

A SURVEY OF THE INCIDENCE OF CHILD REARING PRACTICES OF
BOTTLE AND BREAST FEEDING IN A SELECTED COMMUNITY

by

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ABSTRACT

The problem was to determine the incidence of child-rearing practices of bottle and breast feeding in a selected community. The purposes were to discover how many mothers planned to breast feed and how many to bottle feed their infants, whether the mothers carried out their original plan to bottle or breast feed and to ascertain the reasons as expressed by the mothers for either breast or bottle feeding.

The sample consisted of the mothers who delivered their babies at the Bozeman Deaconess Hospital between March 16 and April 16, 1964. The first questionnaire revealed that of the fifty mothers, 23 planned breast feeding, 23 planned bottle feeding and 4 decided to use both bottle and breast feeding. The second questionnaire revealed that of the 48 mothers, 18 were breast feeding, 27 were bottle feeding and 3 mothers were using both bottle and breast feeding at the end of the sixth week after birth of the baby. The majority of the mothers carried out their original plans. Only 10, or 21 percent, of the mothers changed from their original plans.

The predominant reasons for mothers choosing breast were: convenience, naturalness and nutrition. The influencing factors were: personal desire, the influence of the attending physician, and family tradition.

The predominant reasons for mothers choosing bottle feeding were: convenience, nervousness, and physical inability. The influencing factors were: personal desire and the influence of the attending physician.

This survey revealed that more mothers were bottle feeding than were breast feeding six weeks after the baby's birth. The variables that seemed to be associated with this slight decline in breast feeding were age, working outside the home, previous experience with other children, number of previous children and reading of literature.

Older mothers (agewise) and mothers with two other children seemed to have a tendency to breast feed their infants. The mothers who were bottle feeding their babies were slightly younger.

Many cultural factors were bound up in the attitude and feelings of the mother when she decided which method of child-rearing practice, bottle or breast feeding, to use for her infant.

Children are the heirs of tomorrow and the footprints which they follow are the legacy from one generation to another. Ours is the role of helping to improve this legacy.¹

¹The First Twenty-Five Years, (Battle Creek, Michigan:W. K. Kellogg Foundation, 1958), p. 1.

A SURVEY OF THE INCIDENCE OF CHILD REARING PRACTICES OF
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CHAPTER I

INTRODUCTION

Since the beginning of man's struggle for existence, the pre-eminent need for adequate food for his nursing young was probably secondary only to self preservation. From the earliest records the need for breast feeding of the young has been imperative in the struggle of man with his environment. On paintings, sculpture, literature, music, and other art forms, the nursing of infants has been held as a high virtue.

Many well known pediatricians, nutritionists, anthropologists, and others, are aware of the need for a complete food for our babies. They have made various studies concerning this problem, and of the comparative values of bottle and breast feeding among mothers.

While the percentage of bottle feeding is higher in comparison with breast feeding, there is an interesting paradox. Dr. Herman D. Meyer of Chicago says, "While breast feeding is declining generally, it seems to be increasing in the higher income and intellectual levels of the country."²

The statistical incidence of breast and bottle feeding and the needs of the infant as voiced by leading pediatricians indicates there

²Frank H. Richardson, "Breast or Bottle Feeding", Today's Health, 40:66 May, 1962.

is a need for further study to see what the reasons are for the apparent decline of breast feeding and the rise of bottle feeding.

As far as the author could discern, there had not been a study performed regarding the incidence of bottle and breast feeding in the community where the author was residing. It was decided to do such a study.

Statement of the Problem

The problem was to determine the incidence of child rearing practices of bottle and breast feeding in a selected community, which was the area served by the Bozeman Deaconess Hospital.

Purposes of the Study

The purposes of this study were:

1. To discover how many mothers planned to breast feed, and how many planned to bottle feed their infants in a selected community.
2. To discover whether the mothers carried out their original plan to bottle or breast feed.
3. To ascertain the reasons as expressed by the mothers for either breast or bottle feeding.

Hypothesis

The hypothesis for this study was: more mothers are breast feeding than bottle feeding their infants during the first six weeks.

Methodology

This study was conducted by the survey method. The survey usually constitutes a way of obtaining facts and figures about a current

situation. This method attempts usually to describe a condition or to learn the status of something, and whenever possible, to draw from the facts discovered a valid general conclusion.³

The selected community was the area served by Bozeman Deaconess Hospital, Bozeman, Montana. The sample was taken from the mothers who delivered babies at Bozeman Deaconess Hospital between March 16, and April 16, 1964.

The data for this survey was obtained by administration of two questionnaires. (Appendix A pp. 55-56). The first questionnaire was completed by the mothers in the hospital within three days after the birth of their infants. The second questionnaire was mailed to them at the end of the fifth week, to find out what feeding practice they were using by the end of the sixth week following the baby's birth. Permission for administering the questionnaires was granted by the hospital's director of nursing service, the obstetrical nursing supervisor, and the physicians who serve this area and delivered the infants at the hospital.

Fifty-seven mothers were delivered between the dates set for the collection of the sample. Seven mothers were omitted from the data for the following reasons: loss of infant, abnormal infant, illness of mothers (whereby they were removed from the obstetrical floor) and lack of permission from one physician. This left a total of fifty mothers in the sample.

All fifty mothers responded to the first questionnaire. Two

³Tyrus Hillway, Introduction to Research, (Boston:Houghton Mifflin Company, 1956), p. 175.

mothers moved away from the area surveyed, and did not respond to the second questionnaire.

Limitation of the Study

The study was limited to the information the mothers gave on the two questionnaires, the first of which was administered in the Bozeman Deaconess Hospital between March 16 and April 16, 1964, and the second was mailed to the mother's home during the fifth week after delivery of the infant. Major variables considered in the study included: age of the mother, occupation of the mother, education and major field of study of the mother, number of pregnancies, number of previous children, previous experience with bottle and breast feeding, and occupation and education of the father.

Definition of Terms

The definitions of terms as used in this study were as follows:

Breast Feeding: Feeding the infant milk entirely from the breast.

Bottle Feeding: Feeding the infant milk and prepared formula exclusively by bottle.

Both Bottle and Breast Feeding: The mother breast feeds her infant, but also uses some bottle supplementary feeding which is comprised of a prepared milk formula. The bottle feeding is given following the breast feeding or in place of it for some of the feedings.

Multipara: A woman who has born two or more children.

Primipara: A woman who has given birth to her first child.

Justification for the Study

The trend seems toward bottle feeding, and reflects the important

changes in our cultural pattern.

Many leading pediatricians advocate breast feeding as physically and psychologically better for the mother and baby. It is felt by those in the health profession that more positive and direct assistance is needed by the mother and family. The weight of evidence is still heavily in favor of breast feeding, from a nutritional and cultural premise.

When Dr. K. Bain performed a survey in all the states except Idaho, Hawaii, and Alaska in 1956, there were more infants on bottle feeding at the time of leaving the hospital after birth than in his previous study of 1946.⁴ Concerning the 1956 survey, Dr. Herbert Katner said, "Breast feeding has received much lip service from everyone but the baby."⁵ The findings of this survey could serve as a challenge, rather than be a complacently accepted trend. Dr. William O. Robertson found, in his study of 1958, that 44 percent of the mothers in the West (Mountain and Pacific area) were breast feeding their babies, while in the New England area it was 16 percent. The proportion of mothers in the Middle West, South, and mid-Atlantic areas who breast fed their infants, varied between 25 and 32 percent.⁶

From the literature and statistical evidence reviewed, there

⁴K. Bain, "The Incidence of Breast Feeding in Hospitals in United States", Pediatrics, 2:313, 1948.

Herman Frederic Meyer, Infant Foods and Feeding Practices, (Springfield, Illinois, Charles C. Thomas, 1960), p. 43.

⁵Op. cit., p. 47.

⁶William O. Robertson, "Breast Feeding Practices", Briefs, 25:155 November, 1961.

seems to be a relationship between the economic and intellectual levels of the parents, their geographic location, the physiological and psychological condition of the mother, and the incidence of breast or bottle feeding.

As there has not been a study conducted in the author's local community concerning the incidence of bottle and breast feeding practices, as far as the author could ascertain, it was thought there was a need to see how this selected community compared with the general trend over the United States. There was also a need to see how this area compared with other surveys of bottle and breast feeding practices performed in the past in the United States, in relation to geographic areas and intellectual levels. Local physicians, nurses at the Bozeman Deaconess Hospital, the Home Economics Department and Sociology Department at Montana State College expressed interest in this study and possibly further study along similar lines.

CHAPTER II

REVIEW OF LITERATURE

Gibbons, the historian, maintains that one of the dominant causes for the fall of the Roman Empire was that nursing the young became unfashionable.

Through song and story, each generation of mothers and mothers-to-be were urged to breast feed their infants. Today the modern mothers, through medical and lay literature, are reminded that the ancient practice is still an important requirement of successful motherhood.⁷

Dr. Milton I. Levine states, "The general concensus of pediatric opinion is that breast feeding is of an optimum advantage to the infant, both physically and emotionally, and it should be advised in all cases where a mother is physically capable of nursing." However, Dr. Levine feels that the trend today so emphasizes breast feeding, that a woman may be made to feel guilty or inadequate if she decides to bottle feed her infant. He says, "The nursing situation must be without exception of mutual satisfaction. If it is not satisfactory to the mother, it can't be completely satisfactory to the infant. This is a simple fact which must be understood not only by physicians and nurses, but also by the husband, grandparents, friends and relatives."⁸ Although there is a great deal of emphasis for breast feeding, the trend toward actual

⁷Meyer, Op. cit., p. 41.

⁸Christine Spahn Smith, Maternal-Child Nursing, (Philadelphia, W. B. Saunders Company, 1963), p. 177.

breast feeding is not changing in accordance with the emphasis.

Dr. K. Bain's studies of 1946 and 1956 give a picture of the incidence of bottle and breast feedings of infants by geographic localities in the United States. While breast feeding declined in 1956 from the 1946 survey, certain geographical areas did not show so great a decline. Bottle feeding seemed to be on the upswing during the ten year period between 1946 and 1956, and this also varied with certain geographical areas. Table I shows how the rate varied for the two time periods in various parts of the country.⁹

TABLE I

PERCENTAGE OF MOTHERS BREAST FEEDING AND BOTTLE FEEDING THEIR
INFANTS FOR THE YEARS 1946 AND 1956 BY GEOGRAPHIC AREA

	Breast		Breast & Bottle		Bottle	
	1946	1956	1946	1956	1946	1956
United States	38%	21%	27%	16%	35%	63%
North East	23%	12%	16%	9%	61%	79%
East & Central	36%	20%	30%	15%	34%	65%
South East	55%	27%	27%	16%	18%	57%
South West	47%	27%	35%	23%	18%	50%
Mountain & Plains	44%	26%	28%	17%	28%	57%
Pacific	31%	25%	29%	19%	40%	50%

⁹Meyer, Op. cit., p. 43.

Dr. William O. Robertson of Ohio State Children's Hospital in Columbus, in his survey in 1958, found that mothers from the lowest income group and the highest income group tend to breast feed their babies more than those in the middle income group. Of the 1500 mothers who replied to his questionnaire, 24 percent indicated their babies were completely breast fed at one week, and 6 percent reported their infants were breast fed, but received an additional supplemental feeding. Thus, 30 percent of all the babies were either completely or partially breast fed at one week of age. At eight weeks of age only 15 percent continued to receive any breast feeding. He also found that younger mothers did not attempt to breast feed more frequently than older mothers, but that mothers of first children did attempt to breast feed slightly, but significantly, more frequently than did other mothers.¹⁰

A study made by J. D. Call in 1959 showed that half of the 50 primiparas studied and a little more than half of the 54 multiparas chose breast feeding. Less than half of the primiparas succeeded in carrying out their plan to breast feed, while half of the multiparas who chose to breast feed continued. Interviews disclosed that those who dropped breast feeding were more anxious than those who originally chose bottle feeding. However, those who continued to breast feed were more calm and motherly than the others. The differences between the multiparas who succeeded or failed were less.¹¹

¹⁰Robertson, Op. cit., p. 156.

¹¹Smith, Op. cit., p. 178.

Causes of Breast Feeding Failure

According to Dr. Harold Waller and others, breast feeding failure seems to have sociological and physiological causes: worry, maternal unwillingness, loss of milk from no discernible cause, ignorance and mismanagement, separation of mother and child, malformation of the nipple, and the child's refusal or inability to suck. After Dr. Waller and his colleagues investigated each cause of failure, they concluded that failure in breast feeding is due to mismanagement, misinformation, and lack of preparation of the mother.¹²

Although there are many reasons for the decline of breast feeding, Dr. Harold Waller, in his book The Breasts and Breast Feeding, feels that failure to breast feed is often due to an inability to maintain an adequate supply of milk rather than to a true scarcity. He further contends that the inadequate milk supply is due to insufficient drainage of the breast, and various other reasons.¹³

Dr. James Clark Maloney from his studies in the United States and among other ethnological groups (as an example, Yoruba), feels that the fall in the incidence of breast feeding is one of the results of the power of a social environment to enforce certain responses. Faulty adaptations to the changing social conditions is, in a great part, responsible for failing lactation.¹⁴

¹²Smith, Op. cit., pp. 184-185.

¹³Harold Waller, The Breasts and Breast Feeding, (London: Heinemann, Medical Books, L.T.D., 1957), pp. 48-49.

