 (Rossouw and Jordaan, 1997), there has been a marked improvement from the 12 percent of women who did not receive antenatal care. Furthermore, there has been a shift in the provider of antenatal care. SADHS data show that most women were seen by a nurse or midwife (66 percent) and fewer by doctors (29 percent). The HSRC survey showed that most women were seen by doctors (59 percent) and that fewer were seen by nurses (35 percent). A similarly low proportion of births were reported to have received care from a traditional birth attendant (less than 2 percent) in the 1988-1992 survey. These results suggest that antenatal care services have become more accessible in the last ten years.

A relatively high proportion of white women do not receive any antenatal care (11 percent). Overall, higher order births, those in the Western Cape and those whose mothers have no education, are more likely not to receive antenatal care.

The source of antenatal care varied slightly by women's age. Births to women in the 20-30 year age group were more likely to have had antenatal care provided by a doctor than women who were less than 20 years and those who were 35 and above. Considering the source of antenatal care by birth order, women with lower order births (1 child to 3 children) were more likely to receive antenatal care from a doctor than women with higher order births.

Doctors are more likely to provide antenatal care to women in urban areas than women in non-urban areas (41 percent vs 17 percent). The highest proportions of pregnancies that were cared for by a doctor occurred in Gauteng, Western Cape and Northern Cape. The lowest proportions occurred in the Eastern Cape and the Northern Province. The differences in antenatal care provision by population group show that the highest proportion of pregnancies cared for by a doctor was among white women (82 percent) and the lowest was amongst African women (23 percent). The percentage was even lower for African women living in non-urban areas (15 percent).

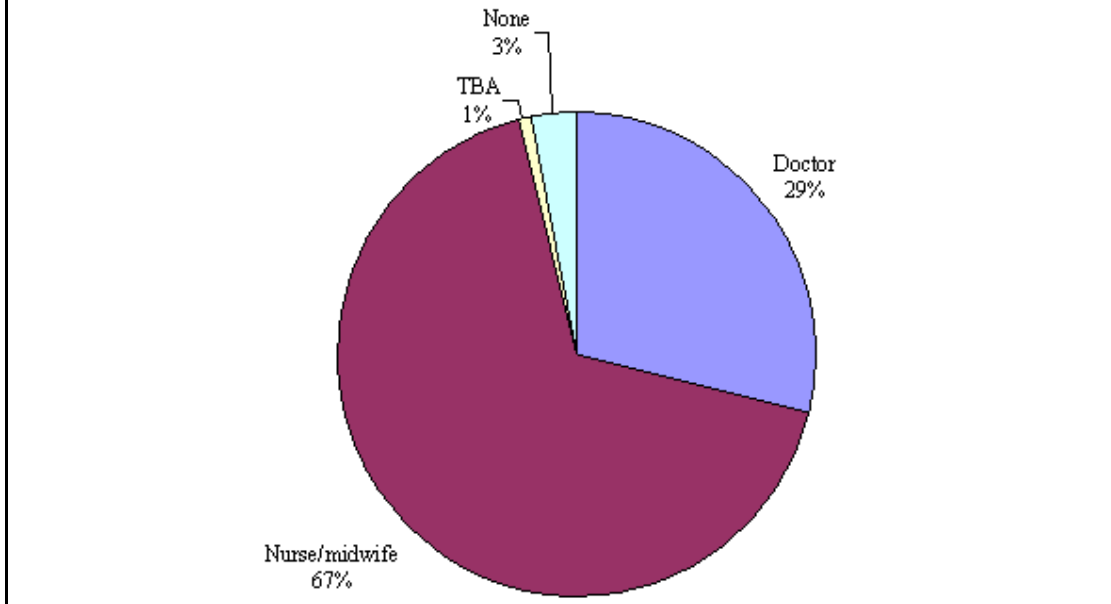
**Table 7.1 Antenatal care**

Percent distribution of births in the five years preceding the survey by source of antenatal care during pregnancy, according to selected background characteristics, South Africa 1998

Background characteristic	Antenatal care provider <sup>1</sup>				Missing	Total	Number of births
	Doctor	Nurse/ midwife	Traditional birth attendant	No one			
<b>Mother's age at birth</b>							
< 20	21.2	73.3	0.6	2.9	1.9	100.0	835
20-34	31.0	63.3	0.7	3.2	1.7	100.0	3,407
35+	26.5	66.7	1.4	3.0	2.4	100.0	751
<b>Birth order</b>							
1	31.6	63.1	0.6	3.1	1.7	100.0	1,652
2-3	33.2	61.2	0.9	3.1	1.6	100.0	2,008
4-5	20.4	74.3	0.7	2.4	2.2	100.0	847
6+	14.8	76.3	1.4	4.7	2.9	100.0	486
<b>Residence</b>							
Urban	40.9	53.9	1.0	2.9	1.4	100.0	2,470
Non-urban	16.8	76.9	0.7	3.4	2.3	100.0	2,522
<b>Province</b>							
Western Cape	43.5	48.2	1.0	6.7	0.7	100.0	401
Eastern Cape	12.0	82.7	0.5	4.0	0.9	100.0	741
Northern Cape	42.1	51.2	0.5	3.9	2.4	100.0	102
Free State	34.4	60.4	1.0	3.2	1.0	100.0	257
KwaZulu-Natal	28.3	66.1	0.6	2.3	2.7	100.0	1,094
North West	31.0	63.1	0.3	3.6	1.9	100.0	340
Gauteng	44.7	50.1	1.3	2.8	1.3	100.0	954
Mpumalanga	33.5	60.5	0.9	3.8	1.2	100.0	379
Northern	9.7	84.4	1.0	1.4	3.5	100.0	724
<b>Mother's education</b>							
No education	9.9	79.9	1.0	4.6	4.5	100.0	453
Sub A - Std 3	19.1	73.2	0.5	4.1	3.1	100.0	657
Std 4 - Std 5	21.9	75.0	0.4	1.4	1.3	100.0	747
Std 6 - Std 9	26.7	67.7	0.8	3.2	1.6	100.0	2,041
Std 10	45.0	49.3	1.5	3.1	1.0	100.0	759
Higher	63.3	33.0	0.7	3.0	0.0	100.0	336
<b>Population group</b>							
African	22.8	72.0	0.7	2.3	2.1	100.0	4,149
Afr. urban	33.6	62.1	0.8	1.8	1.7	100.0	1,783
Afr. non-urban	14.7	79.5	0.7	2.7	2.4	100.0	2,366
Coloured	45.1	46.7	1.0	6.8	0.4	100.0	445
White	82.1	6.3	0.9	10.7	0.0	100.0	250
Asian	65.2	28.2	2.5	2.4	1.7	100.0	114
Total	28.7	65.5	0.8	3.1	1.8	100.0	4,992

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

**Figure 7.1 Antenatal care by type of provider, South Africa 1998**



**Table 7.2 Number of antenatal care visits and stage of pregnancy**

Percent distribution of live births in the five years preceding the survey by number of antenatal care (ANC) visits, and by the stage of pregnancy at the time of the first visit, South Africa 1998

Number of visits and stage of pregnancy	Total
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**Antenatal visits during pregnancy**

None	3.1
1	1.8
2-3 visits	13.0
4+ visits	73.1
Don't know/missing	9.0

Total	100.0
Median	5.3

**Number of months pregnant at time of first visit**

No antenatal care	3.1
Less than 6 months	62.8
6-7 months	28.1
8+ months	3.7
Don't know/missing	2.3

Total	100.0
Median	5.2

Total	4,992
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Antenatal care was associated with levels of education. Table 7.1 shows that births to women with less education were more likely to receive antenatal care from a nurse or midwife than from a doctor. The proportion of births to women who obtained antenatal care from a doctor increased from 10 percent among women with no education to 63 percent among women with tertiary education. This finding is in contrast to the results of a previous survey (Rossouw and Jordaan, 1997) which found that most women were attended to by doctors irrespective of educational standard.

