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PROVIDER UTILIZATION OF MATERNAL-INFANT SKIN-TO-SKIN CONTACT FOLLOWING BIRTH

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Nursing 701

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Abstract

The purpose of this descriptive study was to determine the use of immediate maternal-infant skin-to-skin contact in healthy, full-term newborns and factors influencing its practice. Immediate parent-infant contact is a well recognized aspect of family-centered maternity care. Several studies, including Vaughans (1990) and Dodman (1987), support maternal-infant skin-to-skin contact as a highly effective means of thermoregulation. A lack of published studies addressing integration of this research into clinical practice prompted the study. A 23-item questionnaire was developed and mailed to United States Air Force obstetricians and certified nurse-midwives jointly assigned to stateside hospitals. The questionnaire elicited information on the utilization of skin-to-skin contact and selected factors which might affect its practice. Fifty-seven (34 certified nurse-midwives, 22 obstetrician, and 1 other) out of 103 questionnaires were returned for a 55% response rate. Thirty-two (19 certified nurse-midwives, 12 obstetricians, 1 other) reported using skin-to-skin contact for at least fifty-percent of the time. Forty-nine respondents were aware of research supporting its use. Most respondents identified skin-to-skin contact as fundamental to family centered maternity care and stated its use didn't require changes to their current views. Maternal request, personal benefits, and recognition of skin-to-skin as an integral part of family centered care were the top three factors influencing the use of skin-to-skin contact. Twenty-five percent (14) of the respondents stated that nursing staff was a negative influence on practice. Findings indicated that the majority of this select sample utilize skin-to-skin contact between healthy infants and their mothers for 15 continuous minutes within the first hour following birth. Since skin-to-skin contact is directly influenced by maternal request, provider attitudes, and knowledge of research; strong indications exist for education of nursing/medical personnel and expectant couples.

Background

Since the 1970s, people have become more active in choosing health care alternatives. This is most evident in the management of their birth experiences. Couples look for a health care delivery system which satisfies their desires for a positive and self-directed approach to labor and delivery. One of the more common desires among birthing couples is for immediate contact with their newborn.

The challenge to the nursing and medical communities is to establish a balance between clients' birth expectations and the necessity for medical interventions. One of the medical concerns with providing immediate contact between parents and the newborn is the possibility of exposing the neonate to cold stress. However, research studies such as Vaughans (1991), Newport (1984), Fardig (1980), and Gardner (1979) have shown that immediate skin-to-skin contact with the mother provides a highly effective means to prevent hypothermia in the healthy, full-term newborn. In fact, Newport (1984) and Gardner (1979)

suggest that prolonged contact with the mother results in less fluctuation in neonatal body temperature; subsequently, producing a warmer baby without exposure to the risks of overheating that may occur when radiant warmers are used. Not only do the neonates remain warm, but the parents express great satisfaction and appreciation when they are able to hold their newborn immediately following delivery.

Currently, the practice of utilizing immediate skin-to-skin contact between mother and the healthy, full-term newborn following uncomplicated vaginal deliveries is not the standard procedure in many health care facilities. The routine procedure for any delivery (be it in a birthing room, labor/delivery/ recovery room or in the traditional delivery suite) is to place the newborn immediately under a radiant warmer until initial assessments and procedures are completed. Following the initial procedures, the parents are given the blanket wrapped neonate if the newborn is stable. Since several studies, as cited above, have

demonstrated the efficiency of immediate skin-to-skin contact, the authors wonder why this procedure has not received wider use. Is this due provider preference or to the lack of knowledge of the research? Review of the literature doesn't indicate whether immediate skin-to-skin contact between mother and a healthy, full-term newborn has become an accepted standard of protocol among health care providers.

Purpose

The purpose of this study was to describe the use of immediate maternal-infant skin-to-skin contact in healthy, full-term newborns and factors influencing its practice. This purpose lead to two research questions:

1. What is the incidence of immediate maternal-infant skin-to-skin contact in healthy, full-term newborns among providers at comparable health care facilities?

2. What factors influence practice of immediate maternal-infant skin-to-skin contact in healthy, full-term newborns following spontaneous vaginal deliveries among providers at comparable health care facilities?

Review of Literature

May and Mahlmeister (1990) identify health organizations and national reports supporting family-centered maternity care as being a high contributor to the quality care of mothers and newborns. A feature of family-centered maternity care is early parent-infant contact. Skin-to-skin contact immediately after delivery ensures early touch between mother and infant.

One advantage of skin-to-skin contact cited by Fardig (1980) is the provision of an early opportunity for parents to become acquainted with their new baby. She suggests that the newborn's initial alert period, is the ideal time for mother-infant contact. She also states that eye contact and exploration with the mother has a quieting effect on the baby.

Righard and Alade (1990) suggest a critical stage for successful breastfeeding occurs in the first hour after birth. After observing seventy-two uncomplicated spontaneous deliveries, the researchers noted a significant difference between breastfeeding behaviors of infants separated from their mothers after twenty

minutes and those infants allowed unlimited contact. Newborn reflexes (movement toward the breast, and sucking movements) were significantly higher in infants experiencing uninterrupted skin-to-skin contact with their mothers during the first hour. Infants who were placed skin-to-skin also demonstrated proper sucking behavior more often than their counterparts who were removed from their mothers for admission procedures. Righard and Alade (1990) conclude that the early suckling patterns in newborns has direct correlation to the success of the breastfeeding experience.

Immediate skin-to-skin contact is not only advantageous for bonding and breastfeeding. Research documents evidence of early maternal-infant skin-to-skin contact as an effective and safe way to provide thermoregulation in the newborn.