¹⁴James Clark Maloney, "The Ethnological and Medical Significance of Breast Feeding", Child-Family Digest, 16:87-92 May-June, 1957.

Such faulty adaptations to the changing social conditions might include: stresses from our way of life (physically and psychologically), more mothers working outside the home, and the mother's own inhibitions and personal attitudes. Personal attitudes of the mother may be influenced by fear of loss of figure, objection of the husband, desire for freedom, and influence of the hospital personnel.

Dr. Waller and many others in the field of obstetrics and pediatrics are urging the safeguarding of breast feeding by preparation and advice during pregnancy and in early postpartum.¹⁵

Advantages for Bottle and Breast Feeding

What are the reasons for bottle and breast feeding according to medical and lay literature? According to Woodward and others, the following reasons are given.

The reasons indicated for bottle feeding are convenience, physical health of the mother, nervousness, personal feelings of the mother, modesty, fears of obesity, fear of being tied down, breast abscesses, and lack of milk. Working mother and premature infant are also indicated as reasons.¹⁶

Breast feeding is advocated because the mother's milk is still considered the most balanced food for the infant. It is said to be clean, fresh, and sterile. It is convenient and natural for the baby and mother.

¹⁵Meyer, Op. cit., p. 6.

¹⁶Henry L. Woodward, M.D. and Bernice Gardner, R.N., Obstetric Management and Nursing, (Philadelphia:F. A. Davis Company, 1959), pp.323-24.

Florence G. Blake and F. Howell Wright, Essentials of Pediatric Nursing, (Philadelphia:J. B. Lippincott Company, 1963), pp. 181-92.

Infants on breast milk feedings have a higher resistance to intestinal disorders, respiratory and middle ear infections and skin conditions. These are partly due to passive immunity given to the baby through the mother's milk.¹⁷ There is a more intimate relationship between the mother and the baby, which influences later development of the child. Nursing helps the uterus to contract, and the mother to return to a normal physical and psychological state more rapidly, and is of mutual pleasure to mother and baby.

Disadvantages of Bottle and Breast Feeding

A survey of both types of literature, medical and lay, gives the following reasons against bottle and breast feeding.

The reasons against bottle feeding are inconvenience, less chance of sterility of milk, deprivation of maternal-child relationship, and less likelihood of the uterus contracting as quickly. Thus, the mother does not go back to normal physical and psychological health as rapidly. Formula from bottle feeding can cause the infant to develop skin conditions, eczema, less passive immunity to infections, and less resistance to intestinal, respiratory and middle ear infections. The danger of the infant choking during feeding is greater with bottle feeding.¹⁸

Reasons against breast feeding are: cracked nipples, abscessed breasts, personal reasons of the mother, emotional factors, attitudes of friends and family that discourage breast feeding, inadequate education concerning breast feeding, nervousness, previous unsuccessful experience

¹⁷Ibid.

¹⁸Ibid.

of breast feeding, loss of freedom, and influence of hospital personnel.¹⁹

Both medical and lay literature lean toward breast feeding, but, as has been stated earlier, in their concepts if a mother does not want to breast feed then it would be unfair to create in her a feeling of inadequacy as a mother. With modern formulas and sanitation, bottle feeding can be, and is, successful for many mothers and babies.

Whether a mother chooses breast, bottle, or both breast and bottle, her decision is bound to be partly determined by her own deep-seated attitudes and feelings about herself.

From data collected in the various surveys, breast feeding is found to be increasing among mothers of higher economic and intellectual levels, lower income levels, and in certain geographic areas. The present picture seems to indicate that bottle feeding still has a higher incidence in the United States as a whole, even though breast feeding is being emphasized considerably by leading pediatricians, nutritionists, anthropologists, and other leading authorities in child rearing practices.

¹⁹Ibid.

CHAPTER III

ANALYSIS OF THE DATA

QUESTIONNAIRE I. The first questionnaire was administered to the mothers in the hospital within three days of the delivery of the infant. A copy of the first questionnaire is included in the Appendix A, page 55. This questionnaire was handed to the mothers by the author, who stated the reason for the survey, and explained to them that permission had been granted by their physicians. Then they were left alone to fill out the questionnaire. Only if there was some misunderstanding concerning interpretation of the questionnaire was any assistance given, otherwise they were free and alone to answer the questions.

The following is an analysis of each of the questions as they were answered:

Question No. 1 Ages of the Mothers

The mothers' ages ranged from 15 to 37. The largest number of mothers were in the two ranges, from ages 20 to 24 and 25 to 29. The mean age was 24, the median age was 24. This was calculated from the following group data:

<u>Five Year Age Range</u>	<u>Number</u>	<u>Percent</u>
15 to 19	5	10
20 to 24	21	42
25 to 29	16	32
30 to 34	7	14
35 to 39	1	2

Figure 1, page 15, shows the distribution of ages from the sample of 50 mothers.

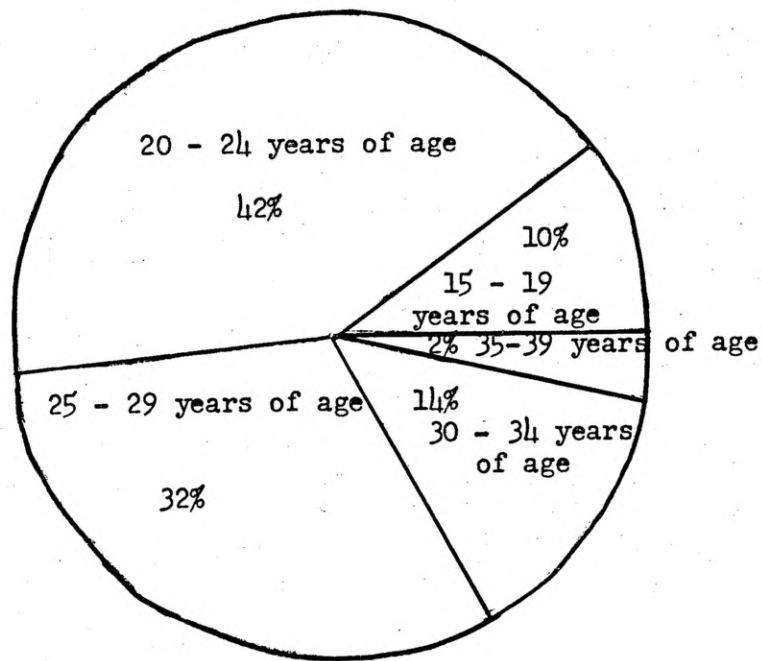


Figure 1

Distribution of Ages of the Mothers Who Delivered Babies at
Bozeman Deaconess Hospital March 16 to April 16, 1964

Question No. 2 The Husbands' Occupations

The classification of each individual husband according to the questionnaires is shown below:

1 agronomist	1 architect
1 cook	1 asst. manager of food store
4 teachers	1 warehouse man
10 students	2 physicians (M.D.)
1 service station manager	1 pharmacist and manager of drug store
3 ranchers	2 college professors
1 carpenter	1 electrical repairman
2 laborers	1 truck driver
1 packer	1 night marshall
1 program director of radio station	1 plumber
2 farmers	1 office manager
1 forester	1 lab. technician
1 attorney	1 dist. sales manager
2 jockeys	1 insurance and real estate agent
1 ranch hand	1 manager of a tavern
1 parts manager	1 electrician
1 manager of theater	

There was an interesting and diverse variation in the occupations of the husbands. Two husbands had two occupations. One husband was a rancher and also a student in college. Another husband was a cook and also a student in college. His wife worked as his assistant. The types of occupations would indicate that the income bracket of the husbands would be predominately middle class. The husbands' occupations were grouped according to the United States Census occupational classification. This grouping is shown below:

- 17 professional, technical and kindred
- 5 farmers
- 6 office managers and proprietors
- 1 salesworker
- 1 craftsman and foreman
- 1 operator
- 7 service workers
- 1 farm laborer and foreman
- 3 laborers
- 10 students (college)

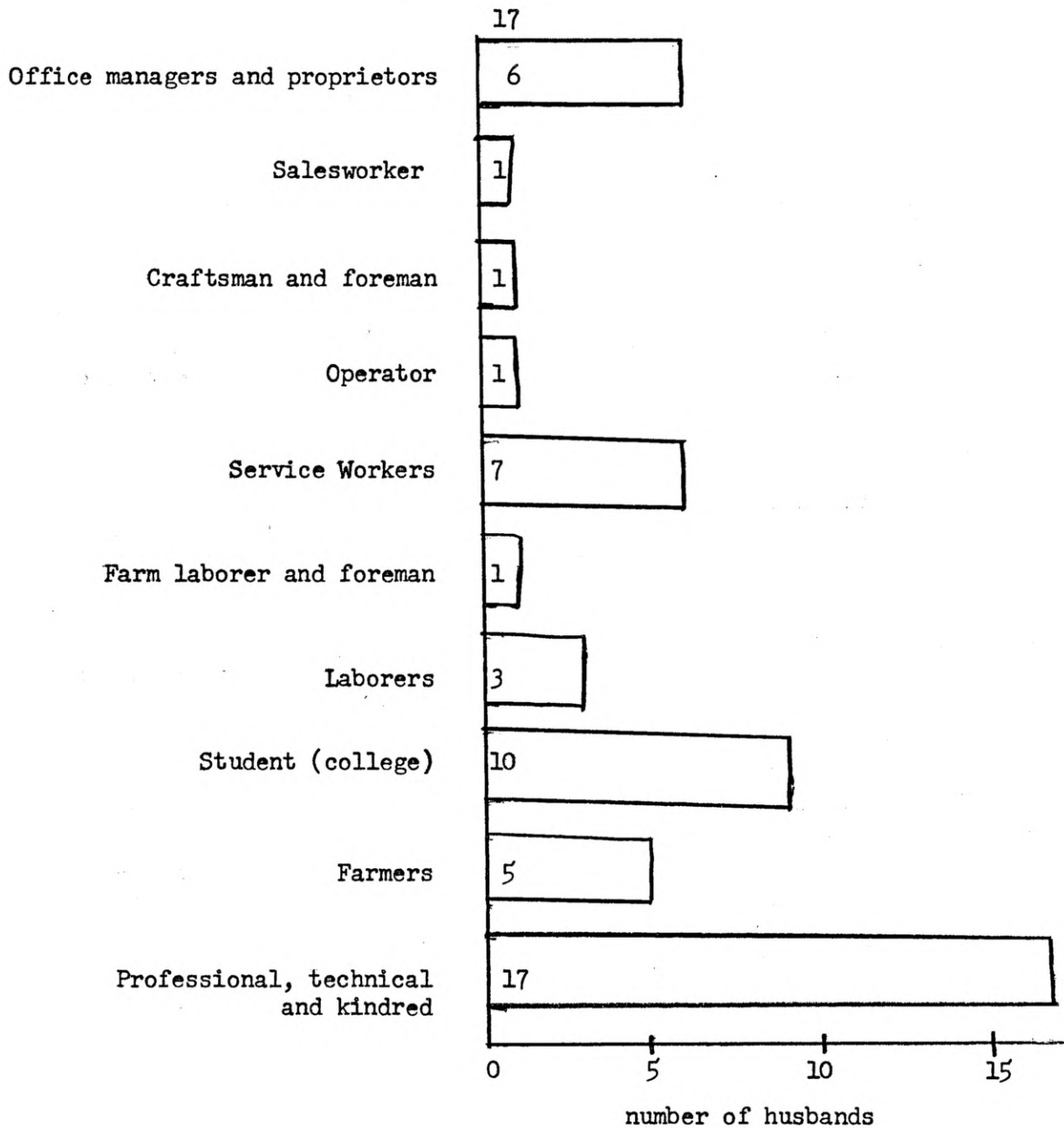


Figure 2

Occupation of Husbands of Mothers Who Delivered Babies in the Bozeman
Deaconess Hospital March 16 to April 16, 1964 According to the
United States Census Occupational Classification

²⁰United States Bureau of the Census, United States Census of Population: 1960, PC (2) -7A:9-10, 1963.

The husbands who were jockeys were classified with the 'professional, technical and kindred', as no other classification applied to them.

Figure 2 shows the occupations by groups.

Question No. 3 Occupation of the Mother

The classification of occupations performed outside the home is shown below for each individual mother:

17 "none"	1 sales clerk
6 homemakers	4 students
1 copywriter (Radio and Television Program)	1 typist
1 secretary	1 banker
2 nurses	1 caterer
1 dance instructor	3 teachers
2 waitresses	1 bank teller
1 legal secretary	1 stenographer
1 cook's assistant	1 dental assistant
3 did not fill in the blank	1 telephone operator

This information revealed many varied and interesting professions, which were grouped according to the United States Census²¹ and are shown below and also on Figure 3, page 19. The author placed the 6 homemakers, the 17 who answered "none", and the 3 who did not fill in the blank into a classification designated "homemaker".

- 8 professional, technical and kindred workers
- 1 sales worker
- 6 clerical and kindred workers
- 5 service workers
- 4 students (college and high school)
- 26 homemakers

Question No. 4 Future Plans for Work

There were seven mothers who stated they planned to work outside the home after the delivery of their infant. This represented 14 percent

²¹United States Bureau of the Census, Op. cit.