It can be seen in Table 7.2 that 73 percent of births in the past five years were to mothers who attended antenatal care four or more times. The median number of antenatal care visits was 5.3 similar to the 1992 survey with median of 5.4.

For the majority of births (63 percent), the first antenatal care visit was before six months of gestation. However, for more than a quarter of pregnancies, women did not receive antenatal care until six or seven months of gestation and 4 percent did not receive antenatal care until eight months of gestation. The median time at which mothers started antenatal visits was 5.2 months of gestation, an increase from median of 4.4 in 1992.

## 7.2 Tetanus Toxoid Vaccination

To estimate the extent of tetanus toxoid vaccination coverage during pregnancy, women were asked to report if they received injections against tetanus during pregnancy for all births in the five year period

**Table 7.3 Tetanus toxoid vaccinations**

Percent distribution of births in the five years preceding the survey by whether mother received a tetanus toxoid (TT) injection during pregnancy, according to selected background characteristics, South Africa 1998

Background characteristic	No TT injection	Received TT	Don't know/ Missing	Total	Number of births
<b>Mother's age at birth</b>					
< 20	31.1	63.4	5.4	100.0	835
20-34	35.8	57.3	6.9	100.0	3,407
35+	32.1	60.3	7.7	100.0	751
<b>Birth order</b>					
1	35.2	58.0	6.7	100.0	1,652
2-3	37.9	55.3	6.8	100.0	2,008
4-5	30.3	62.3	7.4	100.0	847
6+	24.8	69.6	5.6	100.0	486
<b>Residence</b>					
Urban	45.2	46.2	8.6	100.0	2,470
Non-urban	23.9	71.1	5.0	100.0	2,522
<b>Province</b>					
Western Cape	71.7	17.8	10.5	100.0	401
Eastern Cape	35.6	57.4	7.0	100.0	741
Northern Cape	37.3	53.4	9.3	100.0	102
Free State	20.7	75.8	3.5	100.0	257
KwaZulu-Natal	17.4	74.9	7.7	100.0	1,094
North West	37.9	56.3	5.7	100.0	340
Gauteng	54.9	37.6	7.5	100.0	954
Mpumalanga	34.3	61.8	3.9	100.0	379
Northern	14.3	80.8	5.0	100.0	724
<b>Mother's education</b>					
No education	23.9	70.0	6.1	100.0	453
Sub A - Std 3	23.9	69.4	6.7	100.0	657
Std 4 - Std 5	32.1	61.9	6.0	100.0	747
Std 6 - Std 9	34.4	59.3	6.3	100.0	2,041
Std 10	45.3	47.8	7.0	100.0	759
Higher	50.4	37.9	11.7	100.0	336
<b>Population group</b>					
African	28.3	65.3	6.4	100.0	4,149
Afr. urban	37.6	54.1	8.3	100.0	1,783
Afr. non-urban	21.3	73.7	5.0	100.0	2,366
Coloured	63.7	31.0	5.2	100.0	445
White	76.7	11.3	12.0	100.0	250
Asian	51.2	34.4	14.4	100.0	114
Total	34.4	58.8	6.8	100.0	4,992

preceding the survey. The results are presented in Table 7.3 and show that 59 percent of women received at least one dose of tetanus toxoid during pregnancy in the past five years. Higher parity was associated with increased chance of receiving the vaccine. The non-urban/urban variation shows higher tetanus toxoid vaccination in non-urban areas than urban areas (71 vs 46 percent). Among provinces, the Northern Province had the highest vaccination coverage followed by Free State, KwaZulu-Natal and Mpumalanga, Gauteng and Western Cape had the lowest in tetanus toxoid vaccination coverage for pregnant women. The proportion of women who received tetanus toxoid was highest among those with no education and lowest in those with higher education.

Low proportions of coloured and white women receive tetanus toxoid vaccinations during pregnancy.

### 7.3 Assistance and Medical Care at Delivery

An important element in reducing health risks for mothers and children is increasing the proportion of babies that are delivered with the assistance of a medically qualified person. 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 7.4 and Figure 7.2 present the distribution of births in the five years preceding the survey by place of delivery. It shows that a very high proportion (83 percent) of babies are delivered in a health facility. The proportion of deliveries in a health facility has increased from the 78 percent observed in the 1988-1992 survey (Rossouw and Jordaan, 1997). Data from the 1995 October Household Survey also show that there has been an increase in the proportion of deliveries that occur in health facilities and a downward trend in the number of home deliveries (Bradshaw and Pieterse, 1998).

There was a strong urban/non-urban bias in the proportion of deliveries that occurred in a health facility. Ninety-three percent of urban births took place in a health facility, compared to 74 percent in the non-urban areas. Overall, 14 percent of deliveries occurred at home and Mpumalanga and Eastern Cape had much higher proportions (23 percent and 25 percent respectively). The proportion of women who delivered at home was related to the level of education with home deliveries for 36 percent of the women with no education compared to 3 percent of the women with higher education. The proportion of home deliveries was highest amongst the non-urban African women (23 percent) and lowest among the white and Asian women (less than 1 percent). Women who do not receive antenatal care are more likely to deliver at home than those who do.

The type of assistance a woman receives during childbirth has important health consequences for both mother and child. Table 7.5 shows the percentage distribution of live births in the five years before the survey by type of assistance received during delivery, according to background characteristics. A high proportion of deliveries were attended by a medically trained person (84 percent). More than half the deliveries were attended by a trained nurse or midwife and nearly a third of the deliveries were attended by a doctor. A very small proportion of deliveries were attended by a TBA or not attended at all.

There were strong urban/non-urban differences in the type of birth attendant. The proportion of deliveries assisted by a doctor was higher in the urban areas (42 percent) than in the non-urban areas (18 percent) and the proportion of deliveries that were not attended by a medically trained person was higher in the non-urban areas (23 percent) than in the urban areas (5 percent). Provincial variation shows that deliveries in the predominantly urban provinces of Gauteng and Western Cape had the highest proportion assisted by doctors, followed by Northern Cape and KwaZulu-Natal. The Eastern Cape and Northern provinces had the least deliveries assisted by doctors.