Fardig (1980) demonstrated that infants with skin-to-skin contact maintained body temperature with fewer negative fluctuations. Fifty-one mother-infant pairs were evaluated for thermoregulation in the first forty-five minutes following birth using skin temperatures

measured by calibrated electronic thermometers. There were three groups: a control group in which infants were placed immediately into a radiant warmer, an experimental group in which the infants were placed into a radiant warmer for initial evaluation and then placed skin-to-skin, and the experimental group that had immediate and continuous skin-to-skin contact. The results showed those newborns with continuous skin-to-skin had the highest core and skin temperatures. The group with some skin-to-skin contact had higher skin temperatures than the group placed in radiant warmers with no skin-to-skin. The results supported Fardig's (1980) assumption that the earlier the contact the warmer the newborn.

In a later study (Newport, 1984), infants with skin-to-skin contact manifested warmer axillary temperatures after fifteen minutes than babies who were placed in radiant warmers. A sample size of seventy-six was divided into two groups. In the experimental group, infants were placed on mother's chest and covered with a warm blanket after initial

drying and eye prophylaxis in a radiant warmer. The control group remained in the radiant warmer. Axillary temperatures were done at five intervals on the infants using IVAC thermometers whose reliability and validity has been established. Neither group's temperature dropped below the lower parameter of the acceptable range. The results of the study promotes placing infants skin-to-skin to maintain energy conservation while facilitating social integrity. This allows the mother immediate contact with her newborn without compromising thermal integrity.

Other studies (Gardner, 1979 and Vaughans, 1990) document no difference in the body temperatures of newborns placed skin-to-skin and those placed in radiant warmers. Gardner (1979) compared the rectal temperatures of ten nude babies held against their mother's bodies with nine babies placed in radiant warmers. Paired comparisons were done using the Student t test with no statistical difference between the experimental and control groups. The hypothesis of no significance in body temperature between those

babies placed skin-to-skin and those in radiant warmers was upheld. Vaughan's (1990) quasiexperimental design study divided twenty infants into two groups. Newborn temperatures were measured with a calibrated IVAC thermometer. The results showed no significant difference in the ten-minute axillary temperature readings between neonates placed on a radiant heater and neonates placed skin-to-skin contact with the mother. Skin-to-skin allowed facilitation of early maternal-infant interaction without the concern of compromising the newborn's temperature stability.

The hazards of routinely placing healthy term infants into radiant warmers were outlined by Dodman (1987). Based on these hazards, she advocates the use of mechanical warming devices only for those babies who are ill or at risk for hypothermia. Fardig (1980) also contends that the risk of hypothermia and hyperthermia is not a primary issue with skin-to-skin contact as it is with mechanical devices. Early maternal-infant contact is not only an effective way to preserve body temperature but is safer.

Since literature supports the use of immediate skin-to-skin contact following vaginal deliveries, why has it not become the standard of care? When discussing the application of research to practice in nursing, LoBiondo-Wood and Haber (1990) identify factors that inhibit research application to practice. These factors include education, communication, organization and resistance to change. Although this deals with applications of research in nursing, these factors cannot be considered absent in applications of research in other health professions.

Following a survey of two hundred seventy-nine nurses, Brett (1987) related several factors contributing to the integration of research into practice. The method of survey was a Nursing Practice Questionnaire developed to measure nurse adoption of research findings. The questionnaire was tested for reliability by test-retest reliability and the content validity was assumed since it was derived from published nursing research reports using specific criteria. The results of the survey identified that

educational and institutional characteristics do not significantly influence the application of research. On the other hand, perceptions about the existence of organizational policy toward research correlated strongly with nurse adoption. Knowledge obtained through reading journals correlated with a higher incidence of integrating research into practice.

Funk, Champagne, Wiese, and Tournquist (1991) showed significant results in the clinicians' rating of work setting barriers as being the most inhibiting to the application of research. A barriers to research questionnaire was mailed to five thousand members of the American Nurses' Associations. A final sample of one thousand nine hundred forty-eight was obtained. The respondents reported on their perceived barriers to using research findings in practice. Clinicians reported they did not have enough authority to change practice; there was insufficient time on the job to implement new ideas; and administrators, physicians and other staff were not supportive of implementation. Coyle and Sokop (1990) replicated Brett's (1987)

research by utilizing the Nursing Practice Questionnaires. The sample included two hundred registered nurses randomly selected from medium-sized hospitals in North Carolina. One hundred thirteen questionnaires were returned for a fifty six percent response rate. The results demonstrate that the integration of research into practice is facilitated by formal recognition and authority, not just on the knowledge of the research.

During a survey of California obstetricians, Purdy and Lasnover (1986) presented that physicians are willing to accommodate the wishes of childbearing couples for a more "high touch" birth experience as long as it doesn't endanger the mother or the infant. A three page mail survey instrument listing sixty-one obstetrical procedures was mailed to one thousand one hundred eighty-five California Obstetricians. Five hundred two returned questionnaires were tabulated to determine the incidence of permitting alternatives in practice based on their client's wishes. The majority of respondents reported a willingness to permit a

variety of nontraditional practices such as sibling attendance at birth or assistance of the father at delivery. There also was age-related differences in the responses. The younger obstetricians appeared more willing to encourage, permit, or utilize alternative birth practices.

The review of the literature supports skin-to-skin contact as beneficial to mother and infant with no contraindications to its use in healthy, full-term newborns. The integration of these research findings into practice can depend on many factors which influence all applications of research to practice. The next logical step in research is to establish the actual incidence of skin-to-skin contact and identify factors influencing its practice. The implications to nursing and medical care of such a study could lead to changes in nursing education, institutional policies, and nursing and medical interventions which could lead to more positive family-centered care.

Conceptual Framework

In dealing with childbearing families, the health care environment strives to meet the special needs of the family undergoing change. This process of family-centered maternity care includes facilitation and promotion of the natural and normal processes of childbearing. Part of this natural process desired by couples includes touching and bonding with their new baby immediately after birth. Curry (1982) hypothesizes that this early maternal-infant contact enhances the attachment process. Studies (e.g., Dodman 1987; Fardig, 1980; Gardner, 1979; Philips, 1974; and Newport, 1984) have shown that there is no statistical difference in neonatal thermoregulation between those newborns given skin-to-skin contact and those placed in radiant warmers. With these findings, it is expected that most providers of intrapartum care would include immediate maternal-infant skin-to-skin contact in their standard protocols to enhance family-centered care (See Appendix A).

