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MATERNITY ABASS N'DAO

DAKAR, SENEGAL

Prepared for

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Center 480

Study 910

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Research Triangle Park, North Carolina 27709

USA

I. INTRODUCTION

This report analyses data collected on the Maternity Record Summary that was completed at the Maternity Abass N'Dao in Dakar, Senegal. The purpose of this report is to describe some of the main sociodemographic characteristics of patients admitted to the hospital for delivery, their obstetric history, management of labor and delivery, complications experienced during hospitalization, obstetric outcome, contraceptive usage and family planning intentions. It is hoped this information will be useful to clinicians, program administrators, health planners and research investigators.

Information was received for 8647 women who were admitted to the hospital for delivery during the period from December 1980 to December 1981. This was an average of 24 deliveries per day. (Figure 1 shows the total number of deliveries at the hospital for each month of the study.) Records were also received for 2062 women who were seen at the hospital after delivery during this period. These records were not included in this analysis. After the forms were coded, they were sent to the International Fertility Research Program, Research Triangle Park, North Carolina, USA, for scanning, keypunching and computer analysis.

II. PATIENT CHARACTERISTICS (See Table I)

The average age of women delivering at the Maternity Abass N'Dao was 25.3 years. Women under 20 years of age made up 21% of the patients and women 35 years and older accounted for nine percent. The average age at first marriage or union was 18 years. Over three-fourths of the patients

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NUMBER OF DELIVERIES BY MONTH

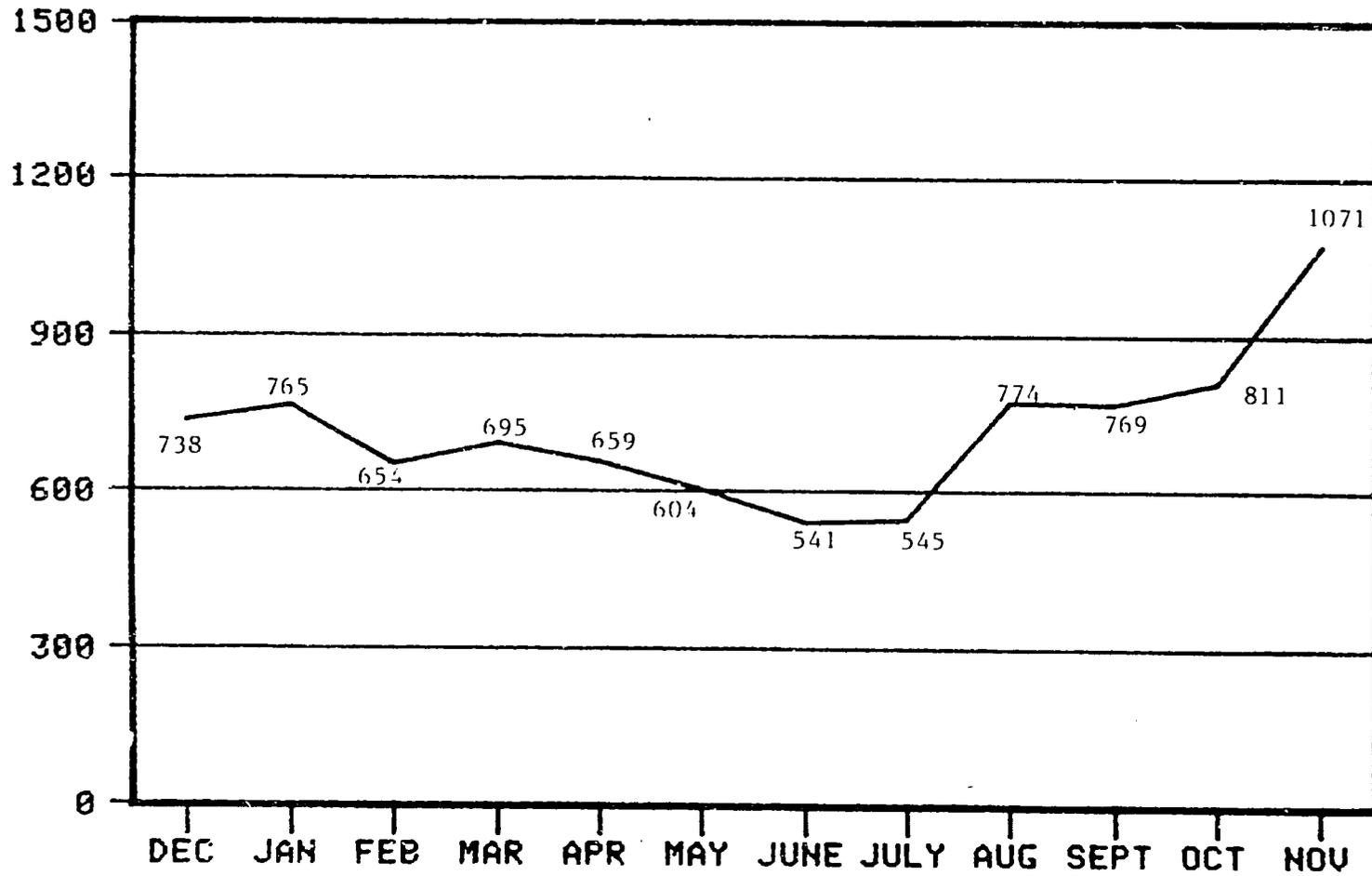


FIGURE 1

were married or living in a consensual union by the time they reached 19 years of age.

Almost seventy-five percent of the women had received no formal education. Of those women who had some education, over half had not started secondary schooling (less than seven years of education).

III. OBSTETRIC HISTORY (See Table II)

The average number of previous live births was 2.1, with 31% of the women having had four or more live births, 44% one to three, and 25% no prior live births. Women delivering their first birth had an average age of 19.7 years, while women delivering their fourth or higher birth-order infant averaged 31.5 years. Women aged 40 years and older had delivered, on the average, eight live births (see Figure 2). Six percent of the women reported one or more stillbirths and 24% had at least one prior infant or child death. Only one percent of the patients at this hospital had previously been delivered by cesarean section.

Outcome of Last Pregnancy

Almost one fourth of the women who delivered at the Maternity had never been pregnant. Of those women who had been pregnant, 85% reported that their last pregnancy resulted in a live infant who was still living at the time of the present delivery, nine percent delivered a live infant who later died, and three percent had a stillbirth. Almost four percent of the women reported an abortion (0.1% induced, 3.6% spontaneous).

