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The Relationship of Maternal Health Factors to Sterilization Following Delivery of Legitimate Live Births in Hospitals: United States[a]

This report on maternal health and sterilization, as well as an earlier one focusing in much more detail on social and demographic characteristics of mothers who obtained sterilizing operations,[1] indicates that 7.8 percent (220,000) of mothers of 2,818,000 legitimate live births occurring in hospitals in 1972 had a sterilizing operation performed before leaving the hospital. These data, obtained from the National Natality Survey conducted by the National Center for Health Statistics, also indicate that poor maternal health probably encourages sterilization. The mother's experience of previous fetal loss, presence of underlying medical conditions, complications of pregnancy noted during various trimesters, delivery by cesarean section, and complications to mother's health noted after delivery are all associated with higher rates of postpartum sterilization.

Other studies have found that the majority of all female sterilizing operations are for contraceptive purposes (performed for the express purpose of preventing future pregnancies), although a significant minority are for medically remedial purposes (to correct a disease condition of the reproductive system) or for both purposes.[2,3] Comparisons of the 1965 and 1970 National Fertility Studies of Princeton University have indicated impressive increases in the prevalence of contraceptive sterilization and that contraceptive sterilization has gained increasing attitudinal acceptance by all racial, educational, and religious segments of the population.[4,5] The 1973 National Survey of Family Growth conducted by the National Center for Health Statistics has indicated further increases in sterilization since 1970.[6,7,8] This is the first national data of this type on postpartum sterilization, and more recent information on this topic from the National Center for Health Statistics will not be available before 1980.

While social and demographic factors have consistently been shown to be related to sterilization, very few reports in the literature indicate how maternal health is related to sterilization. This report presents maternal health data as well as a very brief summary of social and demographic data as related to sterilizing operations following legitimate live births in hospitals. These data have been obtained from a nationwide mail survey of a sample of certificates of legitimate live birth in 1972 and the mothers, physicians, and hospitals associated with those births. A brief description of the survey methodology appears in the Technical Notes.

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The Incidence of Postpartum Sterilization

Birth Order, Age, and Education

Table 1 indicates that 7.8 percent of all mothers having legitimate live hospital births in 1972 had a sterilizing operation performed at that time. The percentage begins low for mothers having their first child (1.9 percent) and rises steadily up to 17.6 percent for mothers having a third or higher order birth.

Age is also related to postpartum sterilization rates. Only 2.7 percent of mothers under 20 years of age but 17.5 percent of those 30 years old and over were sterilized. A similar pattern of higher birth order and higher age of mother being associated with higher rates of sterilization is observed for mothers within each of the three educational attainment groupings.

Mothers with less education are more likely to have been sterilized than mothers with more education; postpartum sterilization rates are 11.3 percent, 7.8 percent, and 5.5 percent for mothers with 0-11 years, 12 years, and 13 or more years of education, respectively. In part, the higher sterilization rates of the less educated may be due to the fact that a greater proportion of the births to the less educated are of higher birth orders, where sterilization rates are higher. The joint effects of age and birth order may be strongly influenced by the two primary motivations for sterilization. That is, the need for surgery of a medically remedial nature may take on increasing importance as women grow older, and the contraceptive motive may increase as women have more births, especially when higher order births are unplanned or unwanted. However, the educational attainment of the mother also influences the probability of sterilization,

Table 1. Estimated number of legitimate live hospital births and percent of mothers sterilized following delivery by live-birth order, according to educational attainment and age of the mother: United States, 1972 National Natality Survey

Years of school completed and age of mother	Live-birth order				Live-birth order			
	Total	1st	2d	3d or higher	Total	1st	2d	3d or higher
	Number of births in thousands				Percent sterilized			
Total	2,818	1,072	869	878	7.8	1.9	5.3	17.6
Under 20 years of age	415	323	82	11	2.7	2.2	3.7	8.2
20-24 years of age	1,031	479	384	168	4.7	1.3	5.1	13.3
25-29 years of age	850	215	308	328	8.2	0.7	4.6	16.5
30 years of age and over	522	56	96	371	17.5	8.9	9.8	20.8
0-11 years of school completed	596	185	162	250	11.3	2.7	7.2	20.2
Under 20 years of age	151	106	36	*9	3.3	2.9	2.8	*
20-24 years of age	202	54	86	62	7.1	2.6	7.6	10.2
25-29 years of age	129	20	29	80	19.0	2.7	11.9	25.7
30 years of age and over	114	*5	10	99	20.5	*	5.4	23.1
12 years of school completed	1,348	519	418	411	7.8	1.8	5.5	17.6
Under 20 years of age	186	156	28	*1	2.4	2.0	5.1	*
20-24 years of age	538	260	207	70	4.5	1.5	4.6	15.8
25-29 years of age	384	81	140	164	7.8	0.7	4.0	14.7
30 years of age and over	240	22	42	176	19.0	9.0	15.3	21.2
13 years of school completed or more	875	368	289	217	5.5	1.5	4.0	14.5
Under 20 years of age	78	60	17	*1	2.0	1.7	3.3	*
20-24 years of age	291	165	90	36	3.2	0.6	3.9	13.8
25-29 years of age	337	115	138	85	4.5	0.5	3.7	11.2
30 years of age and over	168	29	44	96	13.4	10.5	5.5	17.8