Definition of Terms

For the purpose of this study, skin-to-skin contact is defined as placing a healthy, full-term newborn skin-to-skin against the mother for fifteen continuous minutes anytime during the first hour following a spontaneous normal vaginal delivery.

"Providers" is the term used to identify those obstetricians, and nurse-midwives who perform the delivery and direct the care of the newborn.

Assumptions

This study incorporates the following assumptions.

1. Providers of intrapartum care wish to give patients the most positive birthing experience within the parameters of safe practice.

2. Childbirth is a natural process.

3. Self-reports on provider practice and care rendered are valid.

Sample

A convenience sample of obstetricians and certified nurse-midwives (CNMs) was selected for this study. The inclusion criteria required subjects to be

1) active-duty Air Force providers, 2) actively performing deliveries, and 3) working at stateside hospitals which utilized both obstetricians and CNMs. There were 103 subjects, 61 obstetricians and 42 CNMs, who met this criteria. Of the 103 subjects, 57 (22 obstetricians, 34 CNMs, and one other) participated in the study by returning their questionnaires. This represented a 55 percent response rate. The sample was predominantly white (93%), female (72%), and had been practicing for less than 10 years (86%).

Procedure

This atheoretical study was based on a nonexperimental, descriptive, Level II, quantitative design. Concepts of the study were broad involving the aspect of family-centered maternity care of immediate parent-infant contact and the incorporation of research on maternal-infant skin-to-skin contact into provider practice.

A 23-item questionnaire (Appendix B) was mailed to the sample population to elicit information on demographic data, utilization of immediate maternal-

infant skin-to-skin contact, and factors influencing its practice. Questionnaires included instructions, information about the study, statement of implied consent, a definition of immediate maternal-infant skin-to-skin contact, and a return self-addressed, stamped envelope. The questionnaire required five to ten minutes for completion and subjects were requested to return it within three days. The questionnaire was adapted from an established tool, "The Barriers to Research Utilization Scale", with permission from its authors (Funk, Champagne, Wiese, and Tornquist 1991). The instrument was initially administered to six obstetricians and CNMs at a military teaching hospital to test it reliability and face validity. Revisions were made to four questions which were either identified as confusing by the test sample or had significant (range of $p = .11$ to $.6$) test-retest differences. The revised tool was utilized in the study after it was approved and given the survey control number USAF SCN 92-015 by DPMYOS. The tool contained three parts. First, providers used a ratio

scale, with the low score being never and the high score signifying 100 percent, to indicate how frequently they used immediate skin-to-skin contact. Second, a Likert-like scale was provided for subjects to rate how eleven factors influenced skin-to-skin practice. The eleven factors reflected perceptions of research, benefits, support, patient influence, and personal attitudes. The third part asked respondents to identify any additional factors which influenced their use of immediate skin-to-skin contact.

Analysis

Data analysis consisted of descriptive statistics using simple frequency distribution. Pearson Correlation Coefficients compared the factors influencing practice with demographic data. A statistical significance was found between females and the knowledge/belief in research items ($p = 0.0001$ and 0.0003, $r = 0.525$ and 0.46 respectively). Female subjects had a positive correlation with the belief that skin-to-skin contact is an integral part of family-centered maternity care ($r = 0.28$ and $p = 0.34$).

All other correlations were either weak or no significance with $r < 0.3$ and $p > 0.05$.

Questions 14 - 21 reflected demographic data of age, ethnicity, position, education, marital status, practice specifics and membership in professional organizations. The results are listed in Tables 1 - 8.

Table 1

Sex of Respondents

Sex	frequency	percent
Male	16	28.1
Female	41	71.9

Table 2

Ethnic/Racial Identity of Subjects

Ethnic/Racial Identity	frequency	percent
American Indian/Alaskan Native	0	0
Black	0	0
White	52	91.2
Hispanic	3	5.3
Asian/Pacific Islander	2	3.5
Other	0	0

Table 3

Marital status of subjects

Marital Status	frequency	percent
Never married	11	19.3
Married	41	71.9
Divorced	4	7.0
Widowed	0	0
Legally separated	1	1.8

Table 4

Educational level of respondents

Education	frequency	percent
BSN	9	15.8
MSN	22	38.6
MD	23	40.4
DO	0	0
Other	3	5.3

Table 5

Position of provider

Position	frequency	percent
Department Chief	8	15.8
Staff Midwife	33	38.6
Staff Obstetrician	15	40.4
Other	1	5.3

Table 6

Years of provider practice

Years of Practice	frequency	percent
1 - 5	27	47.4
6 - 10	22	38.6
11 - 15	4	7.0
16 or more	4	7.0

Table 7

Provider deliveries/month

Deliveries/Month	frequency	percent
1 - 10	29	50.9
11 - 20	26	45.6
21 - 30	1	1.8
31 - 40	0	
Over 40	0	

Table 8

Membership in professional organizations

Professional Organizations	frequency	percent
None	1	1.8
one	12	21.1
two	24	42.1
three or more	20	35.1

In regards to questions about practice, the first question assessed how often providers practice maternal-infant skin-to-skin contact. Sixty-eight percent of the 47 respondents (10 failed to answer) practiced immediate skin-to-skin contact at least half of the time for healthy mothers and full-term newborns. Table 9 lists the results of provider frequencies of the practice of maternal-infant skin-to-skin contact.

Table 9

Incidence of utilization of maternal-infant skin-to-skin contact among certified nurse-midwives and obstetricians (10 respondents didn't respond)

Provider use	frequency	percent
Never	5	10.6
1 of 4 times	10	21.3
2 of 4 times	7	14.9
3 of 4 times	15	31.9
4 of 4 times	10	21.3

Since both certified nurse-midwives and obstetricians were surveyed, data was assessed to determine if there existed a difference between these two groups. Table 10 lists frequencies and percentages. A bar graph (Appendix B) also shows the frequencies. A chi-square and student's T-Test were also performed on the data. These tests indicated that

there was a statistical difference between the two groups ($p < 0.05$). However, the researchers hesitate to report this as a valid finding due to a lack of goodness of fit of the data and statistical test. There was no consideration for control groups and no repeated measures.

