USE OF MATERNAL-CHILD HEALTH SERVICES AND CURRENT USE OF CONTRACEPTION IN NORTHEAST BRAZIL

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INTRODUCTION

In 1965, the Sociedade Civil Bem-Estar Familiar no Brasil (BEMFAM) was created as a private voluntary organization to provide family planning information and services in Brazil. From its inception in 1963 through mid-1973, BEMFAM delivered its services through a network of clinics located primarily in the urban areas of the country (1). In 1973, BEMFAM recognized that this approach to service delivery was not appropriate for reaching the large rural population of Brazil, so it launched the first of its state community-based distribution (CBD) programs in the Northeastern State of Rio Grande do Norte in partnership with the State Health Department (2, 3). In 1975, BEMFAM initiated CBD programs in the States of Pernambuco, Paraiba, Alagoas, and Parana; and in 1979 and 1980 CBD programs were developed in the States of Piaui and Rio de Janeiro, respectively. The community-based family planning services are provided in all municipios and installed in health posts and health centers in those municipios with these facilities. These are the same facilities that provide routine maternal-child health (MCH) care.

In 1980, the Northeast Brazil MCH/FP Survery was carried out in the States of Rio Grande do Norte, Paraiba, Pernambuco, and Bahia (4-7). These States are shown in Figure 1. These surveys were designed to cover a wide range of maternal and child health and family planning topics and to measure program impact in the States where State Health Departments have been operating family planning programs in collaboration with BEMFAM. This report presents the results obtained from the four Northeastern States on current use of contraception, the use of maternal and child health services and vaccination levels of children less than 5 years of age.

SURVEY METHODOLOGY

The 1980 Maternal and Child Health/Family Planning (MCH/FP) Survey in Northeast Brazil was a multi-stage area probability survey with a two-stage selection in each State: the selection of census sectors and selection of households within census sectors. In the first stage, a systematic sample with a random start was utilized to select census sectors with probability proportional to the number of households in each sector. In the second stage, clusters of households in selected census tracts were randomly chosen for interview.

Sampling errors would be different than those expected in a simple random sample because of the selection of clusters of households in the second stage of the survey design (design effect). For the four States, the variable "current use of contraception" for married women has a 95 percent confidence interval of plus or minus 2.4 percent, including the estimated design effect. For each State, the variables "prenatal care" and "immunization levels for polio" have 95 percent confidence intervals ranging from plus or minus 3.2 to 3.5 percent and 1.5 to 2.5 percent, respectively.

The total sample included 12,795 households for all four States. Of these, 8,628 households (67.4 percent) were identified as having or possibly having a woman eligible for interview, and 90.9 percent of the total number of possible respondents, or 7,844 women, had complete interviews (see Table 1). The number of children less than 5 years of age with any information on vaccination status was 8,182.

CONTRACEPTIVE PREVALENCE IN BRAZIL

A summary of the results of surveys carried out in nine States in Brazil are shown in Table 2. There are wide variations in the percentage of married women using contraception. Contraceptive use is highest in the four Southern States with from 62 to 71 percent using contraception and lowest in the Northeastern States of Bahia (31 percent) and Piaui (31 percent). Contraceptive use is higher in the remaining three Northeastern States of Rio Grande do Norte (47 percent), Paraiba (43 percent), and Pernambuco (41 percent) than it is in Piaui or Bahia but lower than in the Southern States. As previously mentioned, at the time of the survey, the States of Rio Grande do Norte, Pernambuco, and Paraiba had community-based contraceptive distribution pro- grams that had been in existence for 4 to 6 years. In Piaui, a program had been initiated only 3 months before the survey was carried out, and in Bahia there is no official family planning program.

The two most important methods of contraception in all but one State are orals and female sterilization, with these methods accounting for at least two-thirds of total use in each State. Use of sterilization is lowest in Bahia with only 9.6 percent of women using this method but varies only in the narrow range of 15.4 to 18.9 percent in the other four Northeastern States. Use of orals was lowest in Piaui and highest in Rio Grande do Sul.