independent of the effects of age and birth order. Mothers with third or higher order births are more likely to be sterilized if they have only 0-11 years of education than if they have 13 or more years of education (20.2 vs. 14.5 percent).

Maternal Health Factors

Table 2 presents a number of maternal health characteristics as they relate to postpartum sterilization overall and within five live-birth order categories. Only 7.0 percent of mothers with no previous fetal losses but 15.3 percent of those with two or more previous fetal losses had sterilizing operations. This pattern appears within all five birth order categories, but at no order is the difference statistically significant. The presence of underlying medical conditions such as diabetes, varicosity, and anemia existing during the mother's 1972 pregnancy is also a factor since 7.0 percent of the mothers with no such condition but 12.6 percent of the mothers with one or more conditions had a postpartum sterilizing operation performed. This finding occurs within all five birth order categories, but it is statistically significant at only the second and third orders. Complications of the mother's 1972 pregnancy are also a factor; 7.3 percent of mothers with no pregnancy complications but 10.5 percent of those with one or more were sterilized. This pattern occurs within all five birth orders but is statistically significant only at the first and fifth birth orders.

No clear pattern emerges with respect to trimester of pregnancy that prenatal care began or number of prenatal visits reported by medical sources, and most of the observed differences may be due to sampling variation.

The next three items—complications or unusual conditions noted during the first, second, or third trimester of pregnancy—are similarly related to postpartum sterilization; the lowest percent sterilized was for mothers with no prenatal care and no complications, and the highest percent sterilized was for mothers with two or more complications during any given trimester. This relationship is statistically significant for mothers who experienced complications or unusual conditions during the first and third (but not second) trimesters. Also, sampling variation causes many of these differences within birth orders not to be statistically significant. Complications of labor reflect no significant differences in sterilization.

Data on the type of delivery show that of all mothers having cesarean section deliveries 25.3 percent also had a sterilizing operation performed. Within every birth order group, mothers having cesarean section deliveries were significantly more likely to be sterilized than mothers having other types of delivery. About half of the mothers having a third or higher order birth by cesarean section were sterilized. Complications to mother's health noted after delivery are also associated with sterilization; only 7.6 percent of mothers with no complications but 11.4 percent of mothers for whom a complication was noted were sterilized. This pattern is consistent but not statistically significant within each birth order category. It is possible that the sterilizing operation itself may have contributed to some of the complications noted after delivery.

SUMMARY AND DISCUSSION

Mothers with higher order births, older mothers, and mothers with less education are more likely to have been sterilized. Also, maternal health variables are associated with sterilization in such a way as to indicate that poor maternal health probably encourages sterilization. The experience of previous fetal losses, presence of underlying medical conditions, complications of pregnancy, complications or unusual conditions noted during the first and third trimesters, delivery by cesarean section, and complications of mother's health noted after delivery are all related to higher sterilization rates. Most of these relationships remain, even when examined within five birth order categories, although statistical significance is not consistently attained. While many maternal health variables seem to influence sterilization rates, some of the variation in maternal health may stem from social and demographic factors. However, the sterilization report which dealt in detail with social and demographic factors showed that, at the national level, color of mother differs very little between mothers' sterilization rates; 7.7 percent of white mothers and 8.8 percent of all other mothers were sterilized, a difference which is not statistically signifi-

Table 2. Estimated number of legitimate live hospital births and percent of mothers sterilized following delivery by live-birth order according to maternal health characteristics: United States, 1972 National Natality Survey