Table 10

Comparison of the incidence of utilization of maternal-infant skin-to-skin contact among certified nurse-midwives and obstetricians

Provider use	frequency		percent	
	CNMs	OBs	CNMs	OBs
Never	3	2	10	12
1 of 4 times	7	3	24	18
2 of 4 times	2	3	7	18
3 of 4 times	10	6	34	35
4 of 4 times	7	3	24	18
No response	5	5		

Note. Percentages were calculated on number of total answers.

Answers to the two items on research revealed 66% knew of the research advocating skin-to-skin contact as a safe and effective means of thermoregulation and 77% believed it. Table 11 outlines the number of providers responding to the Likert-type scale regarding knowledge of skin-to-skin research and Table 12 lists the frequency of belief in the studies supporting it as an effective means of thermoregulation.

Table 11

Respondents to awareness of research supporting the use of skin-to-skin contact as an effective means of warming the newborn

Knowledge of Research	frequency	percent
No extent	5	8.8
Little extent	11	19.3
No opinion	3	5.3
Moderate extent	19	33.3
Great extent	19	33.3

Table 12

Belief in the research supporting utilization of skin-to-skin contact

Believe Research	frequency	percent
No extent	1	1.8
Little extent	2	3.5
No opinion	10	17.5
Moderate extent	25	43.9
Great extent	19	33.3

Persons who saw personal benefits to their actions were more likely to engage in those actions. The majority of the respondents agreed that there were benefits to self for using maternal-infant skin-to-skin contact. Table 13 shows the significant amount of respondents who perceived self benefits to a moderate or great extent.

Table 13

Benefits for self in practicing skin-to-skin contact

Benefits to self	frequency	percent
No extent	1	1.8
Little extent	4	7.1
No opinion	13	23.2
Moderate extent	20	35.7
Great extent	18	32.1

Note. There was one missing response to this question.

The most startling positive finding focused on maternal needs. Mother's request rated over 80% as having at least a moderate influence on provider practice. This is clearly evident by the data listed in table 14. Keep in mind, however, that maternal request may be a desire or a refusal to touch infant immediately after delivery.

Table 14

Mother's request influences implementation of skin-to-skin contact

Influence of mother	frequency	percent
No extent	1	1.8
Little extent	4	7.0
No opinion	5	8.8
Moderate extent	16	28.1
Great extent	31	54.4

Family-centered care includes many aspects of provider-client interactions. Maternal-infant skin-to-skin contact is one aspect of family-centered care. The majority (Table 15) contended that skin-to-skin contact is an integral part of family-centered maternity care.

Table 15

Belief that skin-to-skin is an integral part of family-centered maternity care (FCMC).

Part of FCMC	frequency	percent
No extent	2	3.5
Little extent	6	10.5
No opinion	7	12.3
Moderate extent	26	45.6
Great extent	16	28.1

Item number 11 questioned the attitudes of providers in the implementation of skin-to-skin contact. The use of maternal-infant skin-to-skin did not significantly change the views/ideas of over 80% of the providers (Table 16).

Table 16

Use of skin-to-skin would involve a change of provider ideas/views

Change ideas/views	frequency	percent
No extent	37	66.1
Little extent	11	19.6
No opinion	4	7.1
Moderate extent	2	3.6
Great extent	2	3.6

Note. One answer was left blank.

One of the hottest issues of debate surrounding early maternal-infant contact is bonding/attachment. Greater than 70% responded that skin-to-skin contact facilitates maternal-infant attachment (Table 17).

Table 17

Belief that skin-to-skin contact facilitates maternal-infant attachment

Attachment	frequency	percent
No extent	2	3.5
Little extent	8	14.0
No opinion	5	8.8
Moderate extent	22	38.6
Great extent	20	35.1

Several items showed an equal distribution of ratings. These were colleague and administrative support, and authority to change policy and or procedure (Tables 18,19,20).

Table 20

Authority to change facility or departmental procedure to make skin-to-skin contact a routine procedure

Perception of authority	frequency	percent
No extent	11	19.6
Little extent	16	28.6
No opinion	7	12.5
Moderate extent	15	26.8
Great extent	7	12.5

Note. There was one missing answer to this question.

One factor that specified benefits to changing practice received a majority of no opinion responses (Table 21).

Table 21

Benefits to changing provider practice to incorporate skin-to-skin contact

Benefits to change	frequency	percent
No extent	4	7.8
Little extent	6	11.8
No opinion	22	43.1
Moderate extent	18	35.3
Great extent	1	2.0

Note. Six providers declined to answer.

Appendices C through M use bar graphs to compare the percentages of responses to the utilization of skin-to-skin contact and the factors influencing its practice.

Thirty-six questionnaires contained responses to the qualitative question asking providers to list other factors that influenced their practice of skin-to-skin contact. Providers listed maternal/infant status and nursing support staff as two major factors influencing their decision to use skin-to-skin contact in the immediate newborn period. Providers' comments are listed below. Note that the last comment, by a CNM, gives several benefits of immediate skin-to-skin contact in addition to the thermoregulatory considerations.

> "I am new in my position, & am the 1st CNM @ this base. Early skin to skin contact has not been used here, mostly due to ignorance & the teams trying to hurry & get their routine work done (such as Vit K injection). I don't feel there is any animosity towards it - just no motivation to do it. I'm trying not to make waves in starting it up."
>
> "I believe mothers should handle their babies right after birth before nursing staff - this has not been the practice here and the nursing staff is slowly growing to accept this and delay their procedures. Mothers also seem more

relaxed for further interventions when holding their babies."