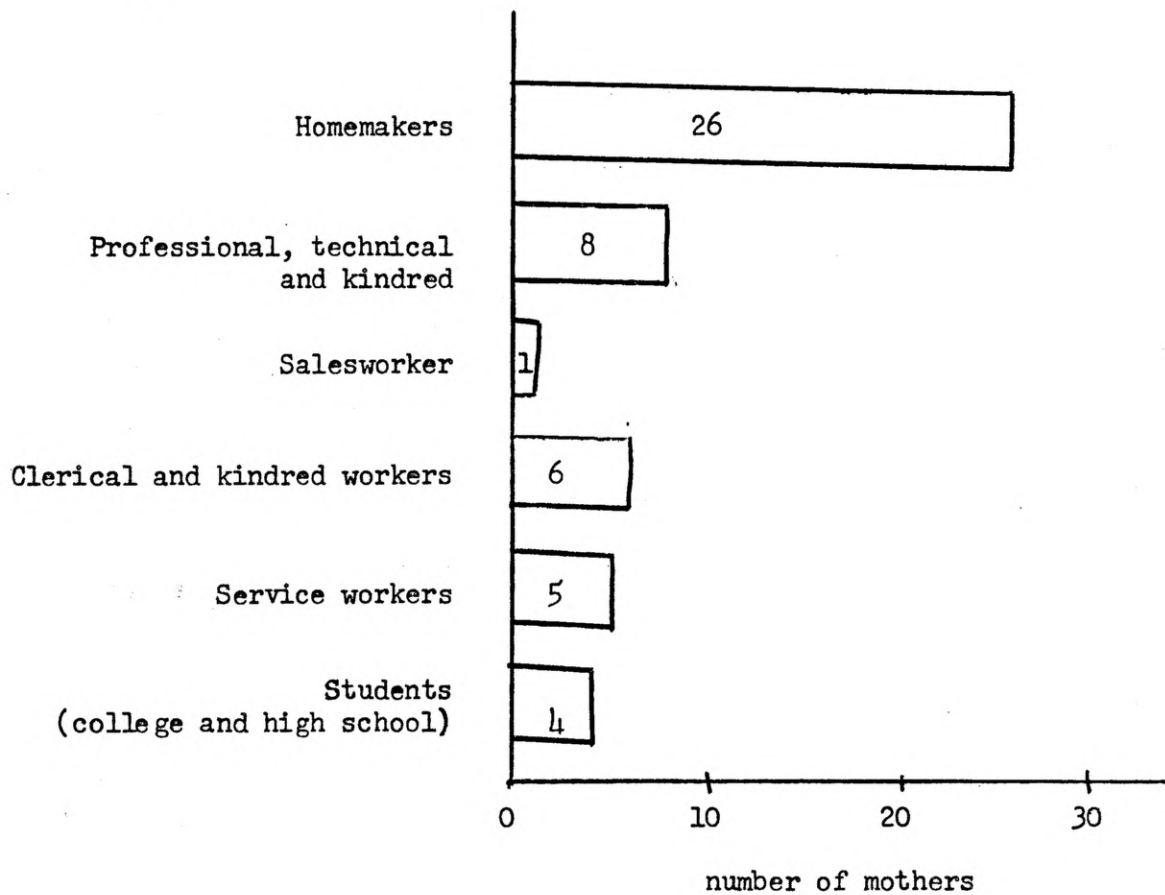


Figure 3

Wife's Occupation Before Baby's Birth Using the
United States Census Occupational Classification

of the sample. Eighty-six percent of the mothers did not plan to work outside of the home in the near future.

Question No. 5 Education of the Husbands

The educational levels of the husbands of the 50 mothers are shown below.

- 5 grade school
- 1 3 years of high school
- 12 high school
- 1 3 years of trade school
- 31 college
 - 1 one year
 - 5 two years
 - 6 three years
 - 1 three and one-half years
 - 4 four years
 - 5 five years
 - 4 seven years
 - 1 seven and one-half years
 - 1 eight years
 - 3 nine years

One husband, who had grade school education, planned on taking high school by correspondence. The husbands were predominately in the higher educational level as only 18 of the 50 fathers were of grade and high school level. One husband had had 3 years of trade school after high school. Figure 4, page 21, shows the educational levels graphically. The median education was three years of schooling beyond high school.

Question No. 6 The Education of the Mothers

The educational levels of the 50 mothers are shown below:

- 3 grade school
- 2 two years of high school
- 19 high school (1 also attended School of Dance)
- 26 college
 - 3 one quarter
 - 2 two quarters
 - 4 one year

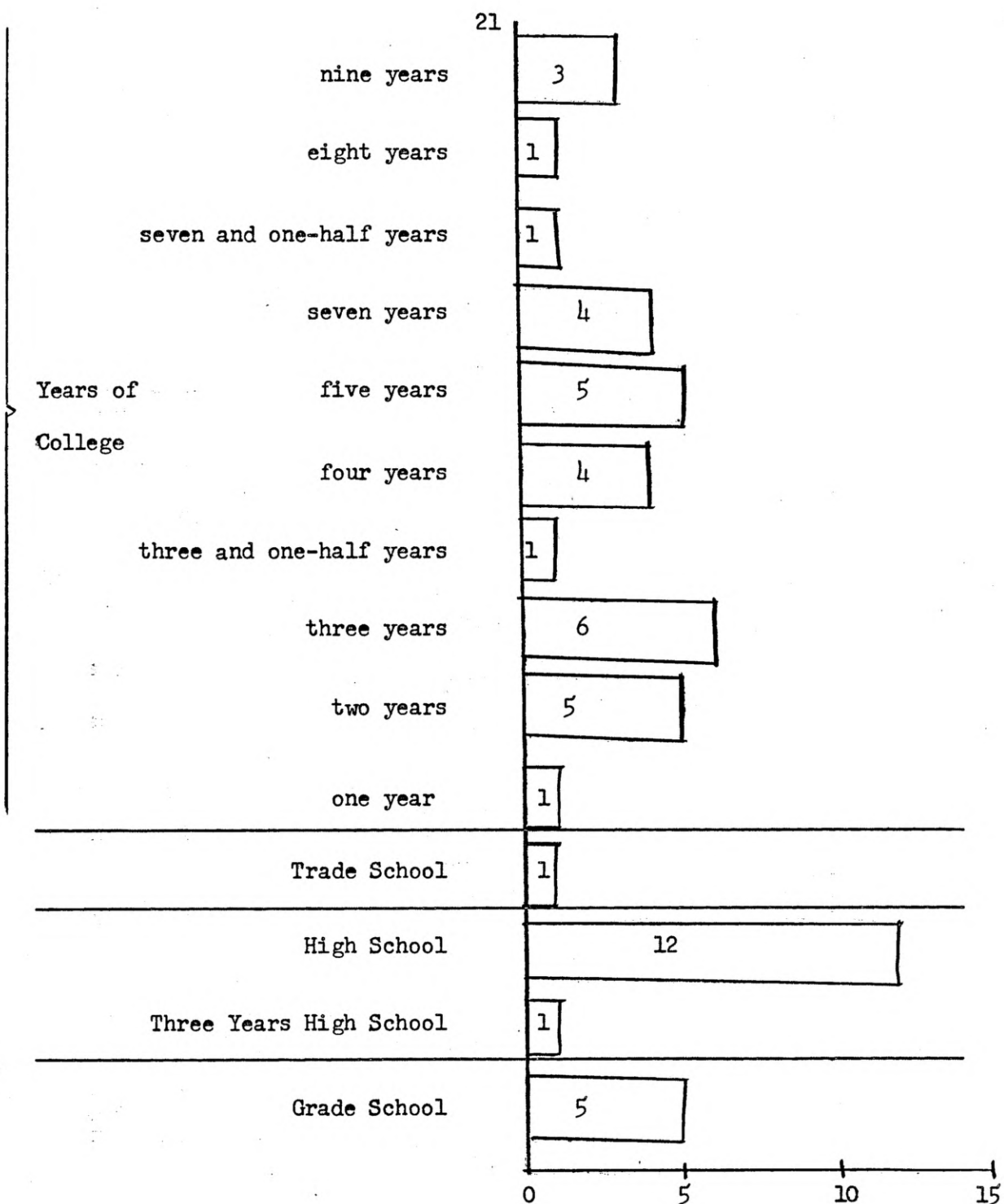


Figure 4

Educational Level of Husbands of the Mothers at Time of Babies' Births,
March 16 to April 16, 1964

- 1 one and one-half years
- 3 two years
- 1 two and one-half years
- 2 three years
- 6 four years
- 1 four and one-half years
- 2 five years
- 1 seven and one-half years

One of the mothers, who had not completed high school, planned to finish by correspondence. Incidentally, this mother and the father, who planned to finish high school by correspondence, were husband and wife. Figure 5, page 23, presents the educational levels graphically. The median education was one quarter of college. Possible reasons for discontinuance of education might have been that the mother did not wish further education, or her education may have been interrupted by marriage and raising a family, or working to help further educate her husband.

Question No. 7 The Major Fields of Study of Mothers Who Attended College

The mothers who had attended college were asked to give their field of study. Below are the answers:

- | | |
|--------------------------------|----------------------------|
| 7 nursing | 1 pre-nursing, secretarial |
| 1 secretarial commercial | 1 physical education |
| 1 radio, television and speech | 1 elementary education |
| 1 interior decorating | 1 education |
| 1 economics and education | 2 art |
| 1 general | 1 commercial |
| 1 European history | 1 social science and |
| 1 school of dance | elementary education |
| 1 accounting | 1 social science |
| 1 speech hearing therapy | 1 legal secretary |

There were two dominant groups of mothers, 7 in the field of nursing and 8 in the field of education.

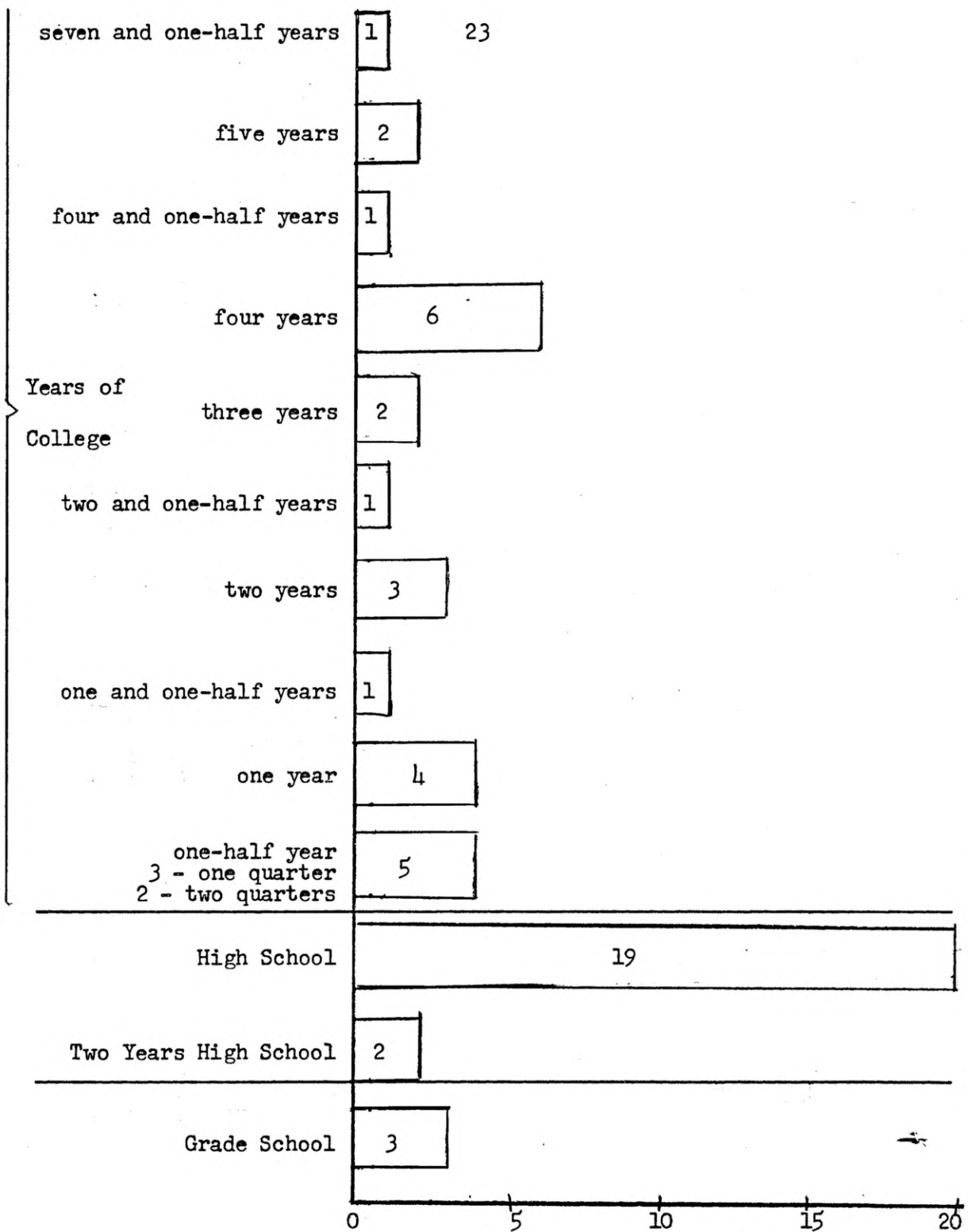


Figure 5

Educational Level of Mothers at Time of Babies' Birth,
March 16 to April 16, 1964

Question No. 8 Mothers With First Live Baby

Twenty mothers, or 40 percent of the sample, delivered their first live baby during this survey.

Question No. 9 Previous Live Births

Thirty mothers had had at least one previous live birth. This represents 60 percent of the total mothers.