AVERAGE AGE BY PREVIOUS LIVE BIRTHS

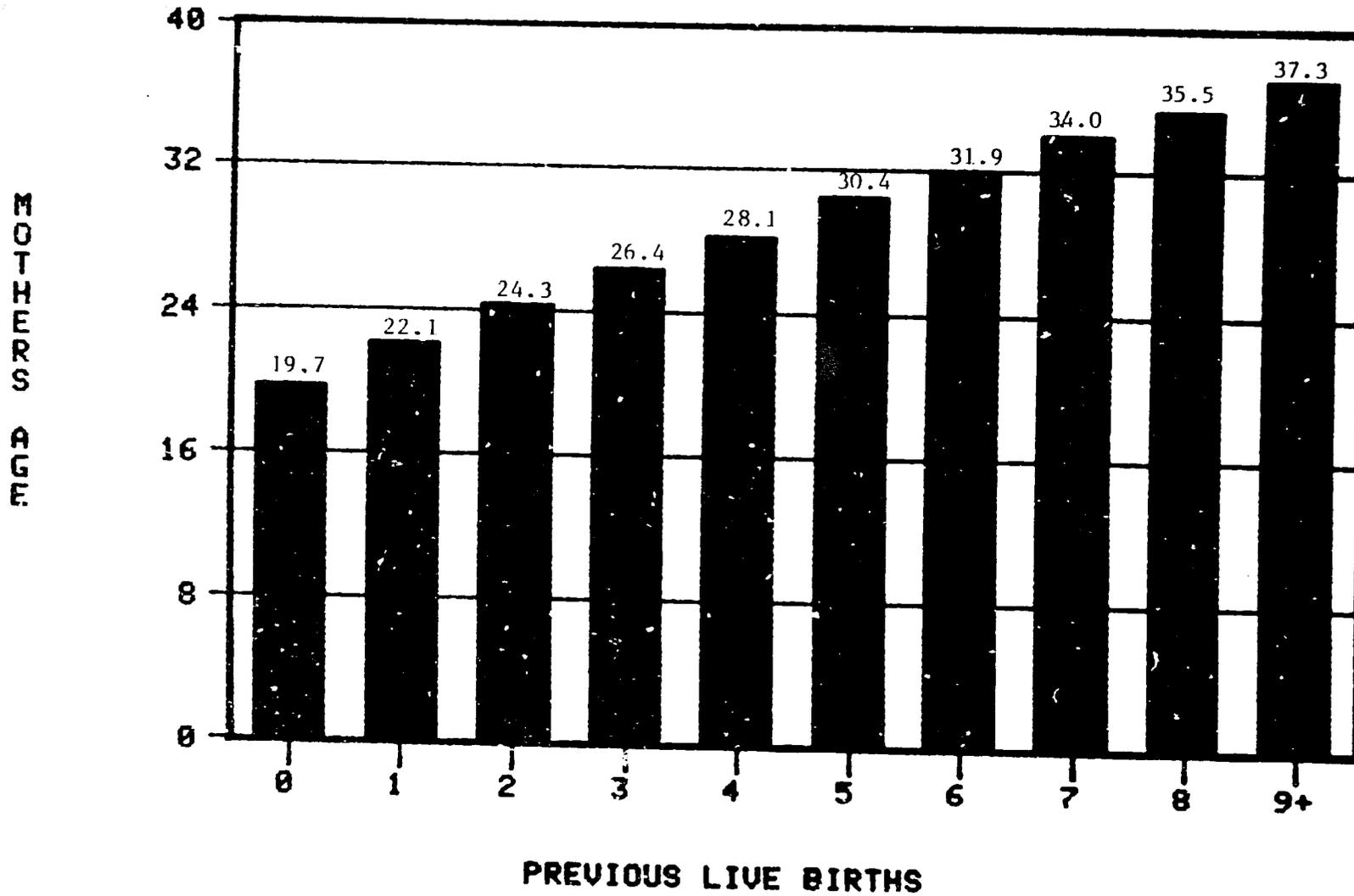


FIGURE 2

Breast-feeding

Three percent of the women whose last pregnancy resulted in a live birth did not breast-feed that infant. Five percent breast-fed for less than six months, 15% for six months to one year, and 77% for one year or more. Age and education did not seem to affect whether a woman breast-fed her infant, but it did appear to affect the length of time the woman breast-fed. Sixty-four percent of the multiparous women under 20 years of age breast-fed their last infant for one year or longer, compared to 84% of the women 40 years or older (see Figure 3). Regarding education, 80% of the patients with no formal education breast-fed their last infant for at least 12 months while only 40% of the women with some college education continued breast-feeding for that amount of time (see Figure 4).

Interval Between Last Pregnancy and Current Delivery

The average interval between the last pregnancy and the current delivery was 30 months. Only five percent of the patients delivered within one year of their last birth. Most (71%) of the women with short intervals had an unfavorable pregnancy outcome (spontaneous abortion, stillbirth or infant death). This long interval between pregnancies may, in part, be due to lactation amenorrhea. More than 97% of the women whose last pregnancy was a live birth breast-fed their infant. Women who did not breast-feed averaged 25 months between deliveries, those who breast-fed less than six months averaged 22 months, women who breast-fed six months to one year had average intervals of 25 months, and women who breast-fed for one year or longer averaged 32 months between deliveries (see Figure 5).

The use of contraception prior to this pregnancy also affected birth interval. The average interval between births was 41 months for women who

BREASTFEEDING BY MATERNAL AGE

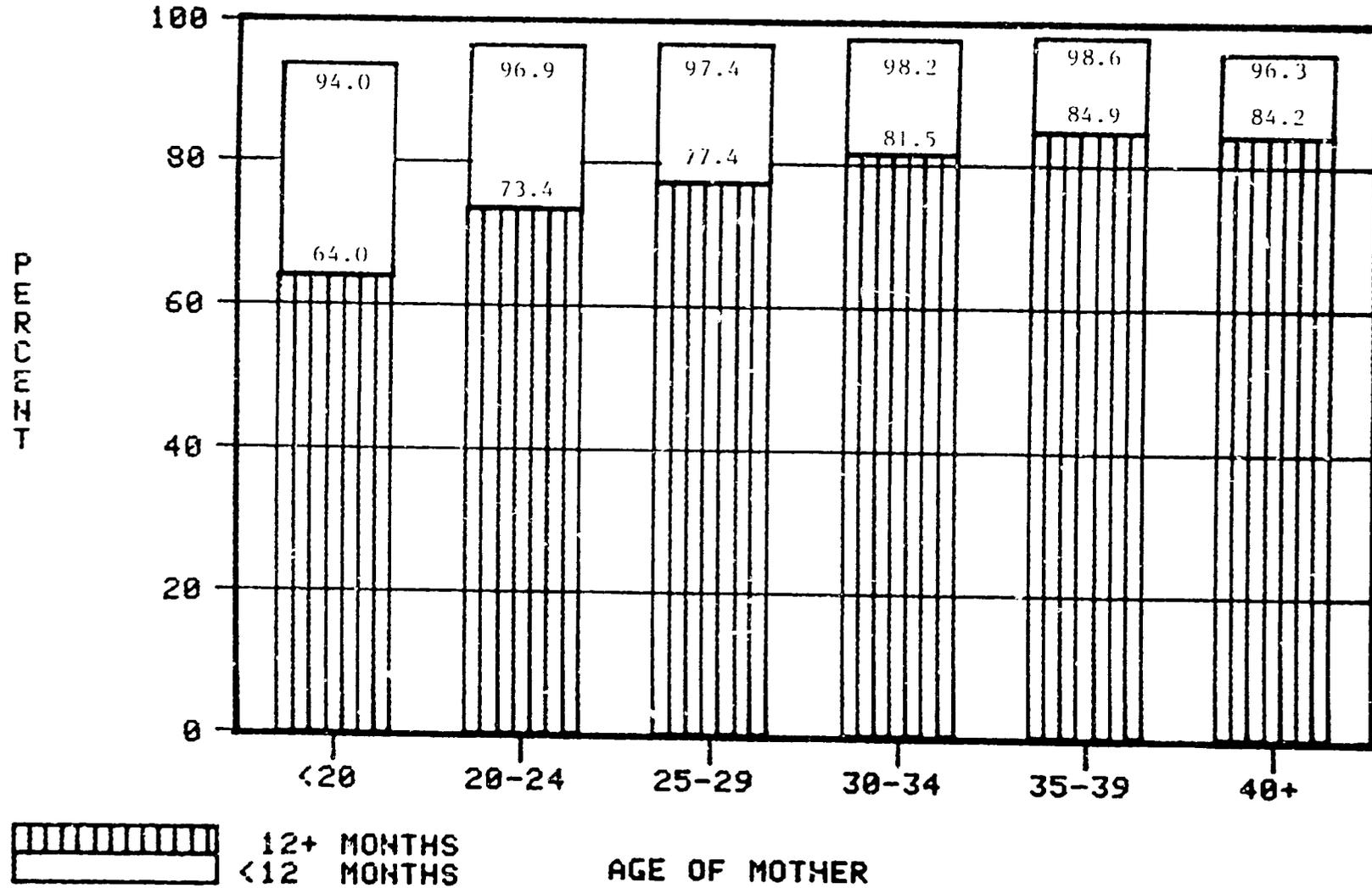


FIGURE 3

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BREASTFEEDING BY EDUCATIONAL LEVEL