"I do use skin to skin contact most of the time. The only time I don't is when I perceive that the mother doesn't want it. Also, frequently the staff wants the baby sooner than 15" for footprints, etc."

"1. Very little patient desire or acceptance. 2. Nurses are nonsupportive, procedures do not support. 3. My own experience with NB's lose temperature without overhead radiant warmers."

"Ask mother if she wants baby before completely dried off, ie - most want vernix off. Many mothers do not want their <u>messy</u> babies. I learned this because I thought everyone wanted their baby first - I learned not to ask my moms to deal with <u>my</u> values."

"protocol for vital signs, etc, in the birthing room - <u>all</u> my pts get skin-to-skin contact, but usually only 5-10 minutes - then to the warmer to get the infant dried off."

"Main reason I do is parent-child bonding. Additionally, skin contact keeps baby warmer while the cord finishes pulsating."

"As long as the baby and the mother are doing well, I encourage skin to skin contact."

"I often place infant in warmed blanket on mom's chest. Not all women want a 'pre-bathed' newborn on their chest. Pediatric staff often want the baby at delivery. To insist on 5 min at birth would be to tackle the pediatric staff."

"Staff's desire to do routine care."

"Good bonding, mothers happy to see & hold infant."

"It's fun for the mother to see the result of her hard work immediately. Takes her mind off the pain."

"Infant's stability at birth - crying lusty? Or not yet? If any concern re: baby, it first gets evaluated under warmer. However, most of my pts get baby on tummy immediately - I often 'fight' with RNs about this 'cos they want to get their 'work' done re: baby care -I tell them to do it with baby on mom & I always win."

"Do not utilize skin-to-skin contact as much due to techs having to ID and footprinting infant."

"1. mother's request. 2. nursing practice/procedures."

"mec/tachy/brady/oligo/febrile/MgSO4/recent narcs/tight nuchal cord(s)"

"Staff flips out."

"Infant status after del - mec aspiration, sick infant"

"I used to as a resident, 3/4 times. Here the nurses were used to using a warm blanket instead."

"Fetal distress, etc. Difficult delivery. Meconium."

"Resistance from other nursing staff/technicians."

"Maternal condition, routine of immediate neonatal care vis a vis technicians, etc."

"Family preference. Status of infant."

"Condition of mother and infant at birth and in the first postpartum hour."

"Health of mother and newborn."

"Bonding, warmth."

"Bad habits"

"Condition of infant at birth. Mother's perception of infant as 'yechy."

"Mother's preference immediately after delivery."

"I've tried, the techs take the baby away to weigh, measure, check dextrose, etc. I usually give healthy newborns to the mother. Several mothers here request to

> 'clean it up first!' However, 5 minutes would be a long time for the mother to hold her baby here before it is taken away by the attending nurse or tech."
>
> "It's easy, provides ready visual access to observe transitioning of infant to extrauterine life. Able the allow the cord to stop pulsating. I enjoy watching the mother unfold and 'take in' this new life. It's beautiful."

Conclusions

Surprising to the researchers, the majority of the providers utilized maternal-infant skin-to-skin contact in healthy mothers and infants. The fact that the majority of providers perceived its incorporation into their practice as not requiring any changes to their ideas or views may have contributed to the high rate of frequency of its use. The major factors which influence its practice include maternal request, personal benefits, nursing support staff, health of mother and baby, and the belief that skin-to-skin is an integral part of family-centered care. A low-positive correlation was found between female providers and knowledge/belief of research and maternal-infant skin-

to-skin contact as an integral part of family-centered care. The clinical significance of this is questionable, since the number of female providers greatly outnumbered the males.

Limitations

The limited military sample handicaps this study's application to a larger population. There also was an exclusion of other health professional who are involved in maternity care, such as family practice physicians. In addition, the researchers must consider that the providers who chose to respond to the survey may have biased or skewed the results of the study. A provider who readily practices immediate skin-to-skin contact may be more willing to complete the questionnaire than a provider who doesn't practice it.

The instrument is another limitation to the study. The tool was initially tested for reliability and validity. The revised questionnaire was not retested for reliability.

Implications

Future research should include a broader and larger sample population. Nursing support staff should be surveyed since they were implicated as influencing provider practice. Family practice physicians should be included in future research since they are also involved in maternity care. Continued use of and revision to the instrument in further research would establish its validity and reliability and could delineate further factors which influence provider practice.

The heavy influence of maternal request on provider practice indicates the need for prenatal education of couples as to the availability and benefits of immediate maternal-infant skin-to-skin contact. This could lead to increased provider practice of the procedure. In addition, dissemination of research findings to nursing personnel and providers could lead to increased support for its use. Both actions would enhance family-centered maternity care.

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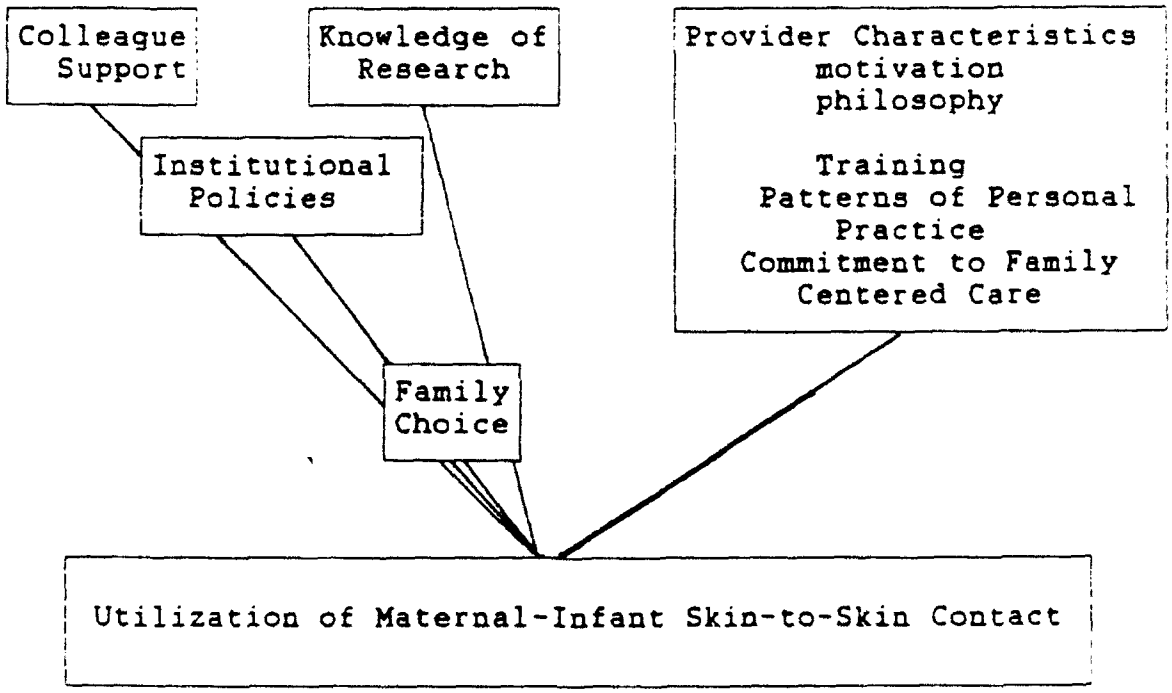
APPENDICES