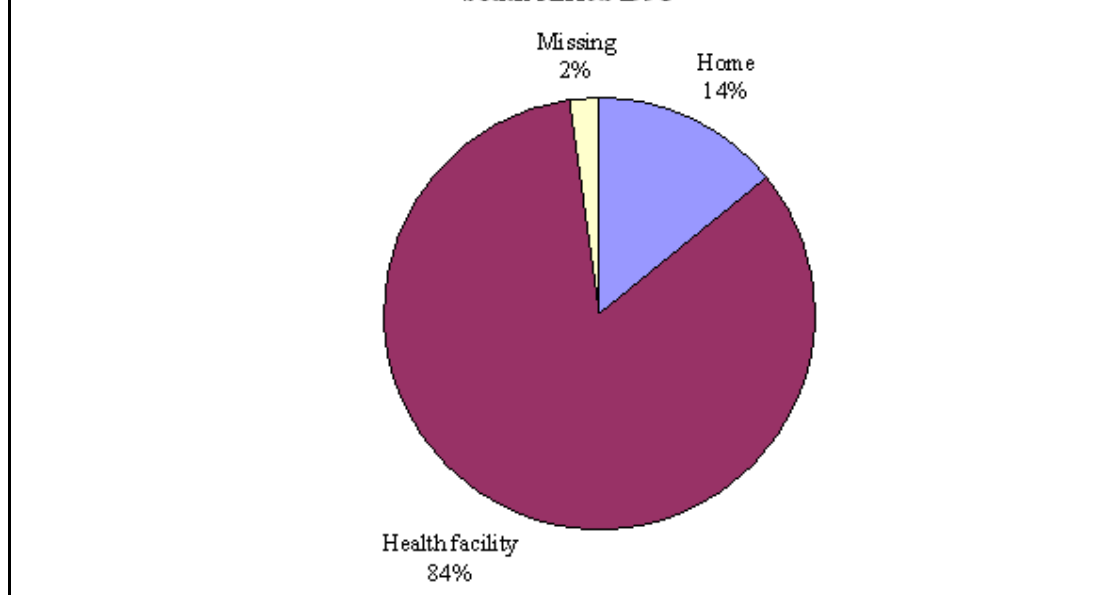
Table 7.4 Place of delivery

Percent distribution of births in the five years preceding the survey by place of delivery, according to selected background characteristics, South Africa 1998

Background characteristic	Place of delivery			Total	Number of births
	At a health facility	At home	Don't know/ Missing		
<b>Mother's age at birth</b>					
< 20	88.4	9.0	2.7	100.0	835
20-34	82.9	15.0	2.1	100.0	3,407
35+	80.5	16.8	2.7	100.0	751
<b>Birth order</b>					
1	91.4	6.6	2.0	100.0	1,652
2-3	83.7	14.2	2.1	100.0	2,008
4-5	76.2	20.6	3.2	100.0	847
6+	67.6	30.0	2.5	100.0	486
<b>Residence</b>					
Urban	92.6	5.8	1.5	100.0	2,470
Non-urban	74.4	22.6	3.0	100.0	2,522
<b>Province</b>					
Western Cape	95.8	3.2	1.0	100.0	401
Eastern Cape	73.9	25.3	0.8	100.0	741
Northern Cape	87.6	10.2	2.2	100.0	102
Free State	86.4	12.6	1.0	100.0	257
KwaZulu-Natal	83.6	13.7	2.8	100.0	1,094
North West	86.0	12.3	1.7	100.0	340
Gauteng	92.7	5.8	1.5	100.0	954
Mpumalanga	75.7	22.6	1.8	100.0	379
Northern	74.9	19.1	5.9	100.0	724
<b>Mother's education</b>					
No education	59.5	35.6	4.9	100.0	453
Sub A - Std 3	71.3	24.7	4.0	100.0	657
Std 4 - Std 5	79.0	18.6	2.4	100.0	747
Std 6 - Std 9	87.9	10.1	1.9	100.0	2,041
Std 10	94.4	4.6	1.0	100.0	759
Higher	96.9	2.9	0.1	100.0	336
<b>Population group</b>					
African	81.1	16.4	2.6	100.0	4,149
Afr. urban	91.0	7.2	1.8	100.0	1,783
Afr. non-urban	73.6	23.2	3.2	100.0	2,366
Coloured	93.7	5.3	1.0	100.0	445
White	99.0	1.0	0.0	100.0	250
Asian	99.0	0.0	1.0	100.0	114
<b>Antenatal care visits</b>					
None	62.9	36.5	0.6	100.0	157
1-3 visits	78.9	20.0	1.1	100.0	737
4 or more visits	86.8	12.3	0.9	100.0	3,647
Total	83.4	14.3	2.3	100.0	4,992

Note: Total includes 451 births on which data for antenatal visits are missing.

**Figure 7.2 Distribution of birth by place of delivery,  
South Africa 1998**



Education is related to the type of assistance women receive during delivery. The higher the education, the more likely a woman is to be assisted by a doctor. Births of lower order are more likely to be assisted by medically qualified personnel than higher order births. White and Asian women were more likely to be assisted by a medically qualified person (99 percent) than coloured and urban African women (95 and 92 percent respectively) or non-urban African women (75 percent). A high proportion of African and coloured women were assisted by a nurse or midwife while most births to white women are assisted by doctors.

Women were more likely to be assisted by a medically trained person during labour if they attended antenatal care than if they did not. Women who attended antenatal care 1-3 times were less likely to be assisted by a doctor than those who did not attend or who had 4 or more visits.

**Table 7.5 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, South Africa 1998

Background characteristic	Attendant assisting during delivery						Total	Number of births
	Doctor	Nurse/ midwife	TBA <sup>1</sup>	Relative/ Other	No one	Don't know/ Missing		
<b>Mother's age at birth</b>								
< 20	23.6	64.5	0.7	7.8	1.2	2.3	100.0	835
20-34	31.6	52.4	1.4	11.2	2.1	1.4	100.0	3,407
35+	30.0	52.0	2.2	10.6	3.1	2.1	100.0	751
<b>Birth order</b>								
1	31.9	60.2	0.9	4.9	0.4	1.7	100.0	1,652
2-3	33.7	51.0	1.3	10.9	1.6	1.5	100.0	2,008
4-5	25.1	52.7	2.0	15.6	2.9	1.7	100.0	847
6+	16.9	51.5	2.2	18.8	8.3	2.2	100.0	486
<b>Residence</b>								
Urban	42.2	51.2	0.8	3.8	0.7	1.3	100.0	2,470
Non-urban	18.0	57.5	2.0	17.1	3.4	2.0	100.0	2,522
<b>Province</b>								
Western Cape	44.4	51.7	0.3	1.9	0.9	0.7	100.0	401
Eastern Cape	17.8	56.8	2.2	18.4	4.2	0.6	100.0	741
Northern Cape	38.5	51.8	3.7	3.9	0.0	2.2	100.0	102
Free State	30.9	57.1	1.0	9.3	1.0	0.6	100.0	257
KwaZulu-Natal	34.1	48.5	0.3	12.6	2.4	2.2	100.0	1,094
North West	31.4	56.9	2.8	6.4	1.1	1.4	100.0	340
Gauteng	43.2	50.8	0.8	3.3	0.8	1.3	100.0	954
Mpumalanga	20.6	55.4	4.8	16.5	1.5	1.2	100.0	379
Northern	13.7	64.8	1.0	13.6	3.2	3.7	100.0	724
<b>Mother's education</b>								
No education	14.5	45.2	1.4	27.1	7.7	4.1	100.0	453
Sub A - Std 3	18.5	54.1	2.4	19.8	2.8	2.3	100.0	657
Std 4 - Std 5	19.9	60.0	2.3	13.3	3.3	1.1	100.0	747
Std 6 - Std 9	28.6	60.3	1.3	7.2	1.1	1.6	100.0	2,041
Std 10	45.1	50.2	0.4	3.0	0.3	1.1	100.0	759
Higher	70.3	28.7	0.1	0.9	0.0	0.0	100.0	336
<b>Population group</b>								
African	24.8	57.3	1.5	12.1	2.4	1.9	100.0	4,149
Afr. urban	36.0	55.8	0.9	4.7	0.8	1.7	100.0	1,783
Afr. non-urban	16.4	58.3	1.9	17.6	3.6	2.1	100.0	2,366
Coloured	40.3	54.5	1.4	2.7	0.6	0.5	100.0	445
White	89.0	10.0	0.0	1.0	0.0	0.0	100.0	250
Asian	52.7	46.4	0.0	0.8	0.0	0.0	100.0	114
<b>Antenatal care visits</b>								
None	29.3	33.0	9.3	22.3	6.1	0.0	100.0	157
1-3 visits	19.7	59.1	1.7	16.5	2.6	0.3	100.0	737
4 or more visits	32.4	55.6	1.1	8.8	1.7	0.3	100.0	3,647
<b>Total</b>	<b>30.0</b>	<b>54.4</b>	<b>1.4</b>	<b>10.5</b>	<b>2.1</b>	<b>1.7</b>	<b>100.0</b>	<b>4,992</b>