12 families had 1 child
11 families had 2 children
7 families had 3 children

Question No. 10 Method of Feeding Previous Babies

With their previous babies, there were 9 mothers who had bottle fed, 7 mothers who had breast fed, and 14 mothers who had used both bottle and breast feeding.

Question No. 11 Plans to Feed the Present Baby

Twenty-three mothers, or 46 percent, planned to bottle feed, the same percentage of the mothers planned to breast feed, and 4 mothers, or 8 percent, planned to both bottle and breast feed their infants. The entire sample (50 mothers) gave this information within three days following the birth of the infant.

Question No. 12 Breast Feeding Plans

The mothers were asked how long they planned to continue breast feeding. The time ranged from 1 to 9 months. The largest number of mothers (10) planned to continue breast feeding "as long as possible". The next largest number (6) gave these answers, "I don't know", "until weaning", and "about nine months".

Question No. 13 Reasons for Choice of Feeding

In reference to Question No. 11, there were 4 mothers, or 8 percent of the total sample, who chose to use both bottle and breast feeding. The reasons they gave were, "this plan aided the first baby who had allergies", "helps the mother physically and emotionally", "gives a closer relationship between the mother and baby", "is natural and nourishing", "convenient", and "breast milk is more nutritious".

Twenty-three mothers, or 46 percent, chose breast feeding for their babies, and the reasons they gave for their choices were "personal desire", "convenience", "easier to travel", "cheaper", "no leaky clogged bottles", "gave the baby a better chance in life", "immunities received from the mother", "seems the natural way", "better physically and emotionally for the mother and baby, as well as giving a closeness between the two". Some had read various articles and their older children and husbands expected them to breast feed. Some gave the reason they had breast fed previous children with good results, while one mother said that this was the last baby she planned to have and wanted to know what it was like to breast feed her baby.

The 23 mothers, or 46 percent, who chose bottle feeding as their method gave the following reasons for their choices: "convenience", "freedom", "busy with other children", "was not successful with previous breast feeding", "nervousness", "working", "less tiring", "lack of milk", "personal desire", "inverted nipples", "surgery", "attending school", "diabetic", "husband and others can help feed infant", "less tension", and "eczema on breast". One mother gave a birthmark on her breast as a reason for her choice of bottle feeding.

The reasons that the mothers gave for their choice of feeding the infant are similar to the reasons for choice of bottle and breast feeding reviewed in both medical and lay literature. However, their choice of feeding practices was also influenced by individuals and literature.

Question No. 14 Who Had Influenced Choice

Mothers who chose breast feeding or a combination of breast and bottle feeding indicated who influenced their choice of feeding as follows: "doctor", "husband", "friends who had been successful at breast feeding", "literature" and "no one". One mother had taught obstetrical nursing. The predominant answer was "mother's personal desire". Mothers who chose bottle feeding said: "husband", "doctor", "friends", "relatives", "personal desire", or "no one" influenced their decisions. The predominant answer was that the mother herself made the decision and it was her personal desire.

In answer to Question 14, the following were the predominant answers given by the mothers, as to who influenced their choice of feeding: personal desire -- 18; physician -- 9; family tradition -- 1.

Question No. 15 What Had Influenced Choice

The wording of Question 15 led to a great deal of overlap with Question 14 because of the mothers' interpretations of the questions. Concerning what had influenced their choice, the 4 mothers who chose both bottle and breast gave these answers: "doctor", "prenatal classes", "personal choice", "had used both methods previously with other babies". There were no predominant answers.

The mothers who chose breast feeding gave these reasons: "an

experience everyone should have", "more convenient", "better for the baby", "cheaper", "background in the family of breast feeding their babies", "experience of others who had used both bottle and breast feeding", "literature", "the doctor", and "husband's desire". Several mothers had tried both methods before.

The predominant reasons were: "convenience", "natural way", "better for baby", "personal desire", "background in the family of breast feeding babies", and "the doctor".

Mothers who chose bottle feeding gave the following reasons: "the doctor", "surgery", "nerves", "class schedule", "literature", "eczema", "premature birth of the baby", "bottle is better for the baby", "bottle feeding was more successful with previous babies", "convenience", "personal desire", "can share baby easier with husband and grandparents", "modesty", "safer", "working", "physically unable", and "nothing".

The predominant reasons given were: "convenience", "doctor", "nerves", "personal desire", and "physically unable to nurse the baby".

In answer to Question 15, the following were the predominant answers given by the mothers as to what influenced their choice of feeding: personal desire -- 8; physician -- 5; family tradition -- 2.

QUESTIONNAIRE II. The second questionnaire was mailed to the 50 mothers (entire sample) at the end of the fifth week following the delivery of the infant to find out what method of feeding they were using by the end of the sixth week period. The mothers had not been told by the author that they would receive a second questionnaire. Two mothers had moved away, leaving 48 mothers who responded to the second questionnaire.

Question No. 1 Future Plans to Work

Four mothers, or 8 percent of the 48 mothers, planned to work outside of the home, while 44 mothers, or 92 percent, did not plan to work outside of the home in the near future. Apparently some of the mothers who had planned originally to work outside the home changed their minds. No reasons were given for the change. See Figure 6, page 29.

Question No. 2 Plans for the Method of Feeding the Baby

Several changes occurred in the method of feeding from the first questionnaire which was answered within three days of delivery. At the end of the sixth week 27 mothers, or 56 percent, were bottle feeding, 18 mothers, or 38 percent, were breast feeding, while 3 mothers, or 6 percent, were using both bottle and breast feeding. Figure 7, page 30, illustrates a comparison of the method of feeding between the answers on Questionnaire I and those on Questionnaire II. It must be remembered that there were 50 mothers who answered Questionnaire I and 48 mothers who answered Questionnaire II. While the percentage of bottle and breast feeding was equal on the first questionnaire, there was an 18 percent difference in the second questionnaire. There was an 8 percent drop in breast feeding, a 2 percent drop in combined bottle and breast feeding, and a 10 percent increase in bottle feeding.

According to past surveys in the United States, this follows along with the statistical trend, in that there was a drop in breast feeding after the sixth week of birth. Robertson's survey in 1958 showed that only 15 percent of infants received any breast feeding by the eighth

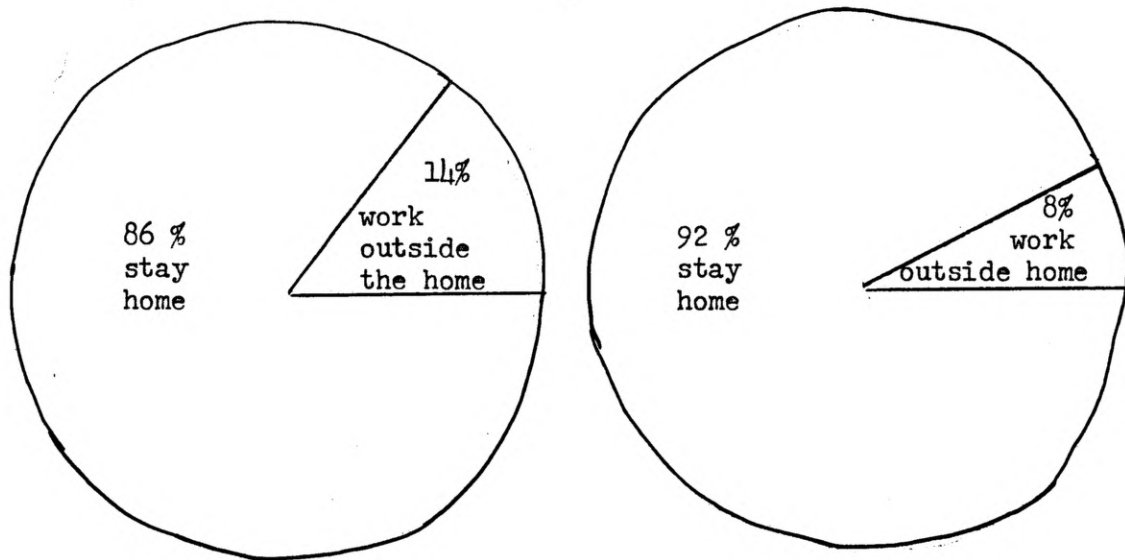
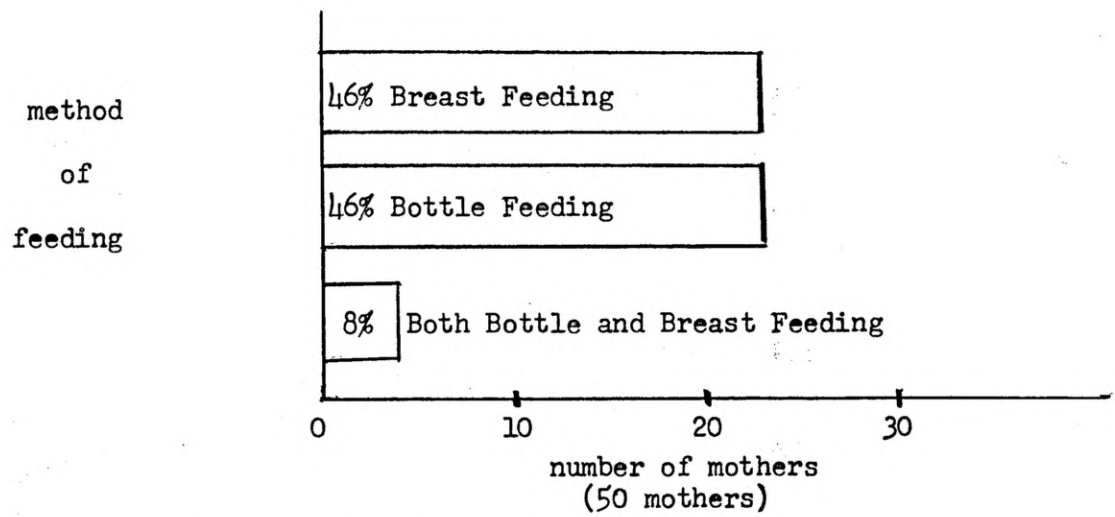


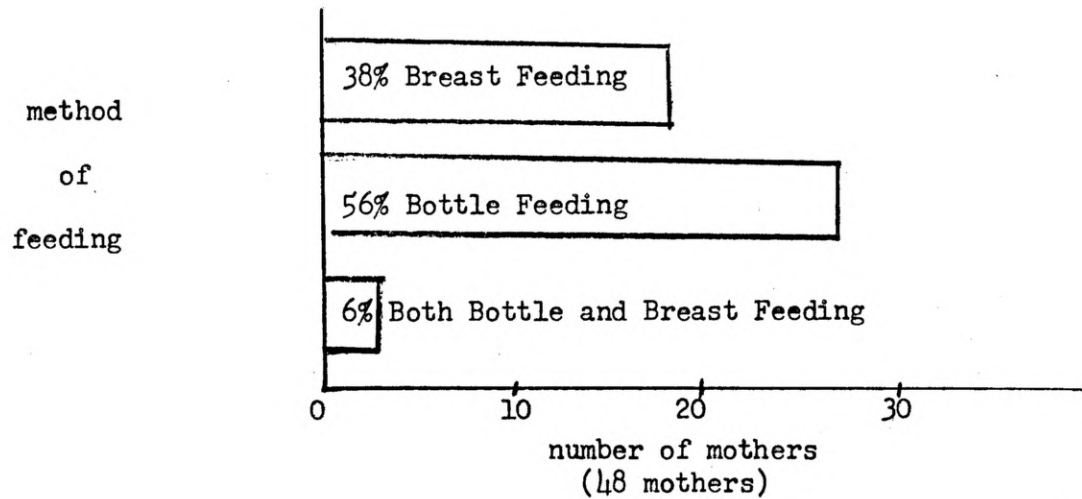
Figure 6

Comparison of the Proportion of Mothers Who Planned to Work Outside the Home and Those Who Planned to Stay at Home as Indicated at Two Time Intervals by Mothers Who Delivered Babies in Bozeman Deaconess Hospital, March 16 to April 16, 1964

30



Questionnaire I (1-3 days after birth of baby)



Questionnaire II (six weeks after birth of baby)

Figure 7

Comparison of Mothers' Responses at Two Time Intervals Regarding
Choice of Feeding Method for Their Babies

week.²² The author's survey showed a greater incidence in breast feeding in the area studied, than found in Robertson's survey, which showed that 44 percent of the mothers were breast feeding at the end of the sixth week. The findings of this study are comparable to Robertson's study of the Mountain and Pacific geographic areas.

Question No. 3 Plans to Continue Feeding

The 21 mothers who planned to continue breast feeding, and both bottle and breast feeding, indicated different lengths of time ranging from one to nine months. Some mothers stated they planned to continue until weaning, or as long as possible. The highest percentage of mothers said, "as long as possible". The next highest answers ranged from "three to four months". The following shows the plans as stated by the 21 mothers:

<u>Months to continue breast feeding</u>	<u>Number of months</u>	<u>Percent</u>
1-2	1	4.75
2-3	1	4.75
3-4	4	19.0
5-6	1	4.75
6-7	3	14.3
7-8	2	9.5
7-9	1	4.75
8-	1	4.75
until weaning	2	9.5
"long as possible"	5	23.8

Dr. Herman Meyer feels that babies should be nursed until the fifth month if possible, as he contends that breast milk is better than milk formulas or milk preparations. After this time milk preparations are

²²Robertson, Op. cit., p. 156.

adequate.²³ The weaning process may be sudden or gradual. The majority of physicians urge the latter as this method gives the mother and child an opportunity to adjust to the change.