Appendix A

Factors Influencing the

Practice of Skin-to-Skin Contact



Appendix B

RESEARCH ON MILITARY NURSE-MIDWIVES' AND OBSTETRICIANS' UTILIZATION OF MATERNAL-INFANT SKIN-TO-SKIN CONTACT

It is believed that the providers in the USAF are at the forefront of research utilization and Family-Centered Care. The information gained from this survey will yield valuable information in determining the incidence of the utilization of immediate skin-to-skin contact between mothers and healthy, full term newborns and factors influencing its use.

For the purpose of this study, skin-to-skin contact is defined as placing a healthy, full-term newborn skin-to-skin against the mother for fifteen continuous minutes anytime within the first hour following a spontaneous normal vaginal delivery. Enclosed is a 23-item survey developed by two student Nurse-Midwives which contain questions to determine demographic information and your utilization of skin-to-skin contact. Your participation in this research would be highly appreciated.

If you choose to participate in this study, you can be assured complete confidentiality. Your participation in this study is totally voluntary and return of this survey is considered your consent to be part of the research.

It will take you only five minutes to complete the 23 questions. Your completion of the survey within three days of receiving it will ensure prompt data analysis. Once you have completed the survey, please return it by the self-addressed, pre-stamped envelop enclosed.

This survey has received a survey control number of USAF SCN 92-015 from DPMYOS/Headquarters Air Force Military Personnel Center, Randolph AFB, Texas. We hope you choose to participate in this pilot study. Thank you for your interest in our research and your thoughtful participation. If you have any questions, please do not hesitate to contact Major Kathy Higgins, or Captain Kathryn Robinson at DSN 858-6104, Malcolm Grow Medical Center, Andrews Air Force Base, Maryland.

Directions: Circle the answer which best represents you and your view.

1. For all the normal spontaneous vaginal deliveries I attend, I place healthy, full-term infants skin-to-skin with their mothers for 15 continuous minutes within the first hour following birth:

   a. Never
   b. One out of four times
   c. Two out of four times
   d. Three out of four times
   e. Four out of four times

	To no extent	To a little extent	No opinion	To a moderate extent	To a great extent
2. I am aware of research which supports the use of skin-to-skin contact as an effective means of warming for the newborn.	1	2	3	4	5
3. I believe the research which supports utilization of skin-to-skin contact.	1	2	3	4	5
4. I see benefits for myself in practicing skin-to-skin contact.	1	2	3	4	5
5. My colleagues support implementation of skin-to-skin contact.	1	2	3	4	5
6. Administration supports implementation of skin-to-skin contact.	1	2	3	4	5
7. Mother's request influences my implementation of skin-to-skin contact.	1	2	3	4	5
8. I believe skin-to-skin contact is an integral part of family-centered care.	1	2	3	4	5
9. I have the authority to change facility or departmental procedures to make skin-to-skin contact a routine procedure.	1	2	3	4	5
10. There will be benefits to changing my practice to incorporate skin-to-skin contact.	1	2	3	4	5
11. Use of skin-to-skin contact involves or would involve changing my ideas/views.	1	2	3	4	5
12. I believe skin-to-skin contact facilitates mother-infant attachment.	1	2	3	4	5

13. What other factors influence why you utilize or do not utilize skin-to-skin contact?

14. Age (in years):

   a. 21-25
   b. 26-30
   c. 31-35
   d. 36-40
   e. 41-45
   f. 46 and over

15. Sex:

    a. Male
    b. Female

16. Ethnic/Racial identity:

    a. American Indian/Alaskan Native
    b. Black (Non-Hispanic)
    c. White (Non-Hispanic)
    d. Hispanic
    e. Asian/Asian American/Pacific Islander
    f. Other

17. Marital Status:

    a. Never Married
    b. Married
    c. Divorced
    d. Widowed
    e. Legally Separated

