

# Association of Public Health Nursing Visits With Child Health Conference Attendance

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ATTENDANCE of children registered at child health clinics has been poor despite obvious parental needs. A study conducted by the bureau of maternal and child health of the California State Department of Public Health (1) indicated that approximately 91 percent of the children were described by their mothers as "manifesting behavior causing parental concern." In an effort to determine the cause of poor attendance by families in the survey, the division distributed a questionnaire devised and administered by trained interviewers. The results proved inconclusive, and the investigators were dissatisfied with the questionnaire method.

Public health nurses have suggested that families who are aware of the nature and purpose of a child health conference attend more regularly than others. A review of the literature failed to reveal any studies indicating how this information could be made more widely known, or even from which sources those families who are aware receive their information. The nurses also hypothesized that if they could make prenatal or postnatal visits to discuss the value of well-child supervision, regular attendance at conferences would be greatly increased.

Consequently, a pilot study was designed to determine whether families who fail to keep conference appointments after the first visit are (a) less likely to have received a prenatal visit by a public health nurse, or (b) less likely to

have had a prenatal visit in which well-child care was discussed.

## Method

The "after only" experimental design method of study was used (2), with official records as the source of information. Consideration of the variables inherent in this study resulted in the classification of the dependent variable as attendance at the conference at the appointed time, and the independent variables as (a) time of the public health nurse's visit to the home and (b) purpose of the nurse's prenatal visit.

Other variables which could not be controlled but which may apply included (a) influence of other persons, in or out of the home, on how to care for an infant; (b) limitations imposed by the area covered and time available for this study; (c) educational background of the parents; and (d) possible faults in health department records.

Four nursing districts in Berkeley, Calif., were selected for the survey because of their comparable size, population density, health department caseload, socioeconomic status, and racial composition.

The limitations imposed by such factors as time and personnel necessitated using a small sample for this pilot study. A somewhat larger sample was selected, however, by obtaining data from the health department's nursing records rather than from personal contacts with the families concerned. Only families having a child under 1 year of age (born in 1961) and who had attended at least one child health con-

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ference were selected. Thus, 140 families qualified: group 1, consisting of 94 families who attended conferences regularly, and group 2, 46 families who failed to return after the first visit.

Families were further classed as those who had a nursing visit prior to birth, "PHN visit," and those who had no visit until after birth, "no PHN visit." The contents of PHN visit case records were scrutinized to determine whether the subject of well-child care and the child health conference had been discussed with the parents. If the subject had been discussed, the cases were identified as CHC (child health conference).

### Results

Initial analysis found 60 cases, or 68.83 percent, of group 1 (regular attendance) in the PHN visit category (table 1). Further analysis of PHN visit records revealed that 52, or 87 percent, of families in group 1 had received an explanation of well-child care, but only 7, or 39 percent, of group 2 were in the CHC category (table 2).

As a test of difference concerning the relation of attendance to a PHN visit, the statistical

**Table 1. Attendance at child health conference in relation to prenatal PHN visits**

Group	PHN visits		No PHN visits		Total
	Number	Percent	Number	Percent	
1-----	60	68.83	34	36.17	94
2-----	18	39.17	28	60.86	46
Total---	78	55.70	62	44.30	140

**Table 2. Families having prenatal PHN visits, according to purpose**

Group	CHC		Other	
	Number	Percent	Number	Percent
1-----	52	87.0	8	13.0
2-----	7	39.0	11	61.0

ratio of the difference to its standard error ( $\beta$ ) was used. This resulted in the finding:

$$\frac{\text{Difference}}{\text{SE difference}} = 8.6$$

The table of area of the normal curve does not give the area for a relative deviate as high as 8.6. The probability that this difference could have occurred by chance alone is infinitesimal. This has been interpreted to indicate that the two proportions are significantly different and thus this hypothesis can be tenable.

Further to evaluate the data, the two-sample chi-square test was used ( $\beta$ ). The results of this test demonstrated that

$$\chi_1^2 = 5.7942$$

Referring to the standardized table of probability for the chi-square test, it was found that a value of 5.7942 with one degree of freedom would lie between .025 and .014. The probability of this value in a random sample is also small.

Using the same methods of statistical computation on the second group of data, relating to discussion of the CHC, the finding was

$$\frac{\text{Difference}}{\text{SE difference}} = 2.77$$

The chi-square test:

$$\chi_1^2 = 17.1426, \text{ or greater than } .9995$$

Results of both methods demonstrated that discussions of well-child care have a strong statistical association with attendance at the conference.

Although this information supports the hypotheses, it is interpreted as applying only to the area of Berkeley. This type of study is not to be considered conclusive evidence. It is suggested only as a method of searching for the answer to a question. The results of this small survey are not interpreted as indicating cause and effect relationship.