<sup>1</sup> TBA = Traditional birth attendant.

Note: Total includes 451 births for which data on antenatal visits are missing

## 7.4 Characteristics of Delivery

In addition to the information regarding place and type of assistance during delivery, SADHS collected information on several other aspects relating to the delivery of babies, such as whether the delivery was by caesarean section. Questions on birth weight and size of baby at birth were included to estimate the proportion of low birth weight infants. The data show that 16 percent of women in South Africa delivered by caesarean section. Eight percent of births weigh less than 2.5kg (Table 7.6).

Urban women had more caesarean sections than non-urban women (19 percent vs 12 percent). Women who delivered in the provinces of Gauteng, Western Cape and KwaZulu-Natal had more caesarean sections and those in Mpumalanga had the least. An extremely high rate of 41 percent was reported by white women. The proportion of caesarean sections increased with level of education from 11 percent of births to women with no education to 32 percent of women with post matric levels of education.

Information on birth weight was collected in the survey but was not known in one third of the deliveries. From the data that were reported, low birth weight was more common amongst the women who were under 20 while older women (20 years and above) had fewer low birth weight babies. A higher proportion of first births weigh less than 2.5 kg. Coloured and Asian women had higher proportions of low birth weight babies. There was a higher proportion of underweight babies born to women with high levels of education. The Northern Cape and Free State had more low birth weight babies followed by KwaZulu-Natal, North West and Western Cape. The Northern Province, Eastern Cape, Gauteng and Mpumalanga had the lowest proportions of babies born less than 2.5kg. Due to the high proportions of unknown birth weights, these trends should be interpreted with caution.

Table 7.6 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, according to selected background characteristics, South Africa 1998

Background characteristic	Delivery by C-section	Birth weight			Total	Number of births
		Less than 2.5 kg	2.5 kg or more	Birth weight not provided		
<b>Mother's age at birth</b>						
<20	12.8	11.4	59.6	29.0	100.0	835
20-34	16.4	8.0	60.5	31.5	100.0	3,407
35+	14.8	6.4	56.4	37.2	100.0	751
<b>Birth order</b>						
1	17.4	9.7	65.4	24.8	100.0	1,652
2-3	16.9	8.1	60.7	31.2	100.0	2,008
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6+	10.1	5.4	49.1	45.5	100.0	486
<b>Residence</b>						
Urban	19.4	9.5	64.8	25.7	100.0	2,470
Non-urban	11.7	7.2	54.8	38.0	100.0	2,522
<b>Province</b>						
Western Cape	21.5	9.1	71.4	19.4	100.0	401
Eastern Cape	13.1	6.4	53.9	39.6	100.0	741
Northern Cape	13.6	13.0	56.3	30.8	100.0	102
Free State	13.6	11.5	58.6	29.9	100.0	257
KwaZulu-Natal	18.0	9.5	64.8	25.6	100.0	1,094
North West	14.5	9.3	62.8	27.9	100.0	340
Gauteng	19.3	7.8	61.6	30.7	100.0	954
Mpumalanga	9.7	8.0	50.2	41.8	100.0	379
Northern	10.7	6.6	53.8	39.6	100.0	724
<b>Mother's education</b>						
No education	11.3	3.8	46.6	49.5	100.0	453
Sub A - Std 3	12.1	7.8	42.9	49.3	100.0	657
Std 4 - Std 5	13.0	8.2	53.7	38.1	100.0	747
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Std 10	20.9	8.3	74.7	17.0	100.0	759
Higher	32.0	11.8	76.2	11.9	100.0	336
<b>Population group</b>						
African	13.6	7.6	57.2	35.2	100.0	4,149
Afr. urban	16.6	8.5	60.7	30.8	100.0	1,783
Afr. non-urban	11.3	6.8	54.6	38.5	100.0	2,366
Coloured	18.1	14.3	65.7	20.1	100.0	445
White	41.0	6.2	85.3	8.5	100.0	250
Asian	22.5	15.6	77.8	6.6	100.0	114
Total	15.5	8.3	59.8	31.9	100.0	4,992

## 7.5 Maternal Mortality

Although maternal deaths are an important indicator of the health of women, data regarding maternal mortality rates and differentials have not been available. Routine statistics have been incomplete and problems with obtaining reliable estimates are that the methodologies have differed (hospital-based, population-based studies, surveillance and indirect techniques) and the inclusion criteria have not been clearly defined. The SADHS derives estimates of maternal mortality from reported survivorship of sisters. Respondents who reported that their sister had died were asked a series of questions about whether the death was due to maternal causes, i.e., if it occurred during pregnancy, childbirth or within two months after the birth or termination of a pregnancy and was due to complications of pregnancy or childbirth. Table 7.7 presents age-specific estimates of maternal mortality for the seven-year period before the survey.

Maternal mortality rates are calculated by dividing the number of maternal deaths by years of exposure. The overall rate for women aged 15-49 is standardized using the age distribution of the respondents. The estimates should be viewed with caution as they are based on few events. Most of these deaths are attributable to the 20-24 and the 25-29 age groups, probably because more pregnancies occur at these ages.

The maternal mortality ratio based on SADHS data is 150 maternal deaths per 100 000 live births for the approximate period 1992-1998. Table 7.7 also shows that maternal deaths account for about 5 percent of the total number of deaths in women of childbearing age; this proportion is substantially higher among 15-19 and 20-24 year-olds (8 and 11 percent, respectively). The maternal mortality ratio of 150 deaths per 100 000 births is much higher than the levels experienced in developed countries and highlights the importance of the Department of Health's initiatives to make care during pregnancy and delivery accessible.

SADHS does not provide information on the causes of the maternal deaths. The main causes reported in the *Saving Mothers* Report on Confidential Enquiries into Maternal Deaths (DOH, 1998b) include hypertensive diseases of pregnancy (20 percent), infections including AIDS (18 percent), obstetric haemorrhage (14 percent), early pregnancy loss (12 percent), pre-existing maternal disease (11 percent) and pregnancy-related sepsis (9 percent). There is a possibility that AIDS and related opportunistic infections will soon become the major cause.