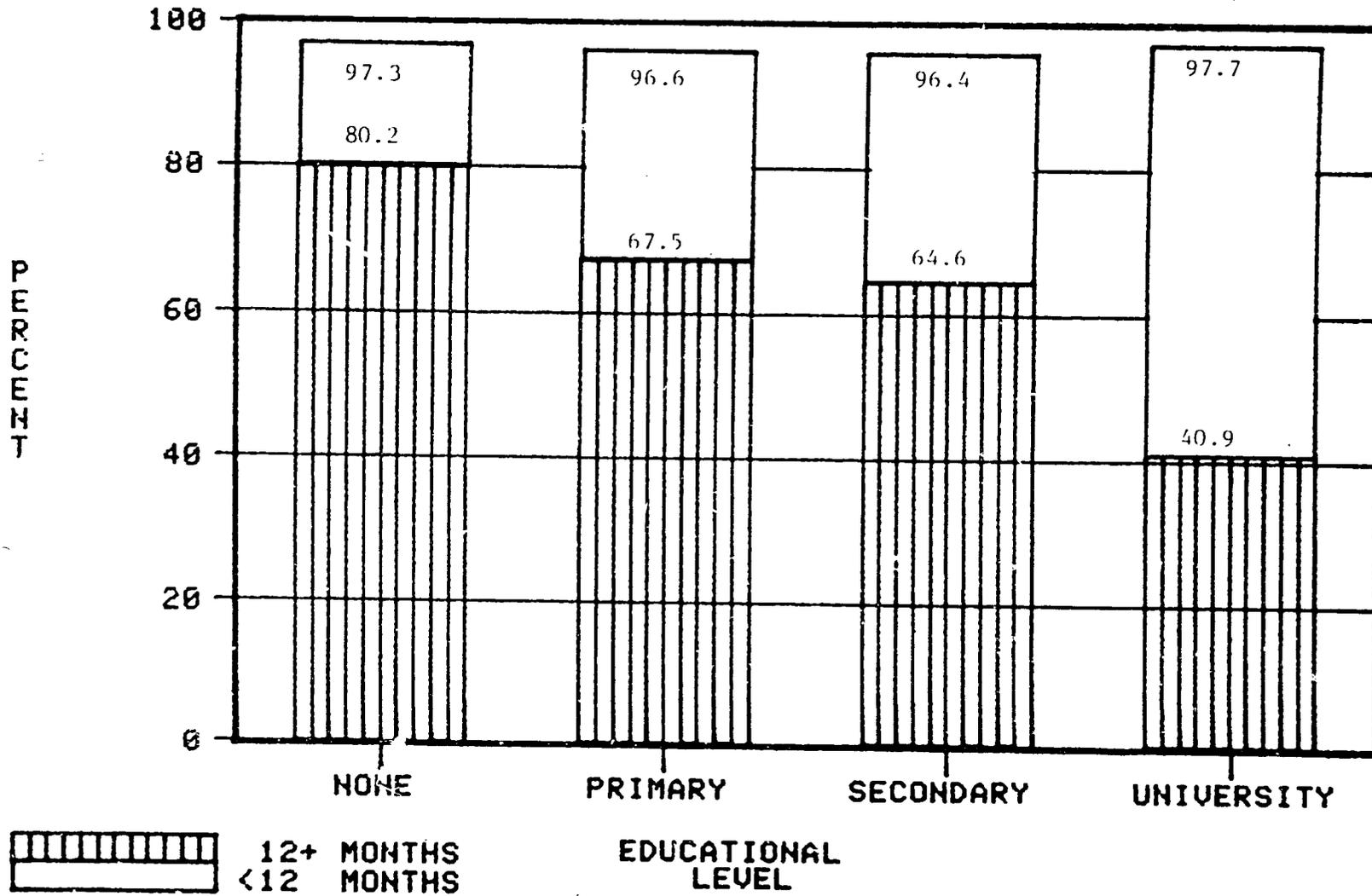


FIGURE 4

22

AVERAGE BIRTH INTERVAL BY BREASTFEEDING

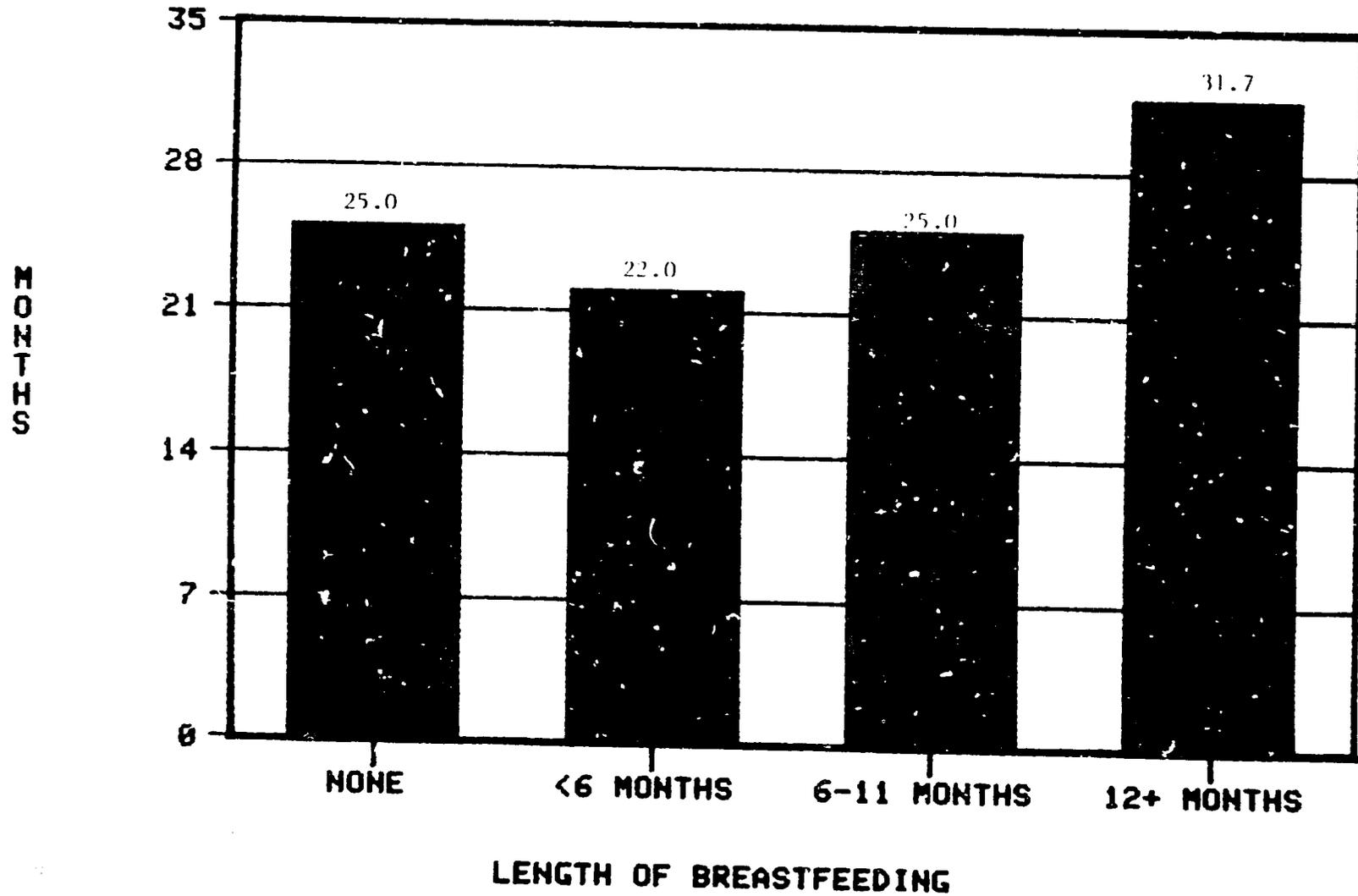


FIGURE 5

36.

had used some method of contraception in the interval but only 29 months for women who had not contracepted. However, only about two percent of the women used contraceptives in the interval between deliveries.