Maternal health characteristic	Live-birth order						Live-birth order					
	Total	1st	2d	3d	4th	5th or higher	Total	1st	2d	3d	4th	5th or higher
	Number of births in thousands						Percent sterilized					
Total	2,818	1,072	869	428	214	236	7.8	1.9	5.3	15.8	19.9	18.7
PREVIOUS FETAL LOSSES												
None	2,434	995	753	349	168	168	7.0	1.8	5.0	15.6	18.5	17.3
1	266	59	83	52	32	40	12.1	2.5	7.2	15.3	26.3	20.5
2 or more	119	18	33	27	14	27	15.3	2.6	7.7	20.1	21.5	25.0
UNDERLYING MEDICAL CONDITIONS												
None	2,427	938	761	365	180	184	7.0	1.7	4.9	14.6	18.4	16.9
1 or more	391	134	108	63	34	52	12.6	2.6	8.5	22.8	27.4	25.0
COMPLICATIONS OF PREGNANCY												
None	2,359	878	743	365	179	194	7.3	1.5	5.0	15.2	19.2	16.7
1 or more	459	195	125	63	36	41	10.5	3.5	7.2	19.7	23.3	28.4
TRIMESTER OF PREGNANCY THAT PRENATAL CARE BEGAN												
1st trimester	1,870	724	600	284	131	131	7.2	1.6	5.0	16.0	17.8	18.7
2d trimester	585	213	167	85	53	68	9.9	1.7	7.6	19.8	23.6	18.5
3d trimester	168	58	48	28	16	19	9.4	2.5	3.1	14.2	27.9	24.4
No prenatal care	195	77	54	32	15	18	5.9	3.9	3.9	4.7	16.2	14.0
NUMBER OF PRENATAL VISITS												
No visits	195	77	54	32	15	18	5.9	3.9	3.9	4.7	16.2	14.0
1-4 visits	204	66	51	42	18	27	9.1	2.2	5.7	12.9	19.0	20.1
5-9 visits	809	300	235	111	72	90	8.9	1.8	5.4	19.0	22.6	18.3
10-14 visits	1,306	493	442	198	91	83	7.8	1.8	5.8	16.7	19.2	20.4
15-19 visits	285	128	83	43	15	16	5.2	0.8	3.0	14.8	16.3	14.2
20 visits or more	18	*8	*4	*1	*3	*2	8.3	*	*	*	*	*
COMPLICATIONS OR UNUSUAL CONDITIONS NOTED DURING FIRST TRIMESTER												
No prenatal care	195	77	54	32	15	18	5.9	3.9	3.9	4.7	16.2	14.0
No complications	2,393	900	751	356	183	202	7.6	1.4	5.1	17.0	19.6	17.6
1 complication	200	84	53	38	13	12	10.7	5.5	7.7	11.9	25.4	39.6
2 complications or more	30	11	11	*3	*3	*3	15.3	-	14.1	*	*	*

cant.[1] Within regions of residence, however, white mothers were less likely to be sterilized in the North Central Region but more likely to be sterilized in the West than were all other mothers.

In interpreting the statistics in this report a number of points must be kept in mind. First, the patterns observed here for postpartum sterilization following 2,818,000 legitimate live hospital births may differ from patterns for the ap-

Table 2. Estimated number of legitimate live hospital births and percent of mothers sterilized following delivery by live-birth order, according to maternal health characteristics: United States, 1972 National Natality Survey—Con.