### Review of Literature

Although the literature available failed to reveal any study of this particular phase of well-child care, many studies show the need for correction of irregular child care. A special survey reported by Douglas and Blomfield in

1958 (4) covered the observation of a group of children in Great Britain from the time of their birth in 1946 through the age of 5 years. A total of 5,386 children were followed, and the primary source of well-child care used at that time was the Welfare Centres. The survey found that 66.2 percent of the mothers used this service during the first year of the child's life, but attendance was frequently irregular. All social classes were included, and all had visits by health nurses.

Boek and associates reported in 1957 on a personal interview survey in New York on maternal and child health as it relates to social class (5). Only 3 percent of the children in the survey had not seen a doctor at all prior to the time of the interview. Health checkups had been received by 84 percent of all the children, but the lower social class fell far below the average with only 60 percent having had this service. Of these, 26 percent had had only one or two such examinations. Also reported was the number of public health nursing visits for prenatal and newborn care. The difference in these two types of visits was considerable: 6 percent received prenatal visits, and 42 percent received newborn visits. No attempt was made to correlate nursing visits with attendance at child health conferences or well-child care.

In 1960, the California State Department of Public Health published a report of the evaluation of child health conferences undertaken in 1954 (1). This survey revealed that 12 percent of the children had received no health examinations, and 9 percent had had only one visit to a child health conference. Only 52 percent of the children had achieved the recommended

number of well-child visits as set by the Academy of Pediatrics. No satisfactory explanation of this failure to obtain adequate well-child care could be stated from the results of this study.

### Summary

Records of families with an infant born in 1961 who attended child health conferences in four districts in Berkeley, Calif., were grouped into those who had public health nursing visits before the birth of the infant and those who did not have such a visit. The first group was further divided into those with whom the subject of well-child care was discussed and others. The visits and discussions were found to have a significant statistical association with regular attendance at the child health conferences.

### REFERENCES

- (1) California State Department of Public Health, Bureau of Maternal and Child Health: Health supervision of young children in California. California State Printing Office, Sacramento, 1960.
- (2) Seltiz, C., Jahoda, M., Deutsch, M., and Cook, S. W.: Research methods in social relations. Henry Holt & Co., New York City, 1959, pp. 108-112.
- (3) Bancroft, H.: Introduction to biostatistics. Paul B. Hoeber, Inc., New York City, 1957, pp. 115-118.
- (4) Douglas, J. W. B., and Blomfield, J. M.: Children under five. George Allen & Unwin, Ltd., London, 1958.
- (5) Boek, W. E., Lawson, E. D., Yankhauer, A., and Sussman, M. B.: Social class maternal and child care. New York State Department of Health, Albany, 1957.

IN AUGUST 1962, 3,865 children in Fairfax County, Va., were inoculated with measles vaccine in a countywide field trial. The mass inoculation was sponsored by the Fairfax County Health Department and the Fairfax County Medical Society. The inoculations, one of vaccine and one of gamma globulin, were given at seven clinics set up in county high schools. One child in five donated one blood sample before the inoculation and another sample 1 month later for comparison of before and after antibody levels. Serologic testing was done by the University of Maryland.



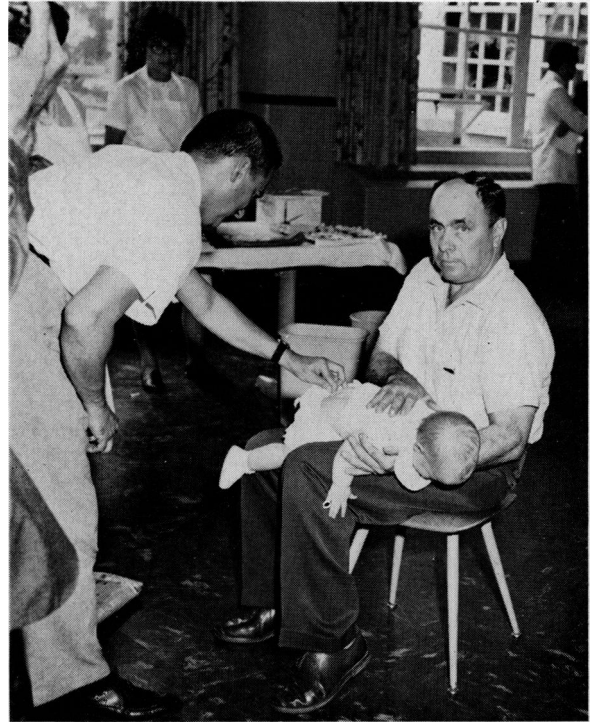
## Field Trial of Measles Vaccine



Nurses prepare the syringes to be used for inoculating Fairfax County children against measles. Seven clinics such as the one shown were set up in high schools to handle the countywide project.



Children wait with their parents to be called in for injections with vaccine and gamma globulin.



The shots were given in the arm for most children, but the younger ones got them in the buttocks.



Balloons sometimes failed to distract the just-vaccinated children from their unhappy experience.



Just slightly the worse for wear, children leave Fairfax High School after receiving their shots.