IV. ANTENATAL CONDITION

Eleven percent of the women delivering at the hospital reported some type of antenatal problem. This percentage varied by maternal age from 11% of the patients under 20 years to 19% of those 40 years and older. Women between 20 and 29 years had the lowest proportion of antenatal problems reported. The most frequently diagnosed antenatal condition was hypertensive disorders (four percent of all patients). The incidence of hypertensive disorders (preeclampsia and eclampsia) in primiparas was twice that in multiparas or grandmultiparas. We regret not having collected information regarding the number of antenatal visits made by these patients which would have made it possible to determine the effect of antenatal care on the reporting of antenatal problems.

V. LABOR AND DELIVERY (See Table III)

Labor

Most (94%), of the patients had spontaneous labor with only about eight percent augmented by artificial rupture of membranes, drugs or both. Approximately two percent had their labor induced, mostly with oxytocics. Four percent of the patients were reported as having no labor.

Over 93% of the patients had a normal (vertex, occiput anterior) presentation during labor, three percent had a vertex malpresentation, three

percent had a breech presentation, and less than one percent had some other type of malpresentation.

Type of Delivery

More than 95% of the patients delivered spontaneously and less than two percent had a cesarean section. Approximately one percent of the patients had a forceps extraction.

Complications of Labor/Delivery

Only about five percent of the patients were reported as having complications of labor and/or delivery. Women delivering their first infant had a higher rate of complications (7%) than women who had previously delivered between one and three (4%) or four or more infants (6%).

Attendant at Delivery

More than 96% of the patients were attended by a midwife and about three percent were delivered by a physician. All of the cesarean sections and half of the forceps extractions were performed by physicians while less than one percent of the spontaneous deliveries were attended by physicians.

VI. OUTCOME (See Table IV)

A total of 8769 infants were delivered in the hospital, 4517 males and 4252 females, giving a sex ratio of 106 males per 100 females. There were 116 sets of twins and three sets of triplets for a ratio of one multiple delivery per 73 deliveries.

The mean gestational age of the infants was 39.7 weeks with 16% of the women reported as being delivered before 37 weeks gestation. However,

gestational age was determined by birth weight and thus is not independently reliable.

Birth Weight

The mean birth weight of singleton deliveries was 3086 grams. Mean weight at birth of live-born infants who survived was 826 grams more than live-born infants who subsequently died; stillbirths averaged about 550 grams less than live-born infants. Birth weight increased with parity, and the mean birth weight for males was more than 100 grams higher than for females. Approximately 11% of the infants weighed less than 2500 grams and less than one percent weighed under 1000 grams. For infants weighing 2500 grams or more, 98% were discharged alive, while for infants weighing less than 2500 grams, 84% were discharged alive. Almost two thirds of the infants weighing less than 1000 grams were not discharged alive from the hospital, which is not surprising since there are no special facilities for premature infants.

Primary Fetal/Neonatal condition

Eight percent of the infants had a one-minute Apgar score of six or less and six percent had a depressed five-minute score. Three percent of the infants were reported as experiencing some type of fetal or neonatal problem, the most common being fetal distress during labor (1.5%). Forty-one percent of the infants with transverse presentations were stillborn, and nearly one fifth of the breech infants could not be saved. The stillbirth rate was 32.99 per 1000 infants delivered and the newborn death rate (before discharge) was 4.26 per 1000 live births. This gives a combined mortality rate of 37.11 per 1000 deliveries (only infants weighing 1000 grams or more for whom birth weight was known are included in these rates).

It must be noted that these rates reflect mortality only for the time the patients spent in the hospital and thus are lower than standard perinatal mortality rates which consider all deaths in the first month of life in addition to stillbirths.

VII. MATERNAL OUTCOME (See Table V)

Less than one percent of the patients had some puerperal problem reported. However, 32 of the patients admitted for delivery died before discharge from the hospital. This gives a maternal mortality rate of 3.70 per 1000 women admitted for delivery. This rate of maternal mortality is very low considering that another source gives a maternal mortality of 8/1000 for Le Dantec hospital and 5/1000 in the entire Cap Vert region.* An additional five women who had delivered outside and were referred for puerperal complications died in the hospital.

The group of women admitted for delivery who died was, on the average, older (31.4 years), of higher parity (3.8 live births), and had less education (93% with no education) than the women who survived (25.3 years, 2.7 live births and 74% with no education, respectively). They more often had extreme pregnancy intervals (16% compared to 6% with less than one year and 21% compared to 5% with more than four years). An equal proportion of women in each group had previously been pregnant, but women who died were more likely to have had an unfavorable pregnancy outcome for their last pregnancy (eg, infant death, stillbirth or spontaneous abortion). Only 59% of the multiparas who died had an infant surviving from their last

*M.D. thesis of Dr. Adanlete on maternal mortality (1977), pp. 42 and 67.

pregnancy while 85% of the survivors' babies were still alive at the time of the present delivery.

Hypertensive disorders (preeclampsia and eclampsia) were reported as a primary antenatal condition for 27% of the patients who died as compared to 4% of the patients who survived. More than one fourth of the women who were recorded as eclamptic died before being discharged from the hospital. Hemorrhage and anemia were also more often reported for the women who died. Ninety-four percent of the patients who died were reported to have had an antenatal problem, while less than 10% of the survivors had a problem reported. A very frequent comment on the death reports was that the women had not been adequately supervised during their pregnancy and had waited too long before arriving at the hospital for delivery.

Eleven of the 32 women admitted for delivery died before they could deliver. The deceased women who did deliver were more likely than the surviving women to have had a breech presentation during labor (12% compared to 3%) and to have had some other complication of labor and/or delivery (78% compared to 5%). The most commonly specified complications for the women who died were placenta abruptio (33%), hemorrhage (11%), prolonged or obstructed labor (7%) and hypertonic uterine contractions (4%). Other complications included various problems all related to insufficient prenatal monitoring and difficult access to health facilities. The women who died were also more likely to have had a cesarean section or some other type of non-spontaneous delivery (12% compared to 3%).