Table 7.7 Direct estimates of maternal mortality

Maternal mortality rates for the period 0-6 years prior to the survey, based on the survivorship of sisters of survey respondents, South Africa 1998

Age	Maternal deaths	Exposure years	Mortality rates <sup>1</sup>	Mortality adj. by age	Proportion of maternal deaths to female deaths
15-19	1.6	18,169	0.091	0.017	0.082
20-24	5.7	22,442	0.254	0.045	0.105
25-29	4.8	23,115	0.208	0.033	0.075
30-34	4.2	21,850	0.192	0.027	0.072
35-39	2.0	17,795	0.113	0.016	0.031
40-44	0.8	11,846	0.067	0.007	0.018
45-49	0.0	7,484	0.000	0.000	0.000
15-49	19.2	122,701	0.156	0.146 <sup>a</sup>	0.055
General fertility rate					0.097
Maternal mortality ratio <sup>b</sup>					150

<sup>a</sup> Standardised on the 1998 SADHS household age structure

<sup>b</sup> Per 100,000 live births; calculated as the age-standardised maternal mortality rate (ages 15-49) divided by the general fertility rate.

<sup>1</sup> Expressed per 1,000 women-years of exposure

## 7.6 Stress Incontinence

Although the Demographic and Health Surveys usually contain a considerable number of questions about service use during pregnancy, aside from maternal mortality, there is a notable absence of indicators of short term or long term morbidity associated with pregnancy and child-birth. These are important for understanding the impact of reproduction on women's health and unmet need for services. In order to begin to redress this gap, the 1998 SADHS included questions about urinary and faecal incontinence. As an indicator of stress incontinence, one question was included which asked all women whether they wet themselves when they 'cough, sneeze or lift heavy weights'. As an indicator of a more severe lack of bladder control or urinary fistulae, women were asked if they were 'constantly wet' and similarly in order to get a prevalence of bowel fistulae they were asked if they were 'constantly soiled'. Observation of the fieldwork during the course of the survey, revealed a problem which had not emerged during the pilot, namely that women with abnormal vaginal discharges were responding in the affirmative to the latter two questions. Since these two questions were clearly not specific in identifying urinary or bowel fistulae, we have chosen just to present the data on stress incontinence.

The data in Table 7.8 show that 10 percent of women who have been pregnant report leakage of urine. The proportion is greater for older women and those of higher parity. This pattern is in keeping with international literature on stress incontinence. Less educated women were more likely to report it, but it seems likely that the association with education is confounded by parity. Stress incontinence was commoner among white and Asian women. It was more often reported in the Eastern Cape, Free State, and Gauteng and least often in the Northern Province, Western Cape and Mpumalanga.

**Table 7.8 Stress Incontinence**

The percentage of women who have ever been pregnant who reported that they wet themselves when they cough, sneeze or lift heavy weights, South Africa 1998

	Stress incontinence	Number of ever pregnant
<b>Age</b>		
15-19	6.0	296
20-24	6.0	1,205
25-29	5.4	1,510
30-34	9.2	1,532
35-39	9.1	1,550
40-44	12.3	1,227
45-49	13.2	918
<b>Parity</b>		
1	7.4	2,466
2	8.2	2,131
3	10.0	1,398
4+	10.3	2,243
<b>Residence</b>		
Urban	8.7	4,880
Non-urban	9.0	3,358
<b>Province</b>		
Western Cape	6.3	787
Eastern Cape	10.0	1,054
Northern Cape	9.1	186
Free State	11.9	537
KwaZulu-Natal	8.5	1,679
North West	8.3	646
Gauteng	11.4	1,841
Mpumalanga	7.0	583
Northern	4.9	925
<b>Education</b>		
No education	9.4	742
Sub A-Std 3	13.5	1,122
Std 4-Std 5	9.3	1,122
Std 6-Std 9	8.3	3,284
Std 10	6.2	1,267
Higher	6.6	600
<b>Population group</b>		
African	8.4	6,469
Afr.urban	8.4	3,389
Afr non-urban	8.4	3,080
Coloured	7.6	845
White	12.5	607
Asian	13.9	268
Total	9.7	8,237

## 7.7 Immunisation Coverage

Information on vaccination coverage is presented in Table 7.14. Data are presented for children age 12-23 months, thereby including only children who should be fully vaccinated. The source of information used to determine coverage, i.e, the child health card or mother's report, can be inferred from the proportion

of children for whom health cards were available. Overall, mothers were able to produce vaccination cards for 75 percent of these children.

The survey indicates that only 63 percent of children age 12-23 months were fully immunised against the basic childhood diseases, i.e., BCG, measles and three or more doses of DPT and polio<sup>1</sup> at any time before the survey. This low level of full immunisation coverage is affected by the dropout rate for the second and third doses of DPT and polio. While almost all children receive BCG vaccine (97 percent), and over 90 percent of children receive the first doses of DPT and polio, coverage for these latter two vaccines declines after the first dose, so that only 76 percent of children receive the third dose of DPT and only 72 percent receive the third dose of polio vaccine. The dropout rates<sup>2</sup> for DPT and polio are 18 and 21 percent, respectively.

An important finding is that although polio 0 (polio given at birth) has just recently been introduced in South Africa, 91 percent of children 12-23 months have received it. Similarly, although hepatitis B vaccination had not been adopted as a standard for the whole country at the time of the survey, almost three-quarters of young children had received all three doses. Just over four in five children have been vaccinated against measles (82 percent). Less than three percent of children 12-23 months have not been vaccinated at all.

Expanded Programme on Immunisation- SA (EPI SA) guidelines recommend that children receive the complete schedule of vaccinations before 12 months of age. Comparing the dates of vaccinations from children's health cards with the date of birth of the children, it is possible to calculate the proportion of children who received various vaccines before their first birthday.<sup>3</sup> As shown on the penultimate row of Table 7.9, only slightly over half of children (55 percent) are fully immunised before their first birthdays.

## 7.8 Differentials in Vaccination Coverage

Table 7.9 also presents vaccination coverage (according to card information and mother's reports) at any time before the survey among children age 12-23 months by selected background characteristics. The differentials in coverage are very similar irrespective of vaccine type. Looking at the differentials in complete coverage (i.e., all vaccines received), there is virtually no difference between boys and girls. Children of high birth order (6+) tend to have lower coverage than children of lower birth orders. Children from urban areas have slightly higher coverage rate (67 percent) than non-urban children (60 percent). Full vaccination coverage among children age 12-23 months shows significant differentials by province. The highest coverage is in Northern Cape (81 percent) and the lowest coverage is in KwaZulu-Natal and Eastern Cape (50 and 53 percent, respectively). Complete coverage increases with increasing maternal education, from 54 percent among children of uneducated mothers to 73 percent among children of

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<sup>1</sup> Although data on hepatitis B vaccinations were included in the questionnaire and tabulated in the tables, this vaccine was not included in the definition of fully immunised.

<sup>2</sup> The dropout rate is defined as the percentage of children receiving the first dose who do not subsequently receive the third dose of DPT or polio vaccine. Polio 0 (at birth) is not counted in this analysis.

<sup>3</sup> For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life is assumed to be the same as for children with a written record of vaccination.

mothers with matric. Vaccination coverage is more or less identical for African and white children, but is somewhat higher for coloured children.

Comparison with other eastern and southern African countries shows that South Africa (with 63 percent) is intermediate in terms of vaccination coverage. The proportion of children age 12-23 months who are fully immunised are 36 percent in Madagascar (1997), 47 percent in Mozambique (1997), 65 percent in Kenya (1998), 71 percent in Tanzania, 78 percent in Zambia (1996) and 80 percent in Zimbabwe (1994).