18. Education (mark the highest degree held):

    a. BSN
    b. MSN
    c. MD
    d. MD
    e. DO
    f. Other

19. Position:

    a. Department Chief
    b. Staff Midwife
    c. Staff Obstetrician
    d. Other

20. Rank:

    a. 03
    b. 04
    c. 05
    d. 06 or above

21. Years of practice in delivering babies:

    a. 1-5
    b. 6-10
    c. 11-15
    d. 16 or more

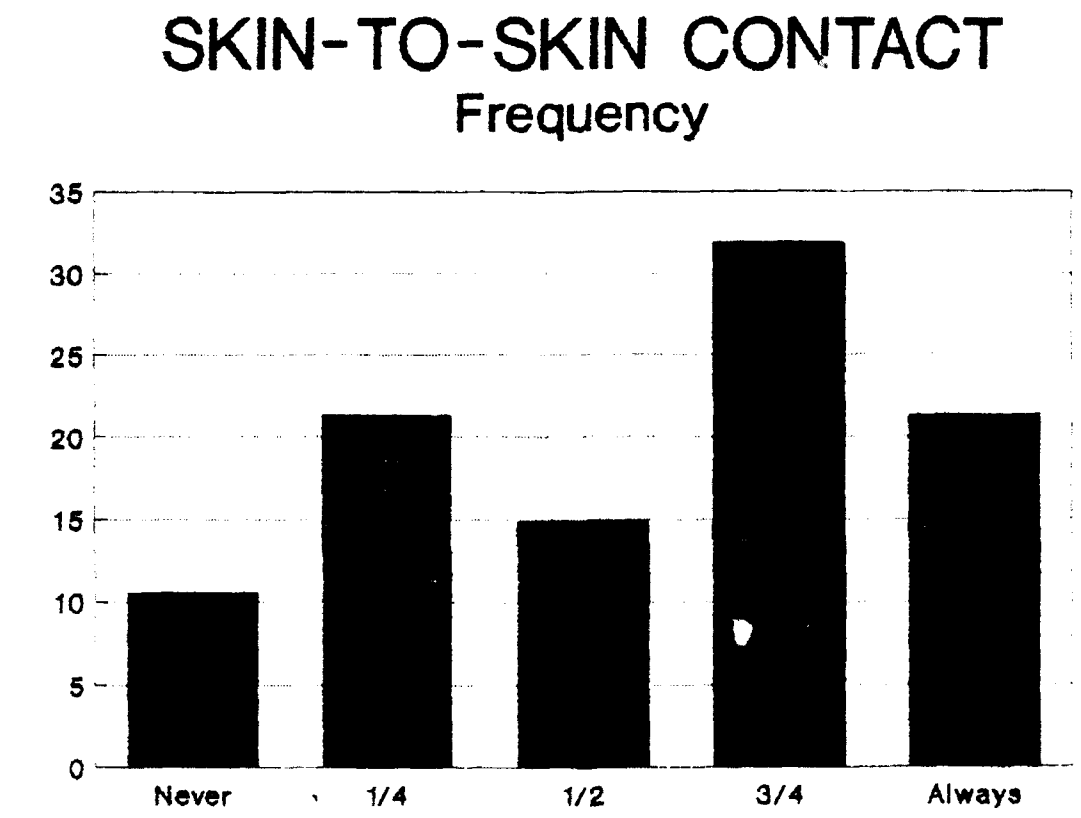
22. How many deliveries do you perform per month:

    a. 1-10
    b. 11-20
    c. 21-30
    d. 31-40
    e. Over 40

23. How many professional medical or nursing organizations do you belong to:

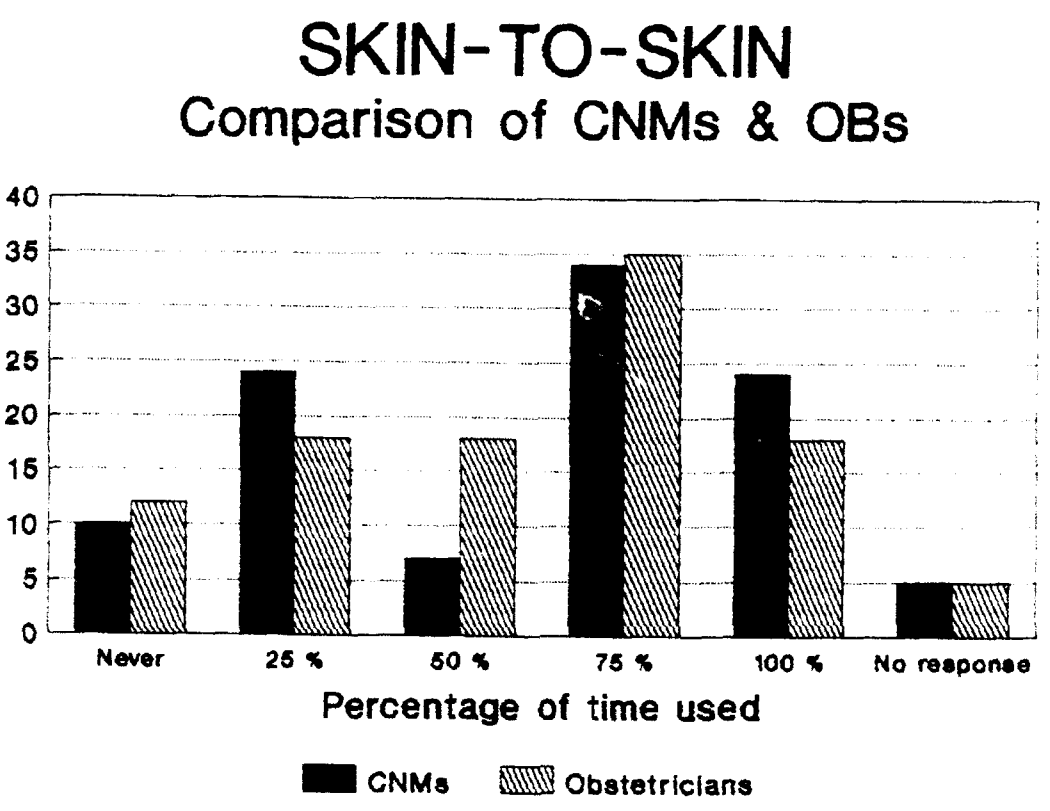
    a. None
    b. 1
    c. 2
    d. 3 or more