Maternal health characteristic	Live-birth order						Live-birth order					
	Total	1st	2d	3d	4th	5th or higher	Total	1st	2d	3d	4th	5th or higher
	Number of births in thousands						Percent sterilized					
COMPLICATIONS OR UNUSUAL CONDITIONS NOTED DURING SECOND TRIMESTER												
No prenatal care	195	77	54	32	15	18	5.9	3.9	3.9	4.7	16.2	14.0
No complications	2,266	856	712	341	171	186	7.7	1.6	5.3	16.5	19.1	18.5
1 complication	287	113	82	44	22	25	9.3	2.6	6.1	15.7	26.7	22.8
2 complications or more	70	25	21	11	*6	*7	11.5	1.9	7.1	26.0	*	*
COMPLICATIONS OR UNUSUAL CONDITIONS NOTED DURING THIRD TRIMESTER												
No prenatal care	195	77	54	32	15	18	5.9	3.9	3.9	4.7	16.2	14.0
No complications	2,151	817	682	310	163	178	7.3	1.6	4.7	15.8	18.6	18.6
1 complication	398	156	107	73	32	30	10.4	2.2	8.0	18.2	29.8	21.0
2 complications or more	74	22	26	13	*5	10	13.5	-	13.3	30.3	*	23.6
NUMBER OF PRENATAL TRIMESTERS MOTHER EXPERIENCED COMPLICATIONS												
No prenatal care	195	77	54	32	15	18	5.9	3.9	3.9	4.7	16.2	14.0
None	1,830	685	588	265	139	152	7.0	1.6	4.6	15.1	17.5	16.5
1 trimester	589	232	172	93	44	48	10.0	1.3	6.9	21.8	24.6	25.0
2 trimesters	142	53	38	27	12	12	11.3	1.0	7.8	19.8	34.9	26.9
3 trimesters	62	24	16	11	*5	*5	11.5	10.3	12.2	4.3	*	*
COMPLICATIONS OF LABOR												
None	2,248	817	714	355	174	189	7.5	1.7	4.6	14.8	20.5	18.1
1 or more	570	256	155	73	40	47	9.0	2.3	8.4	20.8	17.1	21.4
TYPE OF DELIVERY												
Spontaneous	1,485	419	486	269	144	166	7.6	1.6	4.1	11.7	17.5	17.2
Forceps	1,038	529	302	115	48	44	4.9	1.1	4.5	15.0	19.6	10.8
Cesarean section	205	94	55	27	12	17	25.3	7.9	22.0	59.8	55.9	53.9
Breech	65	22	18	11	*8	*6	5.3	-	-	13.8	*	*
Other	26	*8	*7	*5	*2	*3	9.5	*	*	*	*	*
COMPLICATIONS OF MOTHER'S HEALTH NOTED AFTER DELIVERY												
None	2,632	991	821	402	200	217	7.6	1.8	5.1	15.4	19.3	17.9
1 or more	187	81	48	25	14	19	11.4	2.4	9.3	21.7	28.2	28.3

proximately 403,000 illegitimate births and the 21,000 nonhospital births which occurred in 1972. Second, sterilization rates presented here are not prevalence rates for all women ever sterilized; rather, they refer only to the incidence of sterilization at time of delivery of a live birth in 1972. Women sterilized prior to 1972 would not appear in this study of women giving birth. Furthermore, women giving birth in hospitals in 1972 but not sterilized before leaving the hospital might become sterilized later to preclude another pregnancy or subsequent to a future preg-

nancy. Third, sterilization may be chosen by many of the husbands (i.e., vasectomy) following the conceptions which resulted in 1972 births. Studies indicate that the social and demographic relationships discussed in this report for postpartum sterilization may differ from the relationships for non-postpartum female sterilization and for male sterilization. Fourth, it should be emphasized that in this survey hospitals were not asked to report the reason for the sterilizing operation, i.e., whether it was primarily remedial or contraceptive or both.

REFERENCES

[1]National Center for Health Statistics: The incidence of sterilization following delivery of legitimate live births in hospitals, United States, 1972. *Monthly Vital Statistics Report.* Vol. 26, No. 3, Supp. (HRA) 77-1120. Health Resources Administration. Rockville, Md.,

[2]Kiser, C. V.; Wilson, H. G.; and Campbell, A. A.: *Trends and Variations in Fertility in the United States.* Cambridge, Mass. Harvard University Press, 1968.

[3]Phillips, N.: The prevalence of surgical sterilization in a surburban population. *Demography* 8(2):261-270, 1971.

[4]Bumpass, L. L., and Presser, H. B.: Contraceptive sterilization in the U.S., 1965 and 1970. *Demography* 9(4):531-548, 1972.

[5]Bumpass, L. L., and Presser, H. B.: The increasing acceptance of sterilization and abortion, Chapter 4, in C. F. Westoff, et al. *Toward the End of Growth: Population in America.* Englewood Cliffs, N.J. Prentice Hall, 1973.

[6]Pratt, W. F.: *Sterilization in the United States: Preliminary Findings from the National Survey of Family Growth, 1973.* Paper presented at the April 1975 meeting of the Population Association of America, Seattle, Washington.

[7]Westoff, C. F.: The modernization of U.S. contraceptive practice. *Fam. Plann. Perspect.* 4(3):9-12, 1976.

[8]National Center for Health Statistics: Contraceptive utilization among currently married women 15-44 years of age, United States, 1973. *Monthly Vital Statistics Report.* Vol. 25, No. 7, Supp. (HRA) 76-1120. Health Resources Administration. Rockville, Md., Oct. 4, 1976.