## 7.9 Prevalence of Diarrhoeal Diseases

Thirteen percent of children under the age of 5 years included in the SADHS were reported to have had about of diarrhoea in the two weeks prior to the survey (Table 7.10). A very much higher prevalence (23 percent) occurred in children 6-23 months of age, a finding consistent with age-specific diarrhoea morbidity patterns elsewhere in the developing world. A substantial stepwise decrease in prevalence occurred in the third (12 percent), fourth (8 percent) and fifth (5 percent) years of life. The lower prevalence rate in infants under the age of 6 months (11 percent), compared with the second half of infancy, is likely to reflect the protective effect of breastfeeding.

There was no obvious differential in prevalence rates by child's gender or birth order. However, differentials were noted in urban versus non-urban households. Children in non-urban households had higher prevalence rates (16 percent) than children from urban households (11 percent).

Diarrhoeal prevalence rates were highest in KwaZulu-Natal (18 percent), Mpumalanga (16 percent) and Northern Provinces (15 percent). The Eastern Cape (13 percent) and North West province (12 percent) had moderate prevalence rates and, as expected, lower rates (9-10 percent) were recorded for Western Cape, Gauteng, Free State and Northern Cape. Since KwaZulu-Natal, Northern, Mpumalanga and Eastern Cape provinces have larger non-urban populations, higher prevalence rates in these provinces are expected. It is possible that the larger difference than expected between KwaZulu-Natal and the Eastern Cape is attributable to differences in HIV prevalence in the two provinces.

Maternal educational levels made less difference than might have been expected and diarrhoea prevalence rates remained stable for most education levels, decreasing somewhat thereafter for children whose mothers have matric and higher education. Not unexpectedly, given the socio-economic differences among the four population groups, the diarrhoea prevalence rate was highest in African children (14 percent), followed closely by coloured children (12 percent), with substantially lower and similar rates in Asians (7 percent) and whites (5 percent). No special comment has been made on prevalence of bloody diarrhoea, as the numbers are small and patterns are generally mirrored by overall diarrhoea morbidity trends.

**Table 7.10 Prevalence of diarrhoea**

Percentage of children under five years of age with diarrhoea and diarrhoea with blood during the two weeks preceding the survey, by selected background characteristics, South Africa 1998

Background characteristic	Diarrhoea in the preceding 2 weeks		Number of children
	All diarrhoea	Diarrhoea with blood	
<b>Child's age</b>			
< 6 months	11.1	1.8	505
6-11 months	22.1	4.1	500
12-23 months	24.0	3.2	973
24-35 months	11.6	1.4	933
36-47 months	8.2	1.5	886
48-59 months	5.0	1.0	942
<b>Child's sex</b>			
Male	14.1	2.0	2,370
Female	12.3	2.1	2,369
<b>Birth order</b>			
1	13.3	1.3	1,570
2-3	12.1	2.2	1,916
4-5	13.8	1.6	796
6+	16.7	4.8	458
<b>Residence</b>			
Urban	10.8	1.6	2,374
Non-urban	15.7	2.5	2,366
<b>Province</b>			
Western Cape	9.9	0.3	396
Eastern Cape	12.7	2.0	690
Northern Cape	10.4	1.3	97
Free State	9.1	1.3	244
KwaZulu-Natal	17.8	3.8	1,022
North West	12.2	1.5	327
Gauteng	9.4	1.6	911
Mpumalanga	16.2	1.6	361
Northern	14.6	2.0	691
<b>Mother's education</b>			
No education	13.5	4.7	418
Sub A - Std 3	17.8	3.0	605
Std 4 - Std 5	14.0	2.3	708
Std 6 - Std 9	13.3	1.5	1,950
Std 10	10.3	1.6	733
Higher	9.0	0.9	325
<b>Population group</b>			
African	14.2	2.4	3,920
Afr. urban	12.0	2.0	1,702
Afr. non-urban	15.9	2.6	2,218
Coloured	11.5	0.9	435
White	5.3	0.0	245
Asian	6.5	0.0	111
<b>Total</b>	<b>13.2</b>	<b>2.0</b>	<b>4,740</b>

## 7.10 Treatment of Diarrhoeal Diseases

Almost half (49 percent) of mothers interviewed in the survey have heard of oral rehydration as a modality of treatment in diarrhoeal disease (Table 7.11). This knowledge about ORS does not appear to be influenced by maternal age, urban/non-urban status of mother, or maternal educational status. Knowledge about ORS was significantly lower in Gauteng (28 percent) and Northern Province (27 percent) than in the other provinces. There is a low level of awareness of ORS in the white and Asian communities, which is considered to reflect the relatively low prevalence of life-threatening diarrhoeal disease in these communities and the low consequent priority given to promoting oral rehydration.

Only 52 percent of mothers who gave birth in the five years before the survey indicated that they would increase fluid intake during bouts of diarrhoea. This response was given independent of maternal age and province of origin, but a little more commonly by urban than non-urban respondents and by those with the highest levels of education. This response was given much more frequently by white (88 percent) and Asian women (81 percent) than by coloured (54 percent) and African women (50 percent). Just under half (48 percent) of mothers indicated that they would decrease food intake during bouts of diarrhoea, though as many as 30 percent said they would continue to give the same amount to eat. There was very little difference in these responses by maternal age, urban/non-urban residence or level of maternal education. Mothers in KwaZulu-Natal and the Eastern Cape are more likely to decrease food intake than mothers from other provinces; this was also much more common among Asian mothers (73 percent) than mothers of other ethnic groups (37-48 percent).

Overall, almost 60 percent of children under the age of five years who had bouts of diarrhoea in the two weeks prior to the survey were taken to a health facility for treatment of the diarrhoea (Table 7.10). This is largely independent of the child's age, sex, birth order, maternal education and province, but treatment at a health facility is slightly lower among non-urban children and those in Northern Province.

During this bout of diarrhoea, 81 percent of these children were given either packeted or home mixed oral rehydration solution. This was also largely independent of the child's age, sex, birth order, maternal education and province. Fifty-seven percent of the children received increased volume of oral fluids and only 11 percent were given no oral rehydration treatment at all during this episode. As many as 86 percent were given some other home or herbal remedy, suggesting considerable reliance on traditional healers for the treatment of diarrhoeal disease.

Table 7.13 shows that nearly one in five children with diarrhoea were given less to drink than normal during the illness and over half were given less to eat. These patterns reflect a gap in practical knowledge among some women regarding the nutritional requirements of children during episodes of diarrhoeal illness.

Overall, only approximately half of mothers know about ORS and about the need to increase fluid intake and to continue feeding their children during a bout of diarrhoea. Similar levels of knowledge were found in the African and coloured community sub-groups, where the greatest disease burden resides. The important practices noted in mothers and caregivers were that 81 percent instituted oral rehydration in one form or another, less than one percent did nothing at all for their ill children, 60 percent had taken children to health facilities and 86 percent made use of other home or herbal remedies.