RESULTS

1. Use of Maternal and Child Health Services

Data on use of maternal and child health (MCH) services related to the most recent pregnancy were collected for all women who had had at least one live birth. These data included prenatal care, place of last live birth, type of

delivery, postpartum checkup, and well-baby care. Data on breastfeeding prevalence and duration and infant mortality were also obtained and are the subject of a related report (8).

About half the women received prenatal care during their last pregnancy in each of the four States (Table 3). However, although not shown in the table, there are marked differences between urban and rural places of residence. From 56 to 67 percent of women in urban areas had prenatal care as compared with 30 to 33 percent of women in rural areas. Of the women receiving prenatal care, 43 to 51 percent in Rio Grande do Norte, Paraiba, and Pernambuco went to State and local health facilities, while in Bahia State a greater proportion of women (44.3 percent) had attended insurance-supported Government social welfare clinics (INPS and FUNRURAL). For all four States, however, social welfare clinics are sought as a source of prenatal care almost as extensively as State and local health facilities and only 12 to 15 percent of women go to private physicians. Although only half of women had received prenatal care, most of these received their first checkup during the first trimester of pregnancy (58 to 72 percent). Seven to 13 percent of women did not have their first prenatal visit until at least the third trimester of pregnancy.

The last delivery for the majority of women took place in a medical facility. With the exception of Bahia State, where 45 percent of deliveries occurred at home, about 20 percent of deliveries took place in the home (Table 4). However, as might be expected, when place of residence was controlled, 70 percent of the women in rural areas of Bahia State reported having had their last birth at home. The comparable figures for the other States are 32, 30,

and 40 percent for Rio Grande do Norte, Paraiba, and Pernambuco States, respectively. Ninety-five percent of these deliveries were reported to be attended by a midwife, showing the continued importance of the midwife in rural areas.

As shown in Table 5, postpartum care is the least used MCH service: only 17 to 33 percent of women sought this service, and many of these women may be reporting their hospital discharge exam as a post partum checkup, since from 9 to 26 percent of women reporting a post partum checkup reported their checkup taking place within 1 month of their last child's birth.

With the exception of Rio Grande do Norte (55 percent), only 27 to 40 percent of women took advantage of well baby care services (see Table 6). In some cases, the child was first brought to the clinic because of illness and subsequently introduced to well baby care services. The pattern previously reported by residence is also true here as utilization of well-baby services was much higher for urban children compared with rural children. In addition, the source of well-baby care corresponds closely to the previous table on the source of prenatal care, with State and local health facilities being most used in all four States. In all four States, 51 to 64 percent of infants who obtained child health services made their first visit before the second month of age.

Only 9 to 24 percent of eligible women used all three MCH services. If only one service was obtained, it was generally prenatal care, with the exception of Rio Grande do Norte where well-baby care was the most popular single service. This is consistent with the previous finding that infants from this

particular State are more likely to have received well-baby care than infants from any of the other States. From 55 to 65 percent of women who delivered at home never sought or did not have accessible any MCH services.

2. Vaccination Coverage

The questionnaire used in these surveys included questions on the vaccination status of all children under 5 years of age residing in sample households. Questions were asked on the number of doses of vaccine received against poliomyelitis, diptheria-pertussis-tetanus (DPT), tuberculosis (BCG), and measles vaccine. Only two other countries in the Americas have conducted comparable, nationwide or statewide immunization surveys on this subject--the USA and Panama (9, 10).

Table 7 shows low levels of protection for all four vaccines as measured by the number of doses received. Overall, only 9 to 43 percent of children had received complete primary vaccination for specific diseases. In fact, with the exception of Pernambuco, only 1 out of 9 to 11 children less than 5 years of age had received three doses of polio vaccine. For other vaccines, levels were generally higher in the State of Rio Grande do Norte. Only a minority of children completed the recommended schedule for primary vaccination before reaching 1 year of age. After that age, the percentages increase until 3 years of age and then level off (4-7).

Children living in urban areas are more likely to have been vaccinated than those living in rural areas. But, even in urban areas, complete coverage for polio and DPT vaccines ranged from only 13 to 35 percent and 29 to 39 percent, respectively.

The Ministry of Health conducted a national mass campaign against poliomyelitis in 1980 (11). The campaign consisted of two doses of oral poliomyelitis vaccine given in a 60-day interval: June 14 (monovalant vaccine--Type I) and August 16 (trivalent vaccine), 1980 (11, 12).