TECHNICAL NOTES

METHOD AND RESPONSE. The data presented in this report are based on the 1972 National Natality Survey (or the National Natality Followback Survey as it is often referred to) conducted by the National Center for Health Statistics. The survey was based on a probability sample of 1 in 500 certificates of live birth filed in the United States in 1972. This resulted in a total sample of 6,505 certificates, of which 5,689 were of legitimate births. Births which were reported to be illegitimate (N = 555) or inferred to be illegitimate by comparison of names of father, mother, and baby (N = 261) were eliminated from this study; this represents approximately 403,000 illegitimate births not studied. Additional information for the 5,689 legitimate live births was obtained from the following sources: (1) All mothers named on the sample certificates were mailed a questionnaire to obtain a complete pregnancy history, household composition, wantedness of the sample birth, expectation of additional births, date of first and present marriage, husband's income, family income, mother's education, father's education, and information regarding persons and institutions seen for prenatal care, hospital bill, and doctor bill that was paid for by health insurance. (2) If the attending physician and the hospital where the birth occurred had different addresses on the birth certificate, the physician was mailed a questionnaire to obtain information regarding the mother's pregnancy history, visits for prenatal and postpartum care, complications noted during those visits, whether family planning information was given, and the method of contraception the mother may have decided to use. Also, the hospital was mailed a short questionnaire to obtain the mother's pregnancy history, her admission and discharge dates, duration of labor, type of delivery, type of anesthetic used, complications of pregnancy and labor, underlying medical conditions of the mother, whether a sterilizing operation was performed, whether the mother was given family planning information, the method of contraception she may have decided to use, condition of infant at delivery, congenital malformations of infant, birth injuries to the infant, Apgar scores, infant's condition at discharge, and birthweight. (3) If the attending physician and hospital of birth had the same address, the hospital was sent one longer questionnaire which gathered all the information on both the physician and the short hospital questionnaires. (4) If the place of delivery was not a hospital but a physician was the attendant at birth, only the physician questionnaire was mailed. (5) If the birth did not occur in a hospital and was not attended by a physician, only the mother received a questionnaire.

Nonhospital births (N = 42 of 5,689 in the sample, representing 21,000 births nationally) are not included in this report since the hospital questionnaire was the source of information on postpartum sterilization. Estimates in this report refer to all legitimate live hospital births in the United States in 1972 since the data are weighted by means of a poststratified ratio estimation procedure for race, age, and live-birth order.

Response rates to the mailed questionnaires were 71.5 percent from the mothers, 85.4 percent from the hospitals, and 72.2 percent from the physicians. Unit nonresponse (unreturned questionnaires) was treated the same as item nonresponse (some questions left blank on a returned questionnaire), and these values were imputed from a matrix of values appropriate for each birth according to certain social, demographic, and health characteristics.

RELIABILITY. The probability design of the survey makes possible the calculation of sampling errors. The standard error is a measure of the sampling variation that occurs by chance because only a sample rather than the entire population of births is surveyed. Approximate standard errors for estimated numbers and percentages in this report are shown in tables I and II, and an example is provided on the method by which significance tests may be conducted. Findings discussed in the text are statistically significant at the 0.05 level with two-tailed normal deviate tests.

Table I. APPROXIMATE STANDARD ERRORS FOR ESTIMATED NUMBERS: 1972 NATIONAL NATALITY SURVEY

Size of estimate	Relative standard error in percent	Standard error
3,000	29.2	876
5,000	22.6	1,130
10,000	16.0	1,600
30,000	9.2	2,760
50,000	7.1	3,550
70,000	6.0	4,200
100,000	5.0	5,000
200,000	3.4	6,800
500,000	2.1	10,500
700,000	1.7	11,900
1,000,000	1.3	13,000
2,000,000	0.6	12,000
2,500,000	0.4	10,000

Table II. APPROXIMATE STANDARD ERRORS FOR ESTIMATED PERCENTAGES EXPRESSED IN PERCENTAGE POINTS: 1972 NATIONAL NATALITY SURVEY