Infants born to women who died weighed almost 225 grams less than those whose mothers survived and were far more likely to die themselves. Of

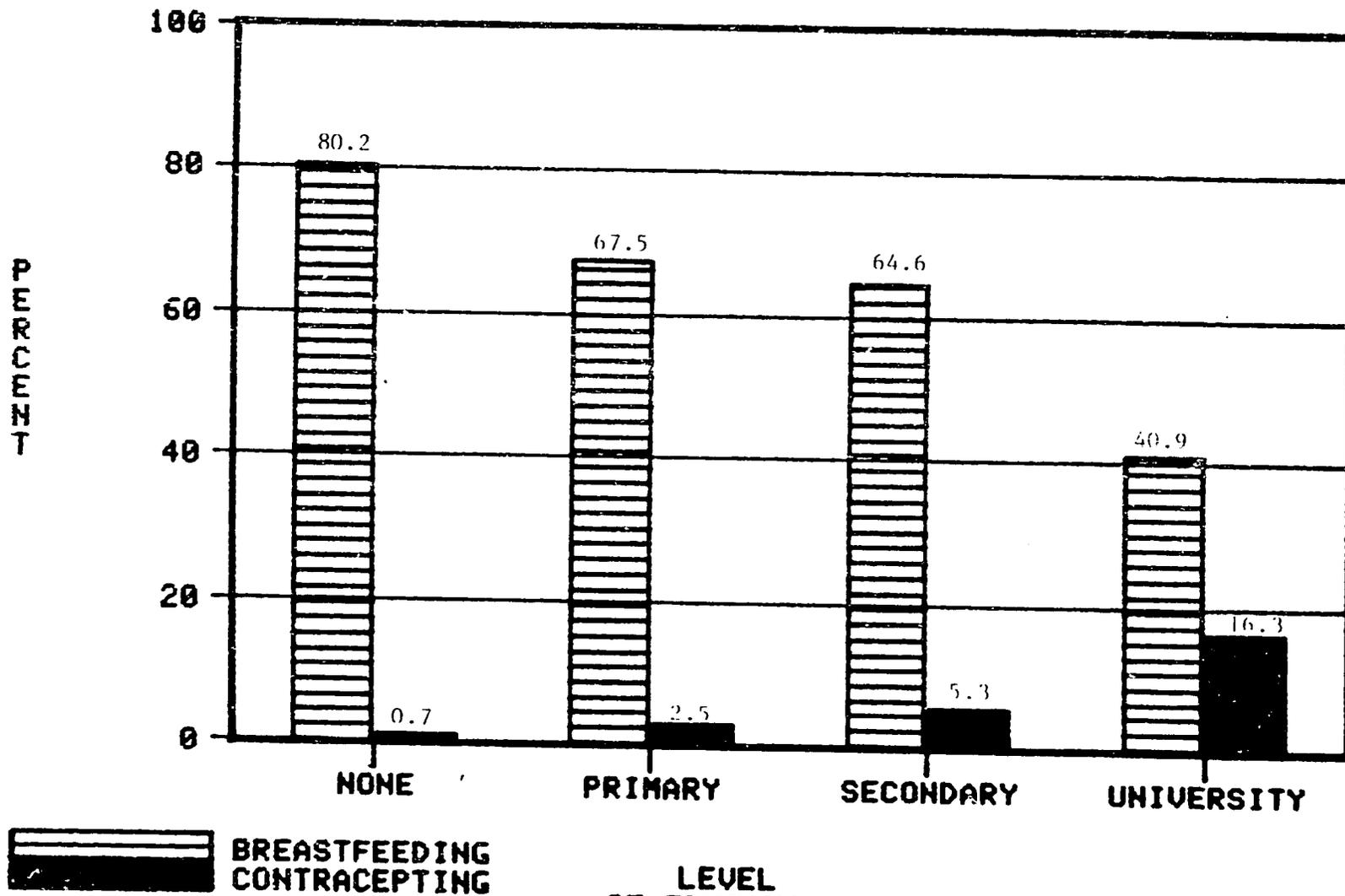
course, all of the undelivered infants died and 71% of the infants whose mothers died after delivery also died, compared to only 4% of those infants born to surviving women.

VIII. FAMILY PLANNING (See Table VI)

Less than two percent of these patients had used any method of contraception before this pregnancy. This proportion varied by the level of education of the women, with less than one percent of the women having no education and 16% of the women having 13 or more years of education having used contraception. Although the use of contraception rose with the level of education, the proportion of women breast-feeding for more than one year decreased from 80% for the women with no education to 40% for university educated women (see Figure 6).

There was a larger number of women planning to use contraception after this delivery (24%). Ten percent of the women planned to use orals or injectables and about eight percent planned to use an IUD. Only about three percent said they wanted to be sterilized (21% of the women who did not want any more children). Of the women who wanted no more children and expressed an interest in sterilization, only 14% actually underwent the procedure during their hospitalization for delivery. Half of the women who desired sterilization and who had cesarean deliveries were sterilized as compared to nine percent of the women who had vaginal deliveries. As before pregnancy, the proportion of women planning contraception (particularly orals) increased as their level of education increased (see Figure 7). Women with seven or more children living postpartum were the most likely to plan to use a contraceptive method (see Figure 8). However,