Question No. 4 Feeding Choice and Reasons

The answers for the mothers' choice of bottle feeding or breast feeding coincided with the answers on the first questionnaire with these exceptions: one mother, who stated that she had a birthmark on her breast, indicated on the second questionnaire that she had a breast tumor (her physician had advised against breast feeding which might stimulate the growth of the tumor; another mother, who was a registered nurse, was influenced through her reading of literature about the theory of sudden death from milk allergies (bottle formula), and therefore chose breast feeding.

Several interesting factors were revealed in the second questionnaire. Two mothers, who were bottle and breast feeding, found they had plenty of milk and switched to breast entirely. By the sixth week 1 mother, who was bottle and breast feeding, switched to bottle feeding because of insufficient breast milk. Two mothers, who had been breast feeding, switched to breast and bottle. Five mothers who had been breast feeding, switched to bottle feeding. The reasons given for these changes were: "insufficient milk", "colic", "freedom", "flu", and a breast abscess. Six weeks after their babies' birth, 3 mothers were feeding with both bottle and breast, 18 mothers were feeding by breast, and 27 mothers were feeding by bottle.

²³Beverly Bush Smith, "Weaning the Breast-Fed Baby", Today's Health, 40:26, July, 1962.

The findings of this study resemble those of J. D. Call's study in 1959. Nine primiparas chose breast feeding, which is almost half of the total 20 primiparas; 14 multiparas chose breast feeding, which is almost half of the total 30 multiparas. Figure 8, page 34, shows this comparison between those primiparas and multiparas who attempted to breast feed, bottle feed or both breast and bottle feed and those who were successful. At the end of the 6 weeks period, 8 primiparas and 10 multiparas were breast feeding.

Question No. 5 Who Had Influenced Choice

Statements concerning who had influenced the methods of feeding coincided with the previous questionnaire with the exception that more mothers stated that their doctor had advised a change, or the choice was due to the physical condition of the mother, and/or insufficient milk.

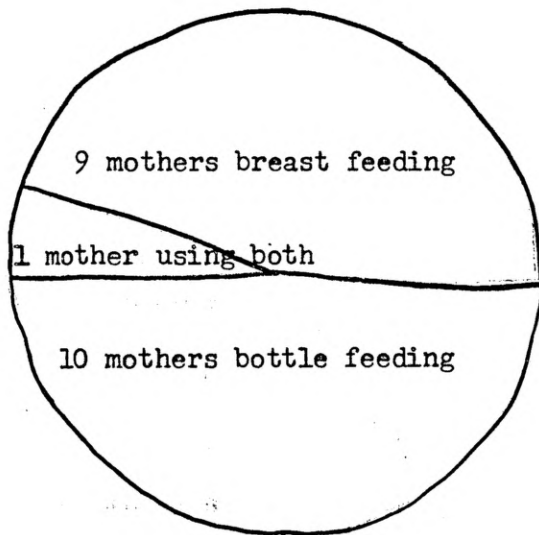
Question No. 6 What Had Influenced Choice

Statements concerning what had influenced the method of feeding again coincided with the first questionnaire with the exception that more mothers stated that literature, friends, and a public health nurse affected their choice of breast feeding.

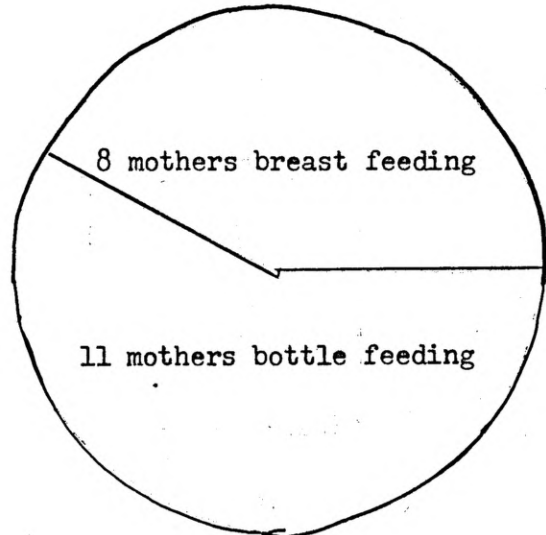
Analysis of the Variables

Age of the Mothers

Table II, page 35, illustrates the ages of the mothers in relation to choice of bottle, breast or both bottle and breast feeding. Twenty-three mothers chose breast feeding and 23 mothers chose bottle feeding. Four mothers chose both bottle and breast feeding for their infants. At the sixth week there were 48 mothers in the sample. The 2 mothers who moved

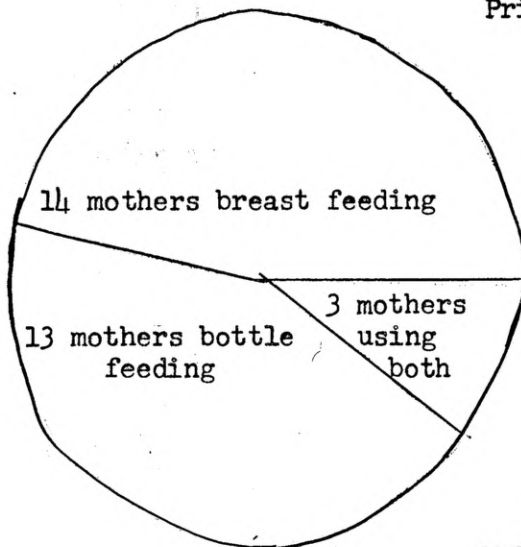


Questionnaire I
(sample - 20)

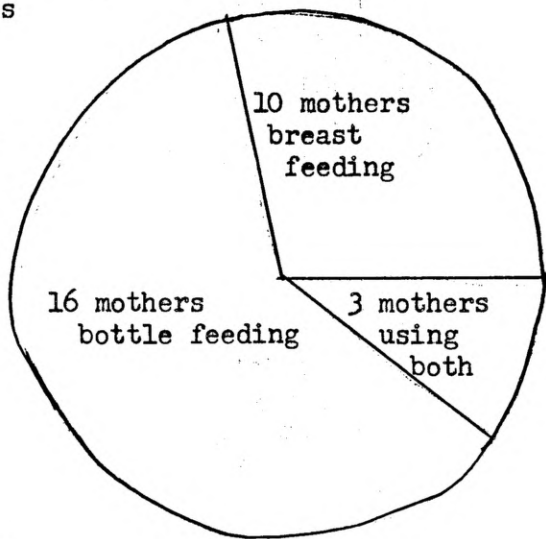


Questionnaire II
(sample - 19)

Primiparas



Questionnaire I
(sample - 30)



Questionnaire II
(sample - 29)

Multiparas

Figure 8

Comparison of Primiparas and Multiparas Who Planned to Breast, Bottle
or Bottle and Breast Feed Their Babies in Regard to Success
During the First Six Weeks

TABLE II

AGES OF THE MOTHERS IN RELATION TO THEIR CHOICE OF
BOTTLE, BREAST, OR BOTH BOTTLE AND BREAST FEEDING
AT TIME OF BABIES' BIRTH AND AT 6 WEEKS

Age	Questionnaire I			Questionnaire II		
	Bottle	Breast	Both	Bottle	Breast	Both
15	1			1		
16		1			1	
17		1			1	
18	2			1		
19						
20	5	3	1	8	1	
21						
22	1	1		1	1	
23	5	1		4	1	
24	1	2	1	1	3	
25	2	4	1	4	3	
26	3			3		
27	1	1		1	1	
28	1			1		
29		3			2	1
30		1	1		1	1
32	1	3		2	2	
34		1				1
37		1			1	
Totals	23	23	4	27	18	3

away were bottle feeding at the time of the first questionnaire. At the sixth week period there were 27 mothers bottle feeding, 18 mothers breast feeding, and 3 mothers using both bottle and breast feeding.

From the first questionnaire, the age range of the mothers selecting bottle feeding was 18 years. Their median age was 23 years, the mean age was 22 years, and the modes were 20 years and 23 years. On breast feeding, the range was 22 years, the median age was 25 years, the mean age was 26 years, and the mode was 25 years. As the number of mothers who chose both bottle and breast feeding was so small, this was not statistically analyzed.

From the second questionnaire, for bottle feeding the age range was 18 years, the median age was 23 years, the mean age was 22 years, and the mode was 20 years. On breast feeding, the age range was 22 years, the median age was 25 years, the mean age was 25 years, and the modes were 24 years and 25 years. We can conclude from this data that older mothers have a tendency to breast feed their infants and are able to carry out their plans. Graphical analysis of this data may be found in Appendix C, page 59.

Table III (A and B), pages 37-38, compares the ages of the primiparas and multiparas in relation to their choice of bottle, breast and both bottle and breast feeding.

Statistical analysis of the data on these tables is as follows: age of primiparas (bottle feeding), range 10 years, median age 20 years, mean age 20 years, mode 20 years. Ages of primiparas (breast feeding), range 17 years, median age 24 years, mean age 24 years, and modes 24 years

TABLE III-A

AGES OF THE PRIMIPARAS AND MULTIPARAS IN RELATION TO CHOICE
OF BOTTLE, BREAST, AND BOTH BOTTLE AND BREAST FEEDING
AT TIME OF BABIES' BIRTH

Questionnaire I						
Age	Primiparas			Multiparas		
	Bottle	Breast	Both	Bottle	Breast	Both
15	1					
16		1				
17		1				
18	1			1		
19						
20	5	1	1		2	
21						
22				1	1	
23	2	1		3		
24	1	2				1
25				2	4	1
26				3		
27				1	1	
28				1		
29		1			2	
30					1	1
32		2		1	1	
34					1	
37					1	
Totals	10	9	1	13	14	3

TABLE III-B

AGES OF THE PRIMIPARAS AND MULTIPARAS IN RELATION TO CHOICE
OF BOTTLE, BREAST, AND BOTH BOTTLE AND BREAST FEEDING
AT SIXTH WEEK PERIOD AFTER BABIES' BIRTH

Questionnaire II						
Age	Primiparas			Multiparas		
	Bottle	Breast	Both	Bottle	Breast	Both
15	1					
16		1				
17		1				
18				1		
19						
20	7			1	1	
21						
22				1	1	
23	2	1		2		
24	1	2			1	
25				4	3	
26				3		
27				1	1	
28				1		
29		1				1
30					1	1
32		2		2	1	
34						1
37					1	
Totals	11	8	0	16	10	3

and 32 years.

Ages of multiparas (bottle feeding), range 15 years, median 25 years, Questionnaire I mean 24 years, Questionnaire II mean 25 years, Questionnaire I bimodal 23 years, 26 years, Questionnaire II mode 25 years, ages of multiparas (breast feeding): range 18 years, median 25 years, mean 27 years and mode 25 years.

The analysis reveals that the median age of mothers choosing bottle feeding and continuing at the sixth week period is as follows: primiparas, 20 years and multiparas, between 24 and 25 years. The median age of mothers choosing breast feeding and continuing at the sixth week period is as follows: primiparas, 24 years and multiparas, 25 years.

This shows the relationship of age and choice of feeding practices between primiparas and multiparas on Questionnaires I and II.

A graphical analysis of this data may be found in the Appendix C, pages 59-63.

Husband's Occupation

The data with regard to the husband's occupation is relative to the mother's choice of feeding practices; breast, bottle, or both breast and bottle, and their choice at six weeks. The husbands were classified professional (17 total), and the rest non-professional (33 total). Among the group of mothers choosing bottle and breast feeding the non-professional husbands were predominant. However, the wives of the professional group chose about equally and remained consistent with their choice.

TABLE IV

HUSBAND'S OCCUPATION IN RELATION TO METHOD OF INFANT FEEDING

	Breast		Bottle		Both	
	50	48	50	48	50	48
Total Sample						
Questionnaire	I	II	I	II	I	II
Professional	9	7	6	7	2	2
Non-professional	14	11	17	20	2	1
Total	23	18	23	27	4	3

There seems very little relationship between husbands' occupations and mothers' reasons for choice of feeding practices. Several gave family background as a reason for breast feeding (one of the mothers was the wife of a physician).

Husbands' Education

The data with regard to husbands' education and mothers' choice of bottle, breast, or both bottle and breast, and if they were able to carry out their original plans are revealed on Table V, page 41.

As was found in the mothers' educational level, the level of the husbands was predominantly high school and college (4 had grade school and 1 had trade school). The largest group (college educated) chose bottle and breast feeding almost equally.

Reasons for choice of type of feeding and husbands' education did not seem to show any relationship.

TABLE V

HUSBAND'S EDUCATION IN RELATION TO THE
METHOD OF INFANT FEEDING

	Bottle		Breast		Both	
	I	II	I	II	I	II
Questionnaire						
Total Sample	50	48	50	48	50	48
College	13	15	15	12	3	3
Trade School			1	1		
High School	7	9	5	3		
Grade School	3	3	2	2	1	
Total	23	27	23	18	4	3

Mother's Education

The data on the education of the mothers in relation to their choice of bottle, breast, or both bottle and breast, and how many carried out their original plans at the sixth week period is illustrated on Table VI, page 42.

Consideration of this data reveals a very slight difference in education and choice of feeding. Questionnaire II revealed a decline in breast feeding. The actual difference between bottle and breast feeding of mothers with college, high school, and grade school education was very slight.