Base of percentage	2 or 98	5 or 95	10 or 90	20 or 80	30 or 70	40 or 60	50
3,000	4.1	6.4	8.8	11.7	13.4	14.3	14.6
5,000	3.2	4.9	6.8	9.0	10.4	11.1	11.3
10,000	2.2	3.5	4.8	6.4	7.3	7.8	8.0
30,000	1.3	2.0	2.8	3.7	4.2	4.5	4.6
50,000	1.0	1.6	2.1	2.9	3.3	3.5	3.6
70,000	0.8	1.3	1.8	2.4	2.8	3.0	3.0
100,000	0.7	1.1	1.5	2.0	2.3	2.5	2.5
200,000	0.5	0.8	1.1	1.4	1.6	1.8	1.8
500,000	0.3	0.5	0.7	0.9	1.0	1.1	1.1
700,000	0.3	0.4	0.6	0.8	0.9	0.9	1.0
1,000,000	0.2	0.3	0.5	0.6	0.7	0.8	0.6
2,000,000	0.2	0.2	0.3	0.4	0.5	0.6	0.6
2,500,000	0.1	0.2	0.3	0.4	0.5	0.5	0.5

Example: Suppose that 20 percent of mothers in some category had postpartum sterilizing operations, and the base of that percent is 50,000. The 20 percent column and the 50,000 row indicate that one standard error is 2.9 percentage points, and two standard errors is twice that, or 5.8 percentage points. Therefore, the chances are about 95 out of 100 that this 20.0 percent estimate from the sample differs from the value for the entire population by less than two standard errors, and the percent of mothers in the population who had a postpartum sterilizing operation ranges between 14.2 and 25.8 percent (20.0 percent ± 5.8 percent). This is a 95 percent confidence interval, and when this interval is found not to overlap with another 95 percent confidence interval which has been similarly calculated, it may be said that the difference is statistically significant at the 0.05 level or beyond. Interpolation may be used for percentages and base numbers which do not closely correspond to the table values shown.

DEFINITIONS OF TERMS

Sterilization.—The fact of sterilization is determined from the hospital questionnaire with a single question: "Was any operation performed which will prevent future pregnancies?"

Live-birth order.—Live-birth order is derived from the birth certificate and refers to the total number of children ever born alive to the mother including the sample child born in 1972.

Age.—Age of mother is derived from the birth certificate and refers to the age at last birthday.

Education.—Education of mother is derived from the mother's questionnaire and refers to the highest grade of regular school completed. Trade or business school education is not included.

Previous fetal loss.—The total number of previous fetal losses is the sum of stillbirths ["Have you ever had a stillbirth? (That is, a baby that was born dead)" and "How many have you ever had?"] and miscarriages ["Have you ever had a miscarriage? (Do not include any stillbirth already counted)" and "How many have you ever had?"]. These fetal losses were derived from the mother's questionnaire and do not include induced abortions.

Underlying medical conditions.—Underlying medical conditions existing during this pregnancy (diabetes, varicosity, congenital heart disease, thyroid condition, obesity, anemia, cardiovascular-renal disease, asthma, other chronic pulmonary conditions, orthopedic condition, and other) were obtained from the long or short hospital questionnaire.

Complications of pregnancy.—Complications of this pregnancy (urinary infection, hypertension, toxemia preeclampsia, eclampsia, anemia, rubella, embolism, obesity, and other were obtained from the long or short hospital questionnaire.

Trimester of pregnancy that prenatal care began and number of prenatal visits.—The month of pregnancy prenatal care began and the number of visits the mother had were obtained from the physician and hospital questionnaires. These items do not include prenatal care which may have been received from a physician who was not the attendant at birth or other care received by the mother which was unknown to the reporting hospital or physician. These comments also apply to the "no prenatal care" category in the other maternal health characteristics shown in table 2.

Complications or unusual conditions noted during the first trimester, second trimester, and third trimester, and number of prenatal trimesters mother experienced complications.—These items were obtained from the physician and hospital questionnaires. The question was "Were any complications or unusual conditions noted during the mother's prenatal care period?" If yes, then "List below any complications or unusual conditions which were noted" (according to trimester of visit).

Complications of labor.—Complications of labor (inadequate pelvis, transverse lie, multiple birth, abnormal position of placenta or cord, premature rupture of membranes, unusual bleeding, prolonged labor, anesthesia reaction, and other) were obtained from the long or short hospital questionnaire.

Type of delivery.—Type of delivery (spontaneous, forceps, cesarean section, breech, and other) is from the long or short hospital questionnaire.

Complications of mother's health noted after delivery.—The long and short hospital questionnaires asked "Were any complications to mother's health noted after delivery?"

SYMBOLS

Quantity zero	
Quantity more than 0 but less than 0.05	0.0
Figure does not meet standards of reliability or precision (since it is based on less than 20 sample cases)	*

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