% BREASTFEEDING 12+ MONTHS AND % CONTRACEPTING PRIOR



LEVEL OF EDUCATION

FIGURE 6

9/10

PLANNED CONTRACEPTION BY METHOD AND EDUCATION

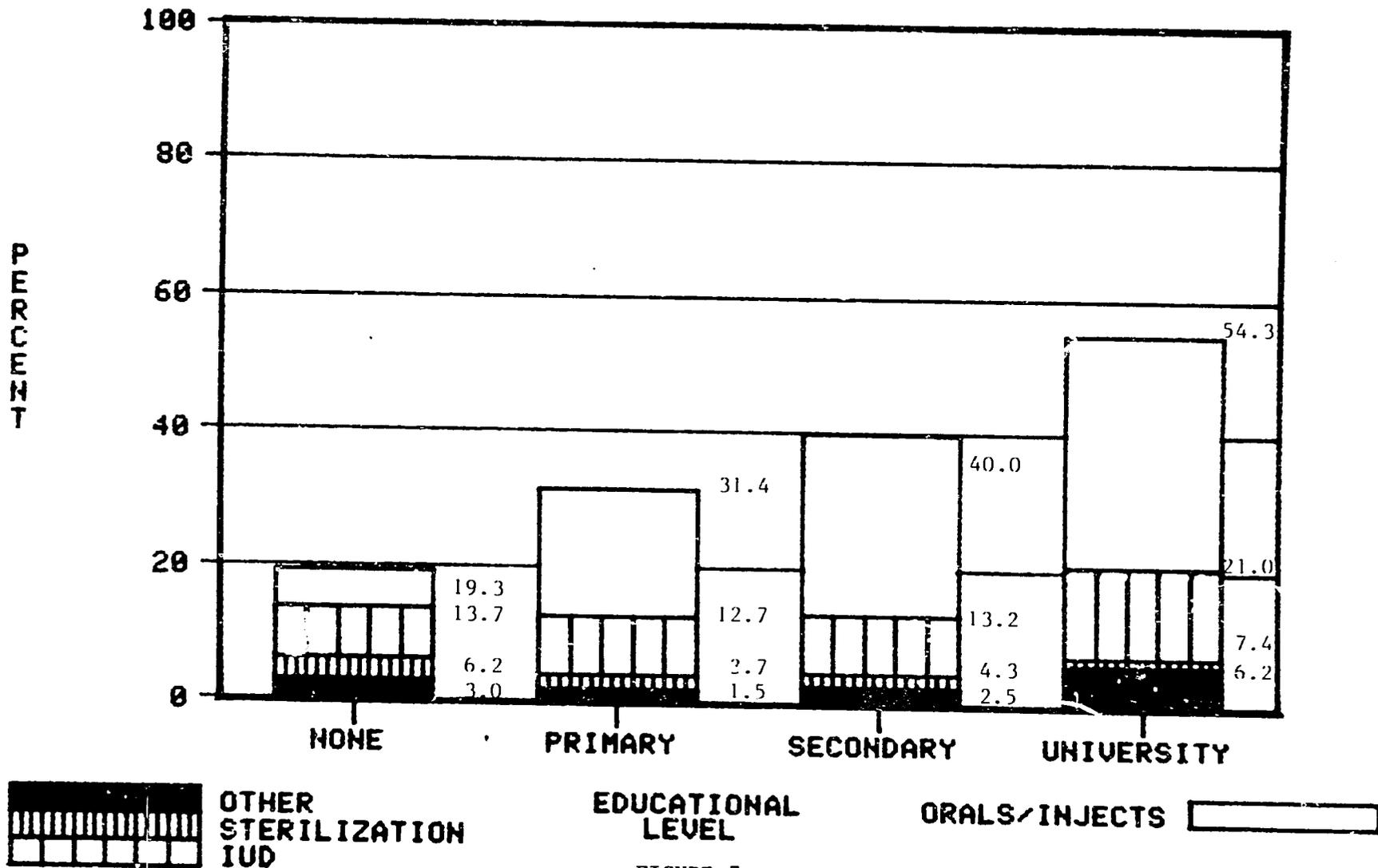
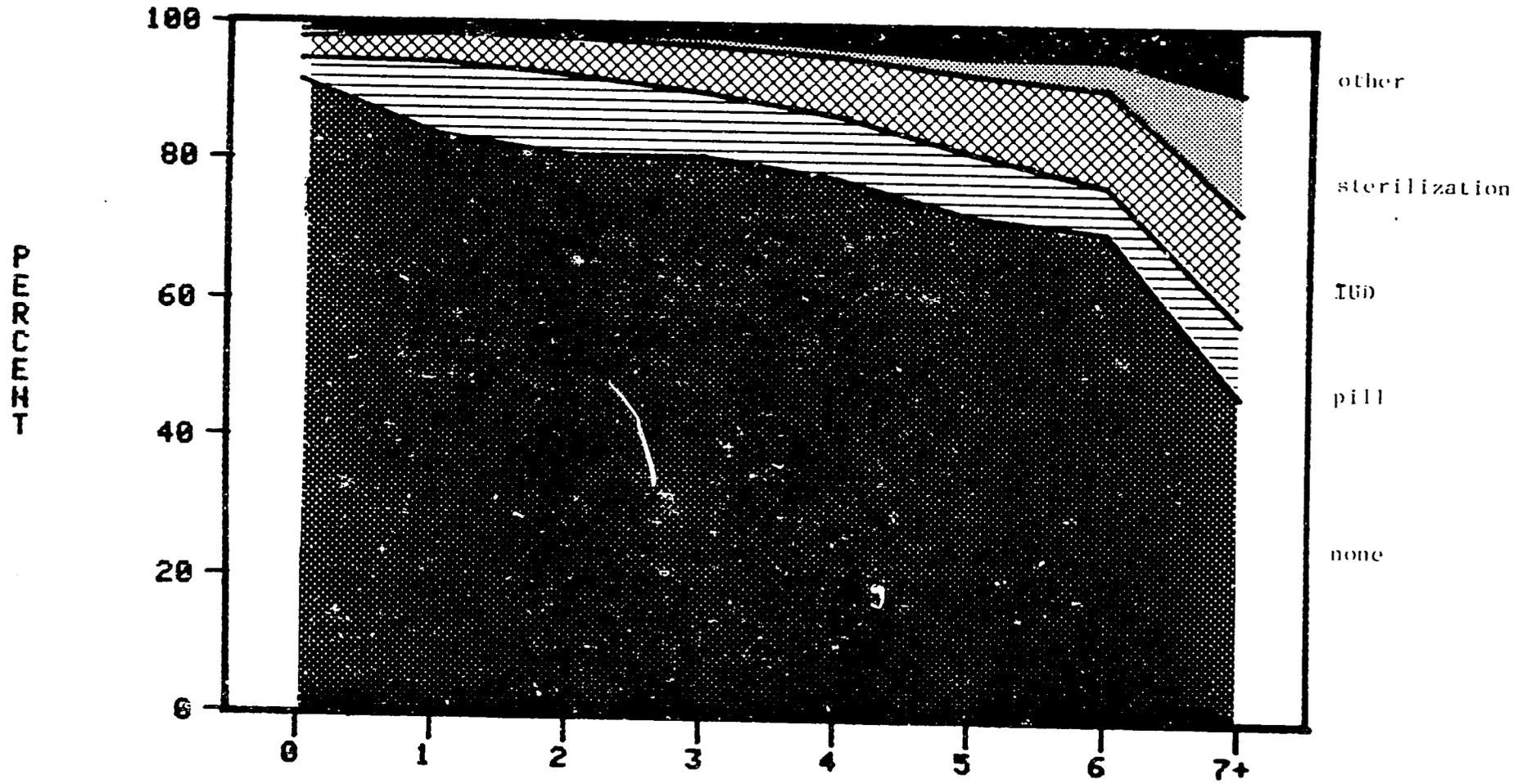


FIGURE 7

919

% WOMEN PLANNING CONTRACEPTION BY SPECIFIC METHOD



LIVING CHILDREN

FIGURE 8

al

more than three fourths of the women delivering at this hospital neither used a method before conception nor planned to use anything after delivery.

Figure 9 shows the proportion of women desiring additional children by the number of living children the woman had after delivery. The average number of children desired (living children after this delivery plus additional children wanted) by these patients was eight. This number varied by the age of the patient; women under 20 years wanted an average of 7.2 children while women 40 years of age and older wanted, on the average, a total of 9.5 children (see Figure 10). The total number of children desired decreased as educational level rose (see Figure 11). Forty percent of the patients said they wanted eight or more additional children while only 12% said they did not want any more children. The average age of women who did not want more children was 32 years and their average number of live births was six.