**Table 7.11 Knowledge of diarrhoea care**

Percentage of women with births in the five years preceding the survey who know about oral rehydration packets (ORSOL or SOROL) for treatment of diarrhoea and the percent distribution by opinion on appropriate feeding practices during diarrhoea, according to selected background characteristics, South Africa 1998

Background characteristic	Know about oral rehydration packet for treatment of diarrhoea	Compared with usual feeding practices, appropriate feeding during diarrhoea:								Number of women
		Liquids				Solid foods				
		Less	Same	More	Don't know/ Missing	Less	Same	More	Don't know/ Missing	
<b>Age</b>										
15-19	49.1	27.7	17.5	46.2	8.7	42.7	27.0	17.7	12.6	280
20-24	50.0	23.5	22.7	48.0	5.8	43.1	33.8	17.1	6.1	759
25-29	44.9	21.6	18.9	53.5	6.0	48.5	31.0	12.2	8.3	729
30-34	48.5	25.1	16.4	54.3	4.2	49.7	29.6	14.8	5.8	550
35+	51.0	20.0	17.6	58.2	4.2	54.9	25.8	13.8	5.5	553
<b>Residence</b>										
Urban	44.8	18.2	18.2	57.3	6.3	46.0	32.6	13.1	8.3	1,408
Non-urban	52.1	27.8	19.8	47.6	4.8	49.8	27.7	16.4	6.0	1,463
<b>Province</b>										
Western Cape	62.2	17.7	20.2	57.8	4.3	47.5	39.2	8.0	5.2	245
Eastern Cape	62.9	23.9	16.7	52.0	7.5	65.2	19.5	7.4	8.0	411
Northern Cape	43.8	22.8	16.4	50.5	10.4	34.3	36.1	17.5	12.0	59
Free State	55.3	19.8	30.8	45.4	4.0	40.0	35.5	20.6	3.9	147
KwaZulu-Natal	58.0	26.8	18.1	50.7	4.4	57.3	26.3	10.7	5.7	637
North West	49.7	19.1	17.7	57.2	6.0	36.1	31.7	22.0	10.2	207
Gauteng	27.7	16.1	15.2	60.3	8.5	39.7	32.4	15.8	12.1	535
Mpumalanga	66.3	26.4	20.2	48.9	4.4	40.1	33.9	21.2	4.8	214
Northern	27.1	30.2	23.2	44.1	2.5	42.2	32.7	21.8	3.4	415
<b>Education</b>										
No education	53.4	25.0	18.6	50.5	5.8	56.7	22.5	14.9	5.8	240
Sub A - Std 3	47.2	27.5	18.9	47.0	6.6	50.2	26.9	16.8	6.1	363
Std 4 - Std 5	48.3	25.9	18.6	50.2	5.2	49.4	27.0	15.2	8.4	424
Std 6 - Std 9	50.6	23.9	21.5	48.8	5.9	45.1	32.7	15.3	6.8	1,206
Std 10	45.8	17.1	16.3	61.6	5.0	47.3	31.7	13.3	7.7	458
Higher	38.5	14.6	11.3	71.3	2.8	49.2	32.3	10.1	8.4	179
<b>Population group</b>										
African	49.5	24.6	19.8	49.9	5.7	48.7	29.2	14.7	7.4	2,401
Afr. urban	44.6	19.6	19.7	53.8	6.9	46.1	31.8	12.8	9.3	1,033
Afr. non-urban	53.2	28.3	19.9	46.9	4.9	50.6	27.2	16.2	6.0	1,368
Coloured	58.6	21.7	20.0	53.5	4.8	41.4	36.9	15.5	6.2	277
White	14.8	6.2	4.6	88.0	1.2	37.1	42.8	15.8	4.4	117
Asian	21.8	3.3	10.9	80.9	4.9	73.0	11.5	12.3	3.3	58
<b>Total</b>	48.5	23.1	19.0	52.4	5.5	48.0	30.1	14.8	7.1	2,871

Table 7.12 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 therapy (ORT) (either an oral rehydration solution (ORS) made from a packet, a home-made solution (HS), or increased fluids), the percentage who received no form of ORT and the percentage given other treatments, according to selected background characteristics, South Africa 1998

Background characteristic	Percentage taken to a health facility or provider <sup>1</sup>	Oral rehydration therapy				Other treatments					No.
		ORS packet	HS at home	Either ORS or HS	In-creased fluids	Did not receive ORT	Injec-tion	Home remedy/ Other	No treat-ment	Miss-ing	
<b>Child's age</b>											
< 6 months	58.7	47.6	73.7	86.5	55.0	9.3	7.6	89.8	0.9	0.4	56
6-11 months	62.9	57.1	67.0	85.5	52.0	9.9	7.1	91.2	0.5	0.8	110
12-23 months	60.1	54.5	73.9	85.0	58.4	7.1	5.0	86.7	0.2	0.2	233
24-35 months	60.8	47.1	65.6	74.9	58.1	15.6	1.7	84.6	1.3	2.8	108
36-47 months	49.9	39.1	53.9	65.9	55.1	15.6	3.8	80.5	0.0	4.4	72
48-59 months	(57.0)	(53.7)	(69.0)	(81.3)	(65.6)	(15.3)	(0.0)	(80.9)	(0.0)	(6.9)	47
<b>Child's sex</b>											
Male	57.6	50.2	70.0	83.4	56.9	11.3	4.8	86.6	0.6	1.6	335
Female	60.9	52.4	66.9	78.3	57.3	10.4	4.3	85.9	0.3	1.9	292
<b>Birth order</b>											
1	63.7	49.1	66.5	78.8	43.8	13.7	4.3	85.2	0.0	2.9	209
2-3	59.4	53.6	66.5	81.5	63.9	9.7	6.7	89.5	1.1	0.6	232
4-5	52.2	44.3	70.4	81.5	67.9	12.2	2.1	81.4	0.0	0.9	110
6+	56.3	59.5	77.8	84.9	57.4	4.9	2.2	86.3	0.7	3.4	76
<b>Residence</b>											
Urban	63.3	48.8	68.4	80.7	57.2	9.4	4.1	87.8	0.4	1.1	255
Non-urban	56.3	52.8	68.7	81.2	57.0	11.9	4.9	85.2	0.5	2.2	372
<b>Province</b>											
Western Cape	(58.0)	(44.5)	(48.8)	(60.9)	(51.7)	(29.5)	(3.4)	(90.3)	(0.0)	(2.9)	39
Eastern Cape	60.7	54.6	62.8	80.9	62.6	11.3	2.3	83.4	2.3	1.1	88
Northern Cape	(70.6)	(46.5)	(53.2)	(73.3)	(37.2)	(21.8)	(2.5)	(85.6)	(0.0)	(2.4)	10
Free State	(62.7)	(55.2)	(63.3)	(81.2)	(55.5)	(11.7)	(3.9)	(81.5)	(0.0)	(3.9)	22
KwaZulu-Natal	65.0	64.8	75.2	88.0	61.9	8.8	5.0	88.3	0.5	1.7	182
North West	(46.2)	(55.6)	(66.8)	(83.3)	(51.2)	(0.0)	(12.3)	(87.7)	(0.0)	(0.0)	40
Gauteng	66.7	47.2	69.4	83.3	63.9	2.8	2.8	86.1	0.0	0.0	86
Mpumalanga	62.8	45.1	81.6	87.8	50.6	6.3	5.1	84.9	0.0	4.0	59
Northern	42.5	31.0	64.3	70.1	48.2	19.6	4.6	85.1	0.0	2.3	101
<b>Mother's education</b>											
No education	54.8	55.2	76.9	88.5	69.4	3.8	3.7	87.6	0.9	0.0	56
Sub A - Std 3	60.8	44.6	68.7	81.7	45.7	12.0	3.9	94.4	0.0	1.5	108
Std 4 - Std 5	50.8	50.6	65.3	77.5	67.5	14.4	2.5	90.1	0.5	2.7	99
Std 6 - Std 9	60.7	53.4	69.7	80.9	58.3	10.5	4.1	77.8	0.2	2.3	259
Std 10	65.9	50.0	69.2	80.1	55.3	9.8	10.0	95.3	0.7	1.0	75
Higher	(59.1)	(53.2)	(51.6)	(78.8)	(33.6)	(14.4)	(5.0)	(92.9)	(3.3)	(0.0)	29
<b>Population group</b>											
African	59.1	52.1	71.0	83.2	57.2	9.7	4.7	86.3	0.5	1.6	556
Afr. urban	63.2	50.9	72.4	86.0	57.3	6.6	3.9	88.7	0.5	1.3	204
Afr. non-urban	56.7	52.7	70.2	81.6	57.1	11.6	5.1	84.9	0.6	1.8	352
Coloured	64.9	46.9	57.9	70.8	57.2	21.2	5.2	89.6	0.0	2.8	50
White	*	*	*	*	*	*	*	*	*	*	13
Asian	*	*	*	*	*	*	*	*	*	*	7
Total	59.2	51.2	68.6	81.0	57.1	10.9	4.5	86.3	0.5	1.7	627