While education may have been a factor, the difference is so slight that no conclusions could be drawn. In Dr. Robertson's survey of 1958, among the mothers who chose breast feeding, a predominant percentage were in the educational level of grammar school (34 percent) and

college (35 percent), while high school was only 28 percent.²⁴ This later survey showed that high school and college comprised the largest group, as only two were of grammar school level.

TABLE VI

MOTHERS' EDUCATION IN RELATION TO METHOD OF INFANT FEEDING

	Breast		Bottle		Both	
	I	II	I	II	I	II
Questionnaire						
Total Sample	50	48	50	48	50	48
College	13	10	12	14	2	3
High School	9	7	9	12	2	
Grade School	1	1	2	1		
Total	23	18	23	27	4	3

Relationships between education and reasons for choice of feeding were revealed in only a few answers. One mother stated that her experience as an obstetrical instructor aided her choice of breast feeding, another mother gave as her reason for breast feeding, fear of choking, due to allergies from milk formulas.

As the mothers' education and choice of feeding were almost parallel no conclusions could be drawn.

Mother's Major Field of Education

Table VII, page 43, illustrates the mothers' major field and her choice in bottle or breast feeding, and if they were able to carry out

²⁴Robertson, Op. cit., p. 1038.

their original plans. The two main groups were nurses (7) and education majors (8) - of these two groups there were more mothers with education majors breast feeding than there were among the nursing majors. The rest of the mothers, in their individual major fields, predominantly listed bottle feeding on both questionnaires. The data does reveal a decline in breast feeding at six weeks in the nursing and education major fields, but the difference is very slight.

Some nurses gave "going back to work" as their reason for a preference for bottle feeding, while those who chose breast feeding, did it because of professional experience in teaching obstetrics, and reading various articles on breast feeding.

TABLE VII

MOTHER'S MAJOR FIELD OF EDUCATION IN RELATION
TO THE METHOD OF INFANT FEEDING

Questionnaire	Breast		Bottle		Both	
	I	II	I	II	I	II
Total Sample	50	48	50	48	50	48
Nursing	4	2	3	4		1
Education	5	4	1	3	2	1
School of Dance	1	1				
Speech, Radio, T.V.	1	1				
Accounting			1	1		
Art			2	2		
Commerce			2	2		
General			1	1		
Secretarial						
Pre-Nursing			1	1		
Legal Secretary	1	1				
Speech & Hearing Therapy	1	1				
Interior Decorating			1	1		
Totals	13	10	12	15	2	2

The mothers, who had education majors, voiced similar reasons for bottle and breast feeding.

It seems that reading of literature could have been an influencing factor in their choice of feeding practices; otherwise, there seems to be no significant evidence of mothers' major field of education influencing mothers' choice of feeding.

Mothers' Occupation Outside the Home Before Infant Was Born

In relation to choice of feeding practices and results at six weeks, this data is illustrated on Table VIII. Eight mothers were classified professional according to United States Occupational Census, 26 mothers classified as homemakers and 16 mothers as non-professional.

TABLE VIII

MOTHER'S OCCUPATION OUTSIDE THE HOME BEFORE THE CHILD WAS BORN
AND RELATIONSHIP TO METHOD OF FEEDING INFANT

	Breast		Bottle		Both	
	I	II	I	II	I	II
Questionnaire						
Total Sample	50	48	50	48	50	48
Professional	5	3	2	3	1	2
Non-professional	8	5	7	10	1	
Homemakers	10	10	14	14	2	1
Totals	23	18	23	27	4	3

The mothers in the professional group seemed more able to carry out their breast feeding plans than the non-professional mothers. At the 6 weeks period the number in the non-professional and professional group dropped in breast feeding, but increased in bottle feeding. The

mothers, who were classified as homemakers on Questionnaire I remained consistent in breast feeding at the end of six weeks. There was a slight increase of professional mothers choosing both bottle and breast feeding at the end of six weeks.

In relation to reasons for mothers' choice, occupation outside the home did seem to influence a few mothers who chose bottle feeding due to full time work. One mother gave class schedule as a reason for choice of bottle feeding. There was no specific evidence that a particular occupation had any bearing on choice. There were 4 mothers who had professional preparation but they classified themselves as homemakers.

Mothers Who Anticipated Work Outside the Home After Birth of Child

Table IX reveals that, of the original 7 mothers who chose breast and bottle feeding and planned to work outside the home, only 4 mothers were working or still planned to work outside the home at the sixth week period.

TABLE IX

MOTHERS WHO ANTICIPATED WORK OUTSIDE THE HOME AFTER BIRTH OF CHILD
AND RELATIONSHIP TO METHOD OF FEEDING INFANT

Occupation	Type of Feeding	Questionnaire		Reason for Choice of Feeding
		I	II	
Dance Instructor	Breast	yes	no	none given
Cook				
Assistant	Breast	yes	yes	work
Caterer	Breast	yes	no	none given
Student	Bottle	yes	yes	class schedule
Homemaker	Bottle	yes	no	no desire to breast feed
Sales clerk	Bottle	yes	yes	no desire to breast feed
				and working
Nurse	Bottle	yes	yes	working easier, not able to breast feed

Two of the mothers who chose only breast feeding carried out their plan to breast feed infant and had not gone back to work at the time of Questionnaire II. Working outside the home appears to have some bearing on choice of feeding.

First Live Child

Figure 8, page 34, illustrates the primiparas who chose bottle, breast, or both bottle and breast feeding, and if they were able to carry out their original plans.

The significance of this data is that the 9 primiparas who chose breast feeding were able to carry out their plan to the end of the six weeks period, except for one who changed to bottle feeding because of insufficient milk.

The 10 primiparas who chose bottle feeding increased to 11 by Questionnaire II. One primipara chose both bottle and breast feeding; however, she changed to bottle feeding by the sixth week.

Study of data revealed that primiparas choosing bottle feeding and breast feeding were almost identical in number. The reasons for their choice of feeding correlated with the multiparas. The fifteen year old mother chose bottle feeding because her husband's occupation necessitated frequent moving. From the age tables, one can see that the majority of the primiparas were in the twenty year age group or older. This could have been an influencing factor in their choice of breast feeding and their ability to carry out their plans.

Number of Previous Pregnancies

Table X, page 47, illustrates the multiparas with one child, two

children and three children, and their choice of feeding; breast, bottle, or both breast and bottle, and if they were able to carry out their original plans.

Multiparas with one child revealed a slight preference for bottle feeding on Questionnaire I. The multiparas with 2 children predominantly chose breast feeding and were able to carry out their original plans while the multiparas with 3 children predominantly chose bottle feeding.

The mothers who chose 'both' are not illustrated for the number was so small, but all were multiparas except one on the first questionnaire, and all were multiparas on the second questionnaire. This data seems to indicate that multiparas have a tendency to breast feed their infants.

The multiparas gave previous successful experience with breast feeding, family background of breast feeding, desire of husband, and desire of older children as their reasons for choosing breast feeding.

TABLE X

NUMBER OF PREVIOUS PREGNANCIES IN RELATION
TO CHOICE OF FEEDING METHOD

Questionnaire	Breast		Bottle		Both	
	I	II	I	II	I	II
Number of Previous Children						
1	4	3	6	6	2	2
2	8	6	2	4	1	1
3	2	1	5	6		

Previous Experience With Other Children

Previous experience with bottle, breast, and both bottle and breast feedings seemed to have some influence in the choice of feeding method used with the new infant.

Eighteen of the mothers who chose breast feeding with this infant gave the following reasons: 7 mothers tried both methods before with previous infants and felt breast feeding was the best; 6 mothers were successful with breast feeding previous infants; 1 mother wanted the experience of breast feeding as she had bottle fed the other infant; 2 mothers enjoyed breast feeding other infants; and 2 mothers felt it was better for the mother and the baby.

Twelve of the mothers who chose bottle feeding with this infant gave the following reasons: 3 mothers tried both feeding methods with previous children and felt bottle feeding was best; 1 mother had a breast tumor but had bottle fed previous child; eight mothers gave the bottle to previous children for the following reasons: working, lack of milk, freedom, preference, other children, convenience, husband, and can share child with others at feeding time.

The mothers who chose both bottle and breast feeding gave as their reasons: allergy of previous child, unsuccessful experience with breast feeding, and an equally unsuccessful experience with bottle feeding with previous two children.

These findings, from the analysis of the data and variables, present an interesting and varied picture of the incidence of child rearing practices of bottle and breast feeding in a selected community.

CHAPTER IV

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Two questionnaires, which the author designed and administered, were used in an attempt to determine the intent and incidence of child rearing practices of bottle and breast feeding in a selected community. The community selected for the survey was the area served by the Boze-man Deaconess Hospital.

The purposes of this study were to discover how many mothers planned to breast or bottle feed their infants in this selected community, to discover whether the mothers carried out their original plan to bottle or breast feed, and to ascertain the reasons as expressed by the mothers for either breast or bottle feeding.

The first questionnaire was completed by the mothers in the hospital within three days after the birth of each infant. The second questionnaire was mailed by the end of the fifth week to find out what feeding practices were being used in the sixth week following the birth of each infant. The sample was taken from the mothers who delivered babies between March 16 and April 16, 1964.

Summary of Findings and Conclusions

The hypothesis for this study was: more mothers are breast feeding than bottle feeding their babies during the six weeks after birth of the baby. As the result of analysis of findings, the hypothesis was rejected and the new hypothesis accepted was: more mothers are bottle

feeding than breast feeding their babies during the six weeks after birth of the baby.

The information that was obtained on the two questionnaires from the mothers in this survey closely paralleled that of other studies performed on the incidence of bottle and breast feeding in the United States. The findings give strong support to the concept that there is a general decline in breast feeding, except in certain geographical areas, higher economic and intellectual levels, and lower economic levels when compared with other surveys performed in the United States.

From a survey of the findings, this selected area studied revealed a higher proportion of mothers continuing to breast feed at the sixth week period than mothers from previous surveys in the United States. As there had not been a known previous study performed of the incidence of bottle and breast feeding in this area, served by the Bozeman Deaconess Hospital, it could not be ascertained whether there was an increase or decrease in breast feeding practices.

Each variable was evaluated in terms of the three purposes of this survey.

In reference to the analysis of data and variables, the following results were found.

1. The percentage of mothers choosing bottle and breast feeding were identical on the first questionnaire. At the end of the sixth week, 9 more mothers (18 percent) were bottle feeding than were breast feeding, due to insufficient milk, a breast abscess, desire of freedom, physician's advice, working outside the home, and personal desire. There was a decrease of 1 mother between Questionnaire I and II choosing both bottle and breast feeding.

2. It was found that older mothers had a tendency to breast feed, and were more able to carry out their original plan of feeding.
3. The mean age of mothers: bottle feeding - 22 years (both Questionnaires); breast feeding - 26 years and 25 years on Questionnaires I and II respectively. The mean age of primiparas: bottle feeding - 20 years, breast feeding - 24 years. The mean age of multiparas: bottle feeding - 24 years and 25 years on Questionnaires I and II respectively; breast feeding - 27 years. Age did seem to be an influencing factor in mothers' choice of feeding.
4. The husband's level of education was predominantly high school and college. Wives of the largest group (college educated husbands) chose bottle and breast feeding almost equally. Education of the husbands did not seem to be an influencing factor in the mothers' choice of feeding.
5. The husband's occupation apparently had very little influence on mothers' choice of feeding practices. Non-professional husbands were predominant in the sample. The wives of professional men chose breast and bottle feeding equally.
6. The predominant education of mothers was high school and college. The actual difference between bottle and breast feeding among college educated, high school, and grade school level was very slight.
7. Mothers with education majors in college breast fed their infants slightly more than those who had nursing as their major field. Reading of literature and education of mother seemed an influencing factor in their choice of feeding method. Among the other mothers, the major field did not seem to be related to their choices of feeding practices.
8. The mother's occupation outside the home before the baby was born did not seem to influence her decision to bottle or breast feed unless she planned on resuming work after the birth of the baby. One mother breast fed her baby, even though she planned to go and did go back to work after the birth of the baby.

9. Plans to work after birth of the child did seem to have some influence on the choice of feeding. Of the 4 mothers who were planning to work at the sixth week period, 1 was breast feeding and 3 were bottle feeding.
10. Eight mothers of the 20 primiparas and 10 mothers of the 30 multiparas were breast feeding at the sixth week. Three multiparas (and no primiparas) were using both bottle and breast feeding at the sixth week. The proportion of primiparas breast feeding was greater than the multiparas at six weeks.
11. Mothers with 1 or 3 previous children seemed to prefer bottle feeding, while the mothers with 2 previous children predominantly chose breast feeding. Number of previous children did seem to influence the choice of feeding method.
12. Previous experience with their children did influence their decision to choose bottle, breast, or both bottle and breast feeding at the time of this survey.
13. It was concluded that family, friends, and attending physicians were major influencing people in the mothers' choice of child rearing practices in feeding of infants.

The summary of analysis of data shows that the incidence of child rearing practices of breast and bottle feeding in a selected community was influenced by age, working outside the home, number of previous children, experience with previous children, and reading of literature. One of the important factors seemed to be the attitudes and inhibitions of the mother in relation to choice of feeding, which were influenced by family, friends, and attending physicians.