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% WANTING MORE CHILDREN BY LIVING CHILDREN POSTPARTUM

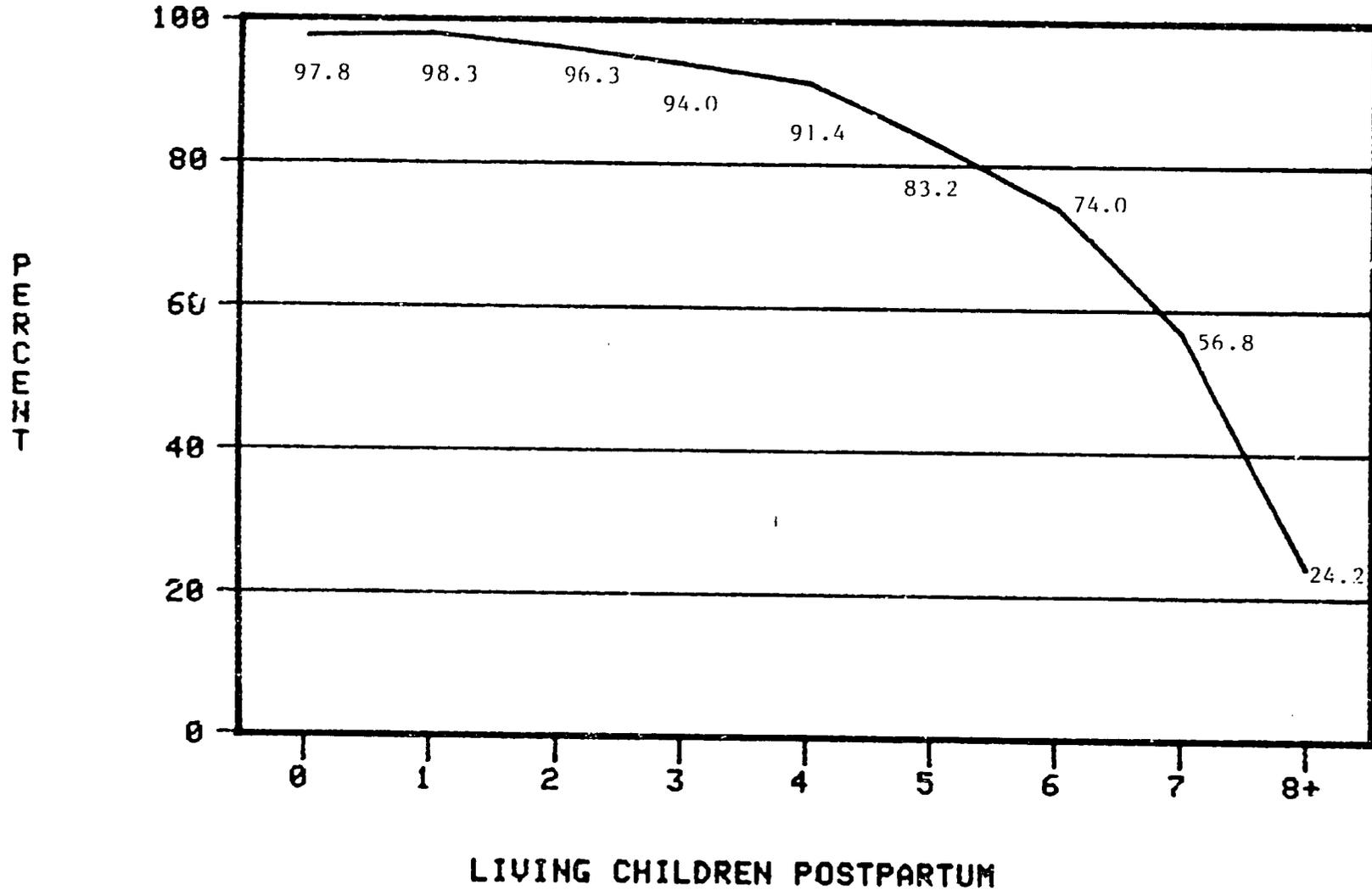


FIGURE 9

100

AVERAGE DESIRED FAMILY SIZE BY AGE OF MOTHER

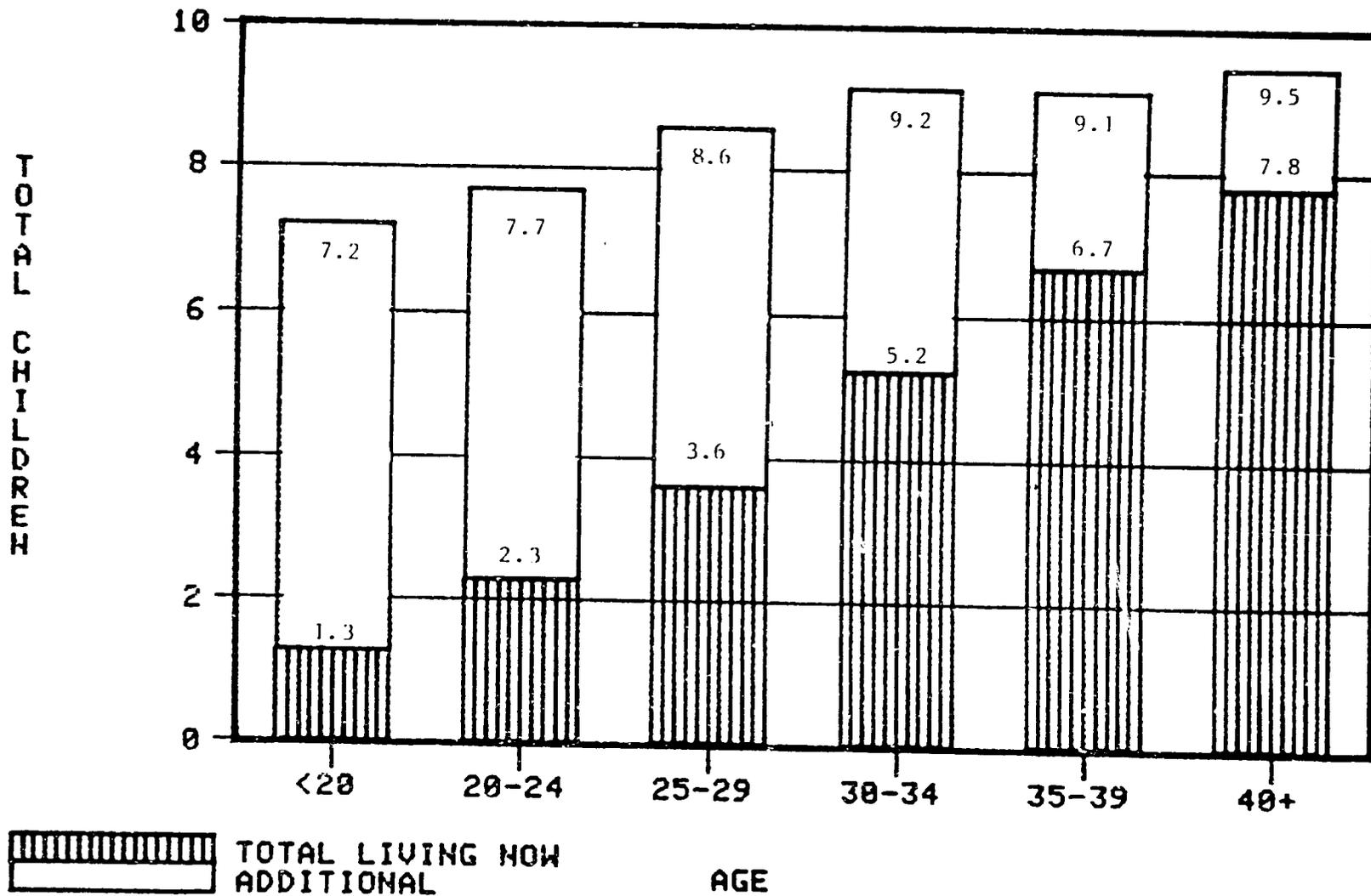


FIGURE 10

AVERAGE DESIRED FAMILY SIZE BY LEVEL OF EDUCATION

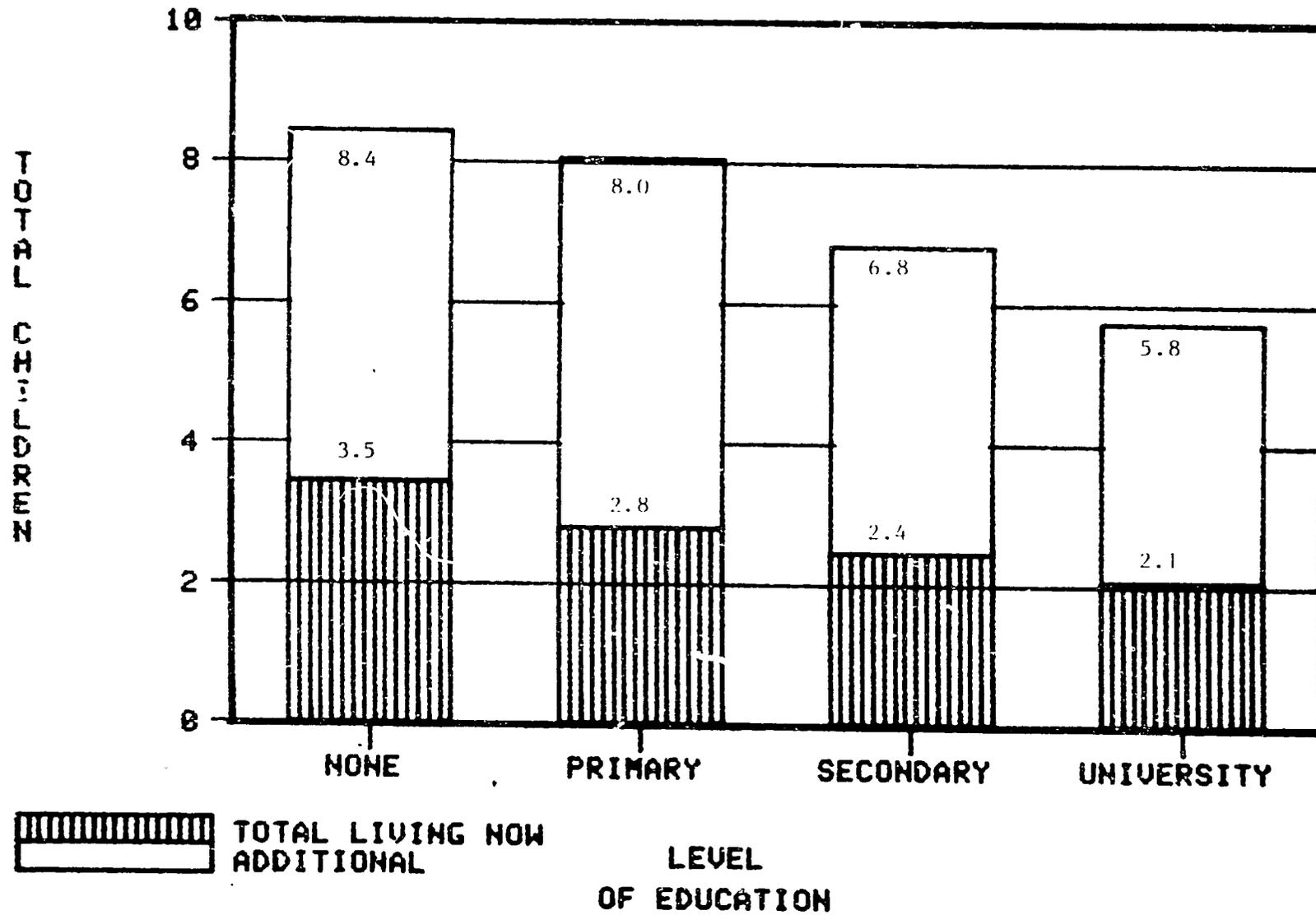


FIGURE 11

100

TABLE I
Patient Characteristics

	%
<u>Maternal age (years)</u>	
<20	21.5
20-34	69.5
35+	9.0
Mean age = 25.3 (12,55)*	
<u>Age at first marriage (years)</u>	
<18	58.6
18-19	20.9
20+	20.5
Mean age = 17.7	
<u>Education (years)</u>	
None	73.6
1-6	14.9
7-12	10.4
13+	1.0

*(minimum, maximum)

TABLE II
Obstetric History

	%
<u>Previous live births</u>	
None	24.5
1-3	44.4
4+	31.1
Median = 2.1 (0,19)*	
<u>Previous stillbirths</u>	
None	94.1
1	4.8
2+	1.1
<u>Previous infant/child deaths</u>	
None	76.0
1	15.1
2	5.7
3+	3.2
<u>Previous cesarean deliveries</u>	
None	98.8
1	1.0
2+	0.2
<u>Outcome of last pregnancy</u>	
Never pregnant	24.0
Live birth-living	64.6
Live birth-deceased	6.5
Stillbirth	1.9
Spontaneous abortion	2.8
Other	0.2
<u>Interval between deliveries (months)</u>	
<12	5.1
12-23	44.1
24-47	45.5
48+	5.3
Mean months = 29.6	

TABLE II (cont'd)

	%
<u>Breast-feeding of last</u>	
<u>live birth (months)</u>	
None	2.9
<6	4.9
6-11	15.4
12-17	54.6
18+	22.3
Median months = 15.7	
<u>Primary antenatal condition</u>	
None	89.5
Hypertensive disorders	4.0
Hemorrhage	1.0
Other	5.5

*(minimum, maximum)

TABLE III
 Characteristics of Labor/Delivery

	%
<u>Type of labor</u>	
None	3.7
Spontaneous	87.2
Spontaneous/augmented	7.3
Induced	1.9
<u>Type of presentation during labor</u>	
Normal (vertex, occiput anterior)	93.5
Vertex malpresentation	2.9
Breech	3.2
Other malpresentation	0.4
<u>Type of delivery</u>	
Spontaneous	95.5
Breech	1.2
Cesarean section	1.8
Other	1.4
<u>Primary complication</u>	
None	94.8
Prolonged/obstructed labor	1.1
Other	4.1
<u>Attendant at delivery</u>	