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

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

**Table 7.13 Feeding practices during diarrhoea**

Percent distribution of children under five years who had diarrhoea in the two weeks preceding the survey by amount of fluids and solid foods given compared with normal practices, South Africa 1998

Feeding practice	Total
<b>Increase or decrease fluids</b>	
Same	20.9
Increase	57.1
Decrease	18.7
Missing	3.3
<b>Increase or decrease in foods</b>	
Same	29.9
Increase	14.1
Decrease	53.4
Don't know, missing	2.6
Total	100.0
Number	627

### 7.11 Prevalence of Acute Respiratory Infection (ARI)

Prevalence of ARI was estimated in the SADHS by asking mothers if their children under age five had been ill or feverish with coughing accompanied by short, rapid breathing during the two weeks preceding the survey. Mothers whose children had experienced these symptoms were asked what they had done to treat the illness. The results are presented in Table 7.14. Almost one in five (19 percent) children under five were ill with symptoms suggestive of an acute respiratory tract infection (ARI), i.e., cough, fever and rapid respiration, during the 2-week period prior to the survey. Three-quarters of these children were reported to have been taken to a health facility for advice or treatment.

The highest prevalence rates occurred in children under the age of two years (23 percent). This is followed by a much more gradual decrease in prevalence rates in the third (19 percent), fourth (16 percent) and fifth (15 percent) years of life than had been the case for diarrhoeal disease. There also appears to be a higher rate of presentation to health facilities in children under 2 years of age (81 percent) compared to older children (69 percent).

There were no striking differentials in ARI prevalence rates by sex, birth order, urban versus non-urban residence or population group. Interestingly, the highest prevalence rates occurred in KwaZulu-Natal (26 percent), followed by closely clustered rates (about 21 percent) in Free State, Gauteng and Mpumalanga. Considerably lower rates (about 15 percent) were reported for Western Cape, Eastern Cape, Northern Cape, North West and Northern Provinces.

Maternal educational status does not appear to be related to ARI prevalence rates. The lowest rates occurred in children of mothers with either no education or very high levels of education, while the highest rates, with very little evidence of differentiation, occurred in mothers right across the educational spectrum between these two extremes (Sub A to Standard 10).

Accepting that errors are likely to occur across all observations, it remains possible to comment on the differentials that occur between groups and over time. The most striking observations about the ARI prevalence rates, especially in relation to the diarrhoeal disease prevalence rates, are:

**Table 7.14 Prevalence and treatment of acute respiratory infection**

Percentage of children under five years who were ill with a cough accompanied by short, rapid breathing during the two weeks preceding the survey and the percentage of ill children taken to a health facility, according to socioeconomic and demographic characteristics, South Africa 1998

Characteristic	Respiratory infection		
	Percentage of children with cough accompanied by fast breathing (ARI)	Among children with ARI, percentage taken to a health facility or provider	Number of children
<b>Child's age</b>			
< 6 months	20.8	77.4	505
6-11 months	24.9	81.8	500
12-23 months	23.7	82.9	973
24-35 months	18.9	74.7	933
36-47 months	15.7	66.0	886
48-59 months	14.5	65.1	942
<b>Child's sex</b>			
Male	18.7	75.1	2,370
Female	19.8	75.4	2,369
<b>Birth order</b>			
1	19.1	76.4	1,570
2-3	20.3	75.8	1,916
4-5	17.4	72.6	796
6+	19.0	73.1	458
<b>Residence</b>			
Urban	18.9	77.7	2,374
Non-urban	19.6	72.9	2,366
<b>Province</b>			
Western Cape	15.0	(54.9)	396
Eastern Cape	15.6	73.2	690
Northern Cape	15.1	71.6	97
Free State	20.9	79.0	244
KwaZulu-Natal	25.9	77.5	1,022
North West	14.0	(70.7)	327
Gauteng	21.5	84.1	911
Mpumalanga	20.4	73.2	361
Northern	14.5	68.6	691
<b>Education</b>			
No education	16.8	72.8	418
Sub A - Std 3	20.5	76.5	605
Std 4 - Std 5	19.0	76.5	708
Std 6 - Std 9	20.0	73.1	1,950
Std 10	20.2	77.4	733
Higher	14.3	(83.6)	325
<b>Population group</b>			
African	18.9	76.1	3,920
Afr. urban	18.5	80.9	1,702
Afr. non-urban	19.2	72.6	2,218
Coloured	19.1	60.7	435
White	24.4	(78.7)	245
Asian	18.0	*	111
Total	19.3	75.3	4,740

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates a figure was based on fewer than 25 cases and has been

- the highest prevalence rates occur in the first two years of life, but, unlike diarrhoea, these prevalence rates continue, only modestly diminished, throughout the first five years of life;
- these rates are largely uninfluenced by population group, non-urban versus urban settings or maternal education, all of which significantly influence diarrhoeal disease prevalence;
- a provincial breakdown of ARI prevalence rates emphasises the wide variations in disease distribution that occur in different parts of the country and reveals somewhat unexpected geographical differentials for ARI;
- health facilities are frequently attended for bouts of ARI.

## 7.12 Serious Accidents and Injuries

Information about injuries experienced in the month preceding the survey was obtained in the household schedule for a total of just under 20,000 children under the age of 15. Table 7.15 shows that the overall injury rate per month was 522 per 100,000 children and that more than three-quarters of injuries were the result of accidents such as burns, falls, traffic collisions etc. Only 19 percent of injuries suffered by children were intentional injuries such as violence or other assaults.

Table 7.15 Injury rates for children

Injury rates (per 100,000 children) for the month preceding the survey by age group and whether intentional or unintentional, South Africa, 1998

Age group	Intentional injuries	Unintentional injuries	All injuries	Number of children
0-4	106	317	422	5,625
5-9	122	358	481	6,789
10-14	72	563	635	7,399
Total	99	423	522	19,813