Recommendations

As a result of this survey, ideas and questions have appeared which seem important. Further study of the trends of child rearing

practices of bottle and breast feeding is apparently needed and it is recommended that further studies be performed. The following are some of the suggestions for further areas of study:

1. The effect of hospital personnel on mothers who desire and choose to breast feed their infants.
2. The effect of prenatal classes on a mother's decision to bottle or breast feed.
3. The influence family background has on a mother's decision to bottle or breast feed.
4. The influence a Public Health Nurse has upon the choosing of breast feeding or bottle feeding.
5. The incidence of breast and bottle feeding among working mothers.
6. The effect that individual personality and personal attitudes have upon choice of feeding.
7. Criteria which may be used to advise for or against choice of feeding.

APPENDIX

QUESTIONNAIRE I

1. Age _____
2. Occupation of your husband _____
3. What occupation did you perform outside of your home before infant was born? _____
4. Do you anticipate work outside of home in the near future?
Yes _____ No _____
5. What education has your husband had? Grade school _____
High school _____ College _____ Years of college _____
6. What education have you had? Grade school _____ High school _____
College _____ Years of college _____
7. If you attended college, what was your major field of study?

8. Is this your first live baby? Yes _____ No _____
9. How many other live babies have you had? _____
10. What feeding method did you employ with previous babies?
Bottle _____ Breast _____ Both _____
11. What feeding method do you plan to use with your baby?
Bottle _____ Breast _____ Both _____
12. How much longer do you plan to continue breast feeding?

13. What are the reasons for your choice to bottle feed or breast feed your baby?
1) _____
2) _____
3) _____
14. Who influenced you to choose this method of feeding? _____

15. What influenced you to choose this method of feeding? _____

QUESTIONNAIRE II

1. Do you anticipate work outside your home in the near future?
Yes ____ No ____
2. What feeding method are you using with your baby? Bottle ____
Breast ____ Both ____
3. How long do you plan to continue breast feeding? _____

4. What are the reasons for your choice to bottle feed or breast feed
your baby?
 - 1) _____,
 - 2) _____,
 - 3) _____.
5. Who influenced you to choose this method of feeding?

6. What influenced you to choose this method of feeding?

Letter to the Physicians

February 28, 1964
803 South Seventh
Bozeman, Montana

Dear Doctor:

I am a graduate student at Montana State College. At present I am developing my technical paper in the area of bottle feeding and breast feeding incidence.

In order to obtain the necessary data for this study, I need your permission and cooperation in pursuing my objectives. I need to enlist your permission to question your prospective deliveries between March 16, 1964, and April 16, 1964. I have enclosed a sample of the questionnaire which I plan to use in Post-Partum and the questionnaire which will be mailed to them in five weeks Post-Partum.

All the names of patients and physicians will be held in confidence and will not be used in the technical paper. Care will be taken not to influence the mothers in their method of feeding their babies.

I am enclosing a stamped, self-addressed envelope for your convenience. Thank you for your consideration.

Sincerely yours,

Mrs. Lucille Winslow, R.N.

Any consideration and help in this study to Mrs. Winslow will be appreciated.

(Anna Pearl Sherrick)
Anna Pearl Sherrick, R.N., Ed.D.
Director of Nursing
Montana State College

Letter to the Mothers

803 South Seventh
Bozeman, Montana

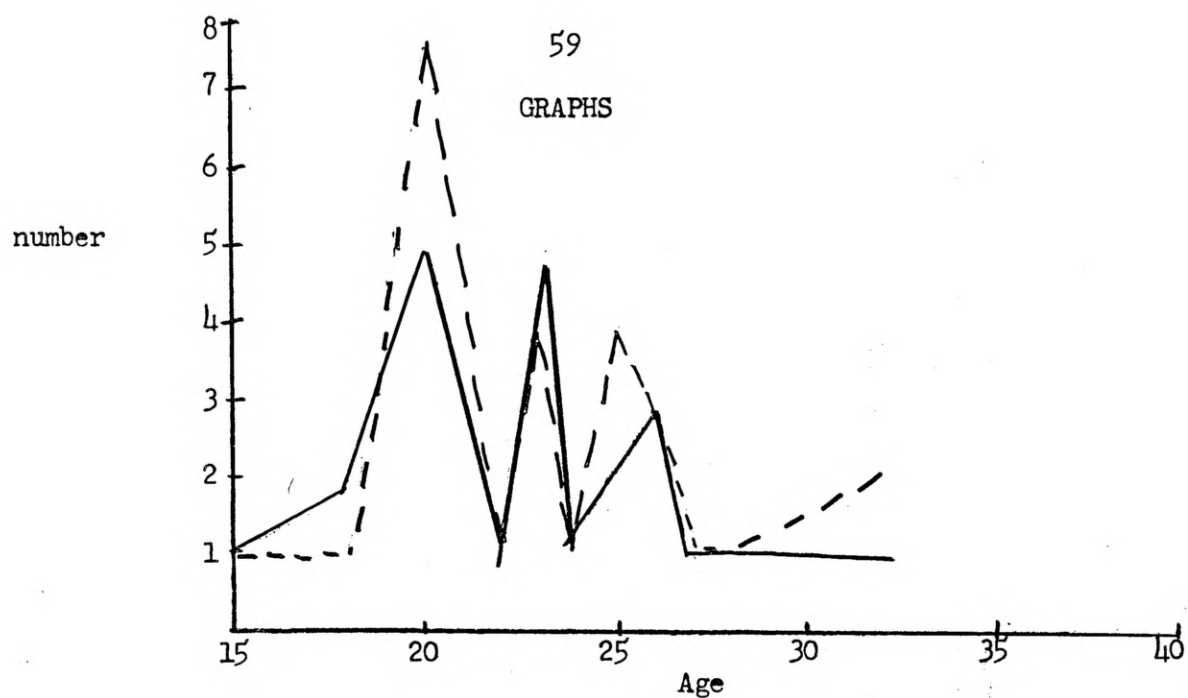
May I take this opportunity to thank you for your assistance in my survey for my Master's Technical Paper, by filling out the first questionnaire in the hospital.

To complete my study of Child Rearing Practices on Bottle and Breast Feeding, will you please fill out this second questionnaire, and place it in return mail, using the stamped envelope, which is enclosed with this letter?

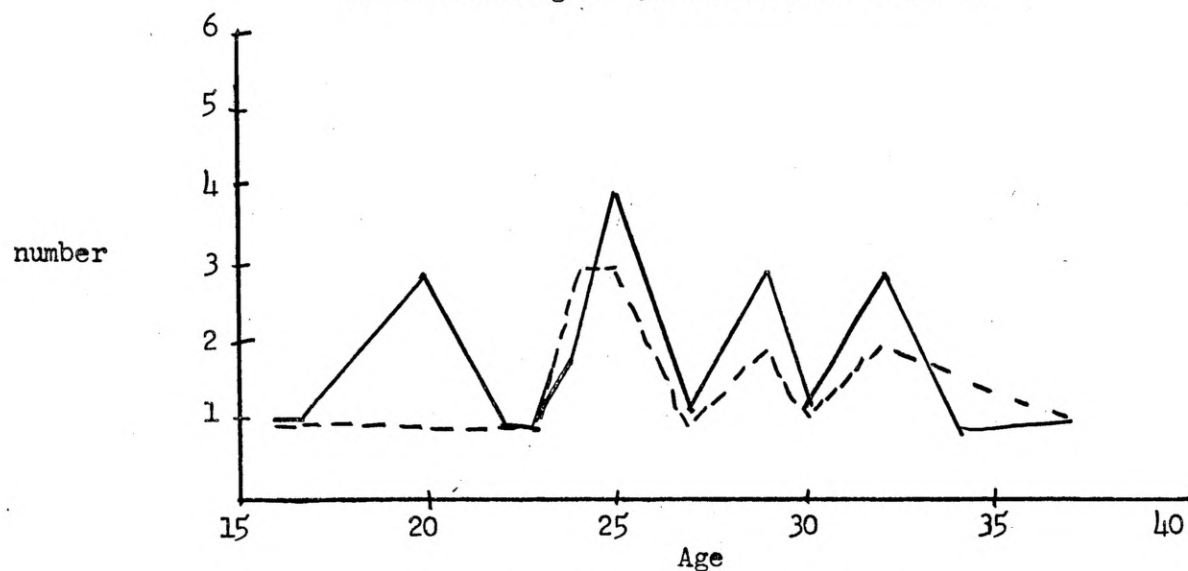
Thank you for your cooperation.

Sincerely,

(Mrs.) Lucille Winslow, R.N.

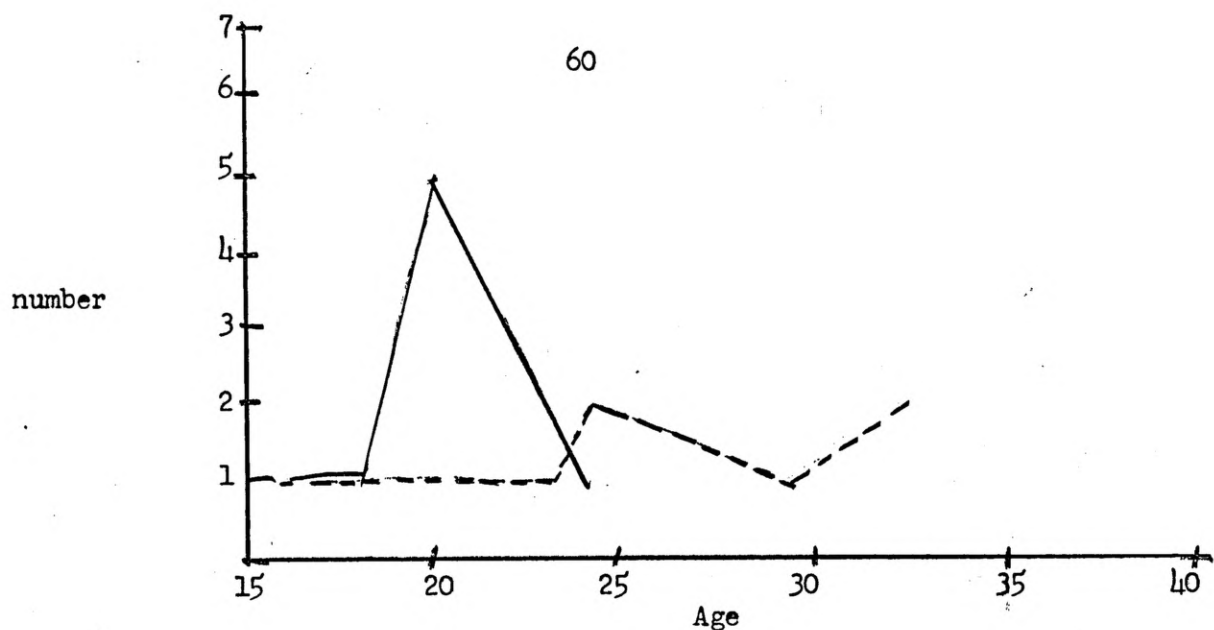


Comparison of the Incidence of Mother's Age and
Bottle Feeding on Questionnaires I and II

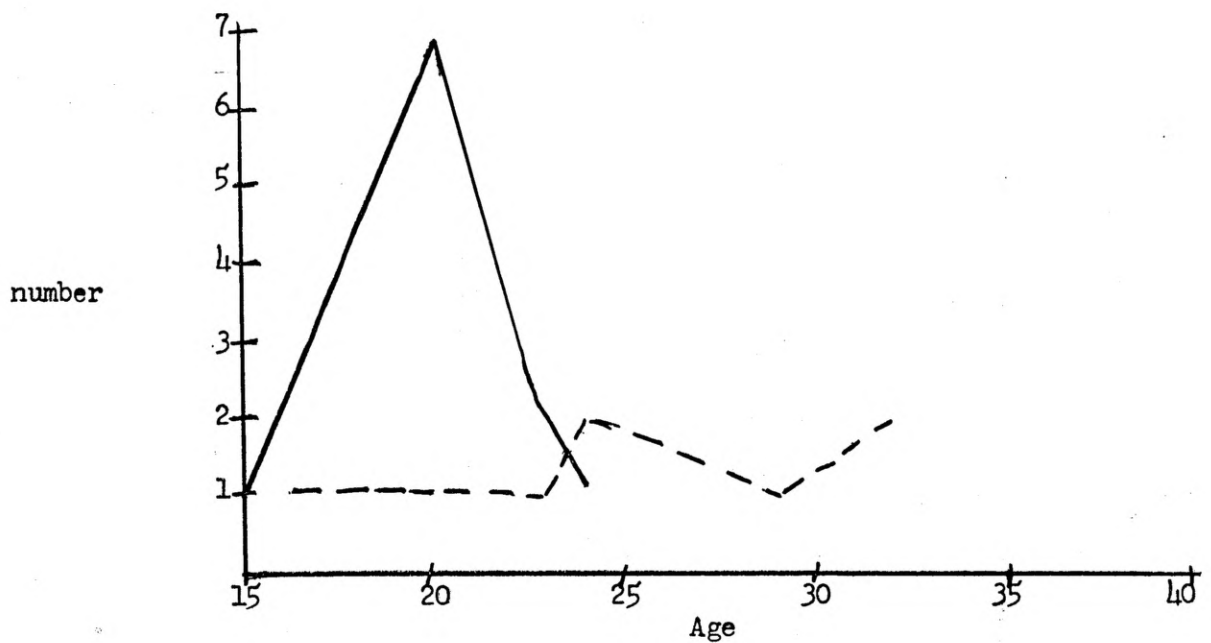


Comparison of the Incidence of Mother's Age and
Breast Feeding on Questionnaires I and II