Qualified midwife	96.1
General or OB/GYN physician	2.7
Other	1.1

TABLE IV

Outcome

	%
<u>Duration of pregnancy (weeks)</u>	
<37	16.1
37+	83.9
Mean weeks = 39.7	
<u>Birth weight (grams)</u>	
<2500	10.4
2500+	89.6
Mean grams = 3086	
<u>Apgar score <7</u>	
1 minute	8.2
5 minutes	6.3
<u>Fetal/neonatal status</u>	
Normal	97.1
Fetal distress	1.5
Other	1.4
<u>Puerperal status</u>	
Normal	99.4
Bleeding	0.3
Other	0.3

TABLE V
Maternal Mortality

	Deceased %	Surviving %
<u>Age</u>		
<20	6.7	21.4
20-34	56.7	69.6
35+	36.7	9.0
Mean	(31.4)	(25.3)
<u>Education</u>		
None	92.6	73.7
1-6	3.7	14.9
7+	3.7	11.4
<u>Parity</u>		
0	28.6	24.3
1-3	28.6	44.6
4+	42.9	31.1
Mean	(3.8)	(2.7)
<u>Stillbirths</u>		
None	79.3	94.1
1+	20.7	5.9
<u>Interval</u>		
<12	15.8	5.1
13-24	31.6	44.1
25-48	31.6	45.5
49+	21.0	5.3
Mean	(38.9)	(29.6)
<u>Outcome of last pregnancy</u>		
Never pregnant	24.1	24.0
Live birth, alive	44.8	64.6
Live birth, dead	17.2	6.5
Stillbirth	6.9	1.9
Spontaneous abortion	6.9	2.8

TABLE V (cont'd)

	Deceased %	Surviving %
<u>Antenatal problems</u>		
None	6.2	89.5
Hemorrhage	6.2	1.0
Hypertension	21.9	4.0
Anemia	25.0	0.7
Other	40.6	4.9
<u>Type of labor</u>		
None	31.2	3.7
Spontaneous	59.4	94.4
Induced	9.4	1.8
<u>Type of presentation</u>		
Normal	84.0	93.3
Breech	12.0	3.3
Other	4.0	3.3
<u>Type of delivery</u>		
Spontaneous	69.2	95.5
C-section	19.2	1.8
Other	11.5	2.7
<u>Primary complication</u>		
None	22.2	94.9
Placenta abruptio	33.3	0.9
Hemorrhage	11.1	0.5
Pro/obst. labor	7.4	1.1
Hypertonic contractions	3.7	0.1
Other	22.2	2.6
<u>Attendant</u>		
Midwife	55.0	96.1
Physician	35.0	2.7
Other	10.0	1.1
Mean birthweight	2849	3082

TABLE VI
Family Planning Characteristics

	%
<u>Additional children wanted</u>	
None	12.4
1-2	12.2
3-4	19.0
5-7	16.2
8+	40.2
Average total children desired = 8.2	
<u>Contracepting prior to this pregnancy</u>	
	1.6
<u>Contraception planned or provided after delivery</u>	
None	74.4
Orals	10.0
IUD	8.0
Sterilization	2.9
Other	2.7