Since the survey's interviews occurred from July through September, we had the unique opportunity of evaluating the impact of the mass poliomyelitis vaccination campaign by asking the source of polio vaccine. For three States (Rio Grande do Norte, Paraiba, and Pernambuco), nearly all interviews were completed by the third week of August; therefore, only the first round of the mass campaign was evaluated. In Bahia State, where the survey field work began only in August and 71 percent of the interviews took place after the second dose, we were able to evaluate both rounds of the campaign.

As shown in Table 8, the mass campaign against poliomyelitis had increased the percentage of children having had at least one dose of vaccine by at least 50.5 percentage points, i.e., in the three States at least 91 percent of children had received at least one dose of vaccine following the first dose of the mass campaign. Increases in the percentage of children with at least one dose of vaccine were even higher in rural areas, and the gap in coverage previously seen by residence narrowed considerably. Eighty-five to 92 percent of unvaccinated children received a dose of polio vaccine in the first round with no major differences by residence. In Bahia State, the percentage of children with two or more doses of vaccine increased from 9.0 percent to 83.0 percent with major improvement seen in both urban and rural areas.

CONCLUDING COMMENTS

The analysis of the present data suggests that in Northeast Brazil (at least in Rio Grande do Norte, Paraiba, Pernambuco, and Bahia States), MCH and vaccination services have been reaching a minority of women of childbearing age and children less than 5 years of age. One-third to three-fourths of deliveries in rural areas were home deliveries, most of them attended by a midwife. One approach to improving MCH coverage might be to provide these midwives training and information focusing on the importance of MCH services. The midwives could then could refer women to a medical facility for prenatal, postpartum, and well-baby care as well as advise prospective mothers of the importance of vaccinating their children and tetanus vaccination during pregnancy.

Although MCH coverage is low, it is clear that the proportion of women currently using contraception is consistently greater among those who had any of the MCH services than among those who did not use these health services. The relationship between use of prenatal, postpartum, and well-baby care, and the current use of contraception is presented in Table 9. The margin of difference in each State varies somewhat, but the difference is clear and obvious in each State.

The level of contraceptive use and the contraceptive method used by women varies with place of last birth. Fifty-six percent of women whose last birth was in a private or INPS hospital are using contraception compared with 40 percent of women whose last birth was in a State or municipal hospital, and only 21 percent of women who had home deliveries.

Sterilization is the most prevalent method of contraception for women who delivered their last baby in a hospital. This is especially true for women whose last birth was in private hospitals. Oral contraceptives was the most prevalent method of contraception for women with nonhospital deliveries. For women with home deliveries, only 50 to 60 percent of those contracepting were using the most effective methods, and about one-third were using rhythm or withdrawal. This compares with only 13 to 15 percent of women using contraception who had hospital deliveries utilizing rhythm or withdrawal.

These surveys also represent the first systematic attempt to use probability surveys to evaluate vaccination coverage in Brazil, since the smallpox campaign more than 10 years ago (13).

These results clearly demonstrate poor routine vaccine coverage for children less than 5 years of age in Rio Grande do Norte, Paraíba, Pernambuco, and Bahia States. In addition, there are pronounced residential and income differences for those who had completed a primary series of vaccinations. However, significant improvement in polio vaccination levels was achieved through the mass campaign against poliomyelitis. In fact, since the 1980 campaign, Brazil's Ministry of Health has reported a sharp drop in the number of cases of poliomyelitis (12, 14). By the time of the first round of the mass campaign, for the year of 1980, an average of 186 cases of poliomyelitis had been reported by 4-week periods (ranging from 95-385 cases). Following the mass campaign, only 14 cases were reported in Brazil and in 1981, only 125 cases were con- firmed compared with an annual average of 2,445 cases from 1975 through 1979.

Until primary health services can be upgraded and/or extended to offer routine services at an acceptable level, which may be a longer-term goal, mass campaigns will continue to be necessary. These results support observations made by Sabin on the necessity to continue mass campaigns to erradicate poliomyelitis while primary health care is being improved (15, 16).

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