Key
Questionnaire I —————
Questionnaire II - - - - -



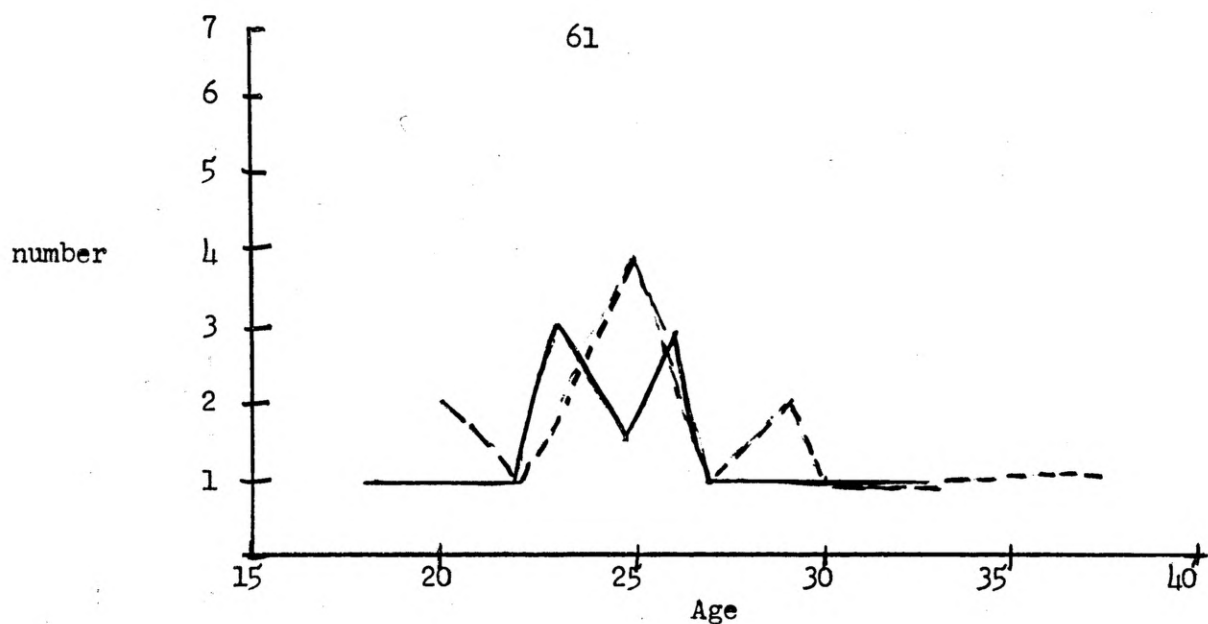
Questionnaire I at Time of Birth of Infant



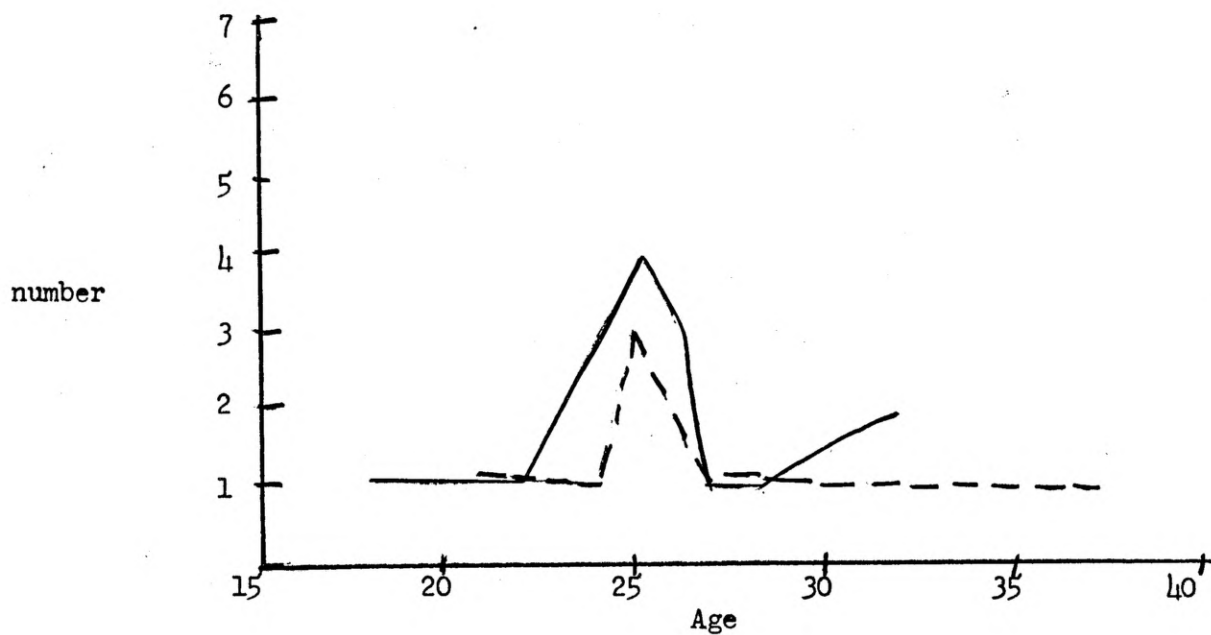
Questionnaire II Six Weeks After Birth of Infant

Comparison of Incidence of Primiparas' Age and the Incidence of Bottle and Breast Feeding on Questionnaires I and II

Key
 Bottle ———
 Breast - - - -



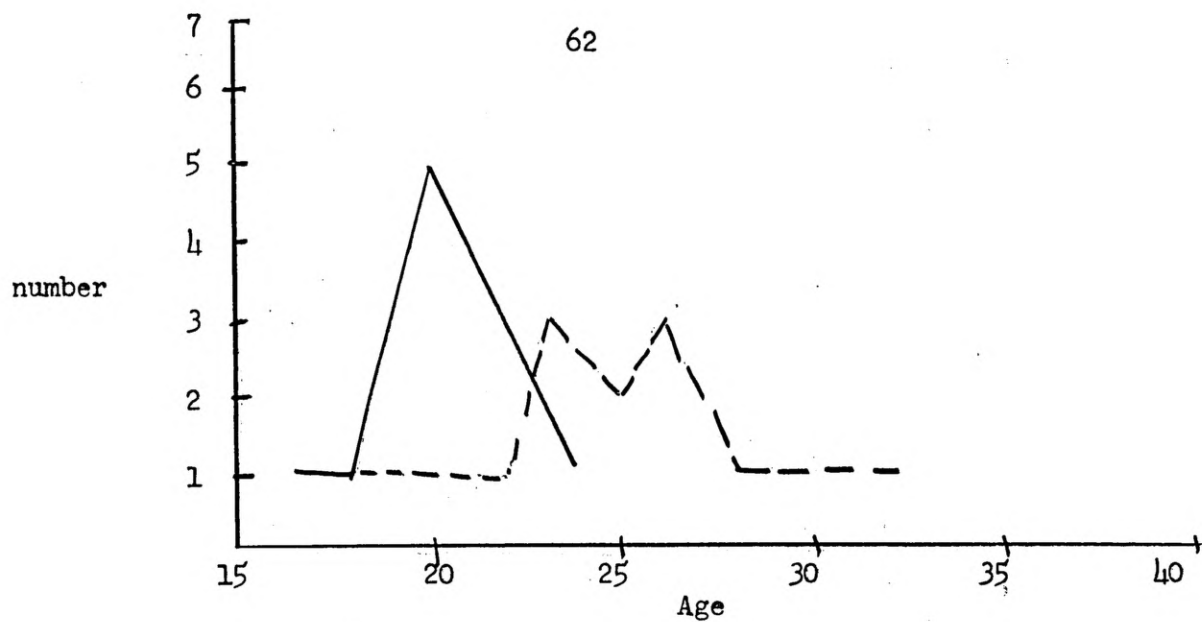
Questionnaire I at Time of Birth of Infant



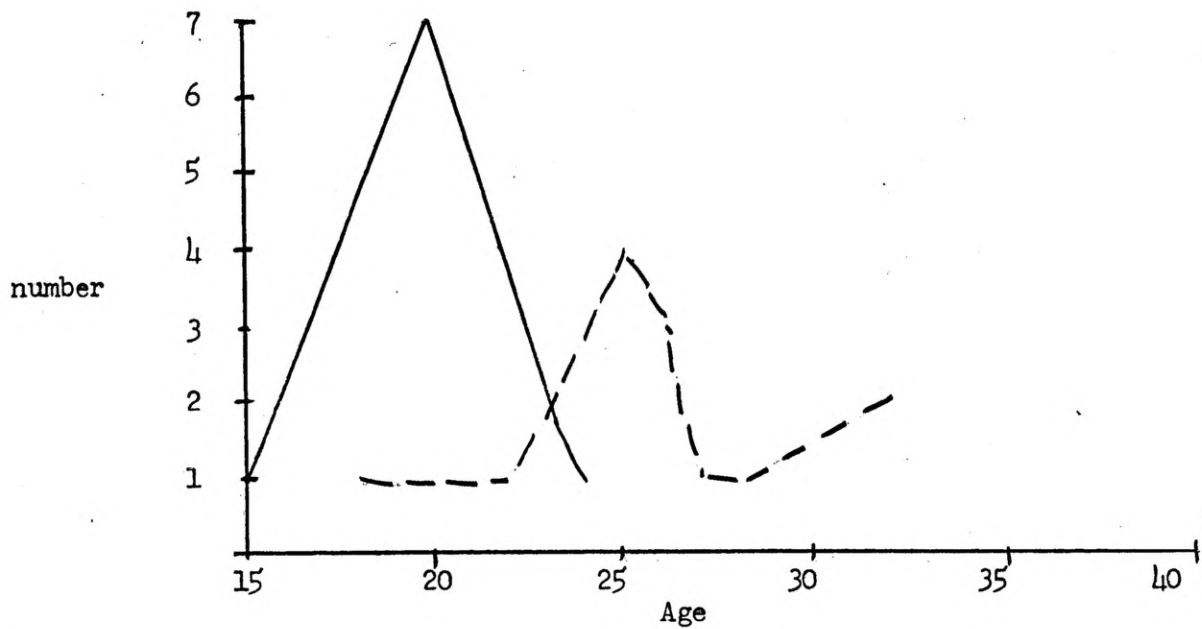
Questionnaire II Six Weeks After Birth of Infant

Comparison of Incidence of Multiparas' Age and the Incidence of Bottle and Breast Feeding on Questionnaires I and II

Key
 Bottle ———
 Breast - - - -



Questionnaire I at Time of Birth of Infant

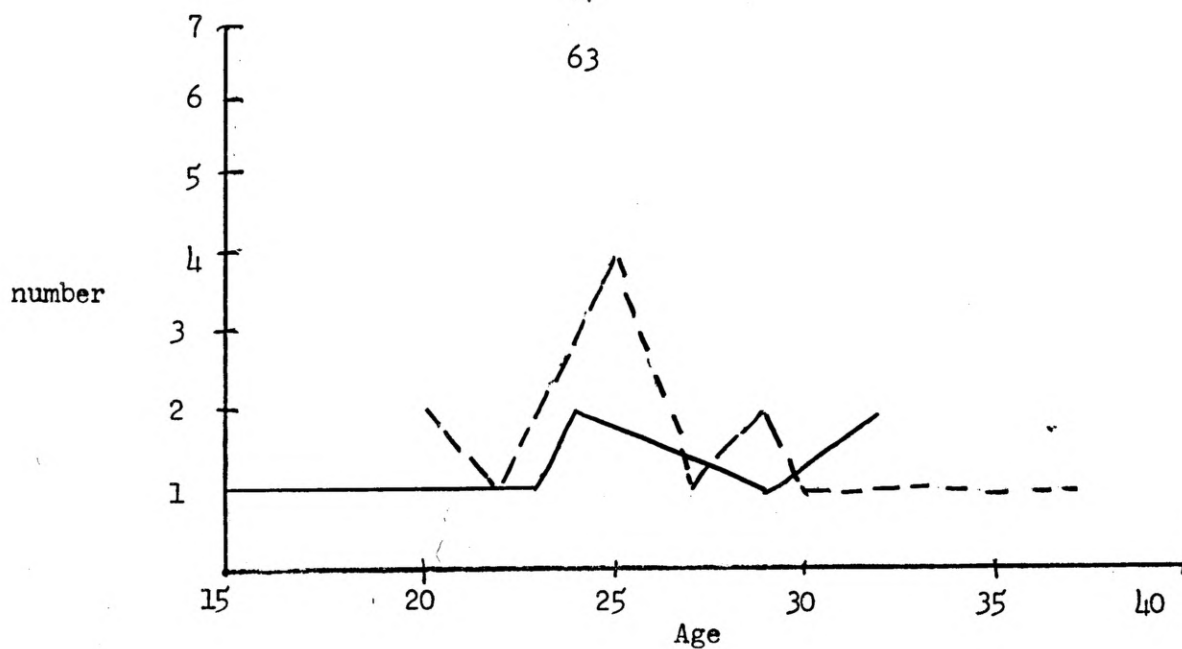


Questionnaire II Six Weeks After Birth of Infant

Comparison of the Incidence by Mother's Age and Bottle Feeding Among

Primiparas and Multiparas

Key
 Primiparas —
 Multiparas ----



Questionnaire I at Time of Birth of Infant



Questionnaire II Six Weeks After Birth of Infant

Comparison of the Incidence by Mothers' Age and Breast Feeding Among

Among Primiparas and Multiparas

Key
 Primiparas —
 Multiparas ----

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