Appendix C

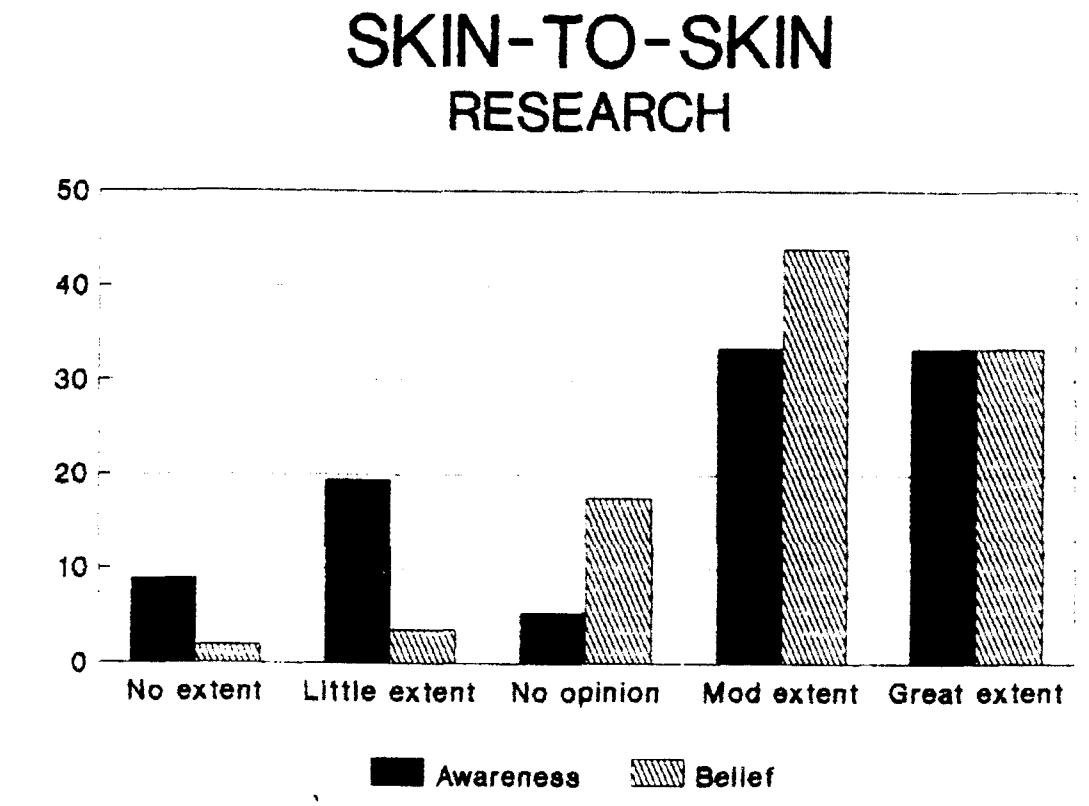


Frequency for all CNMs & OBs

Appendix D

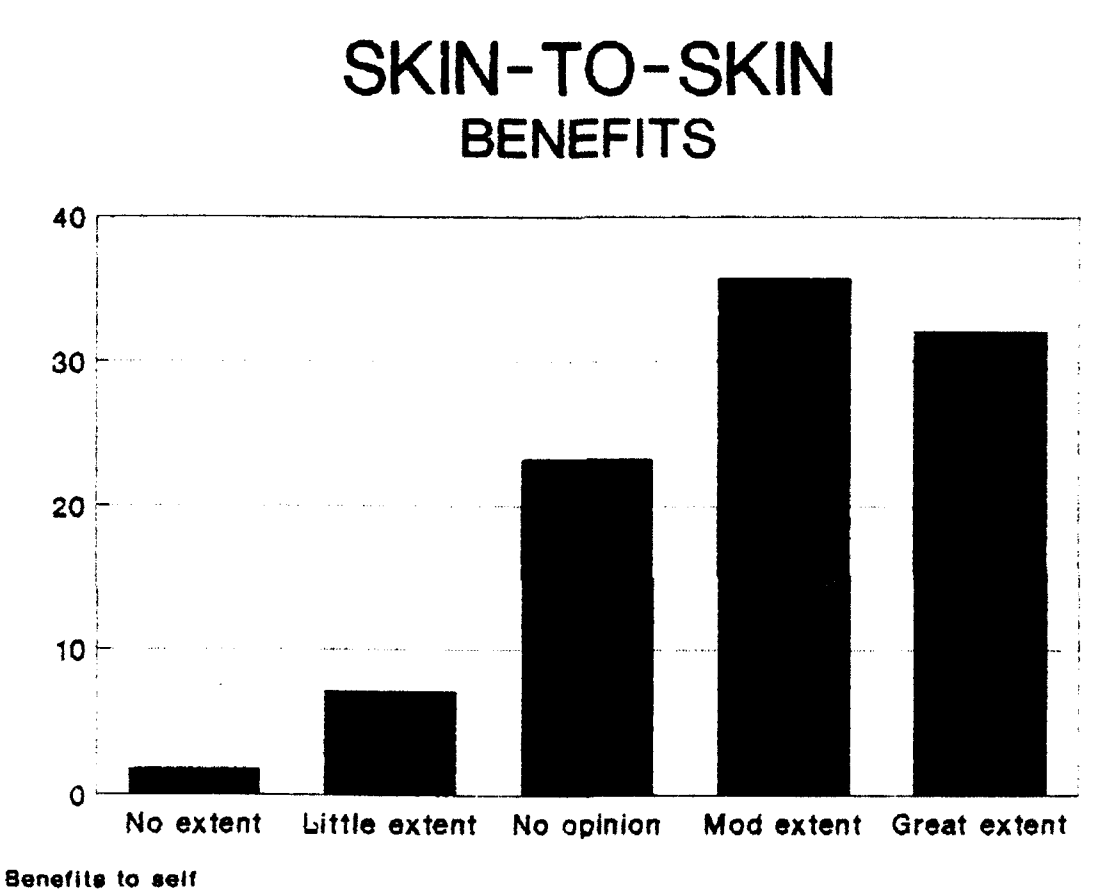

SKIN-TO-SKIN
Comparison of CNMs & OBs
40
35
30
25
20
15
10
5
0
Never
25 %
50 %
75 %
100 %
No response
Percentage of time used
CNMs
Obstetricians

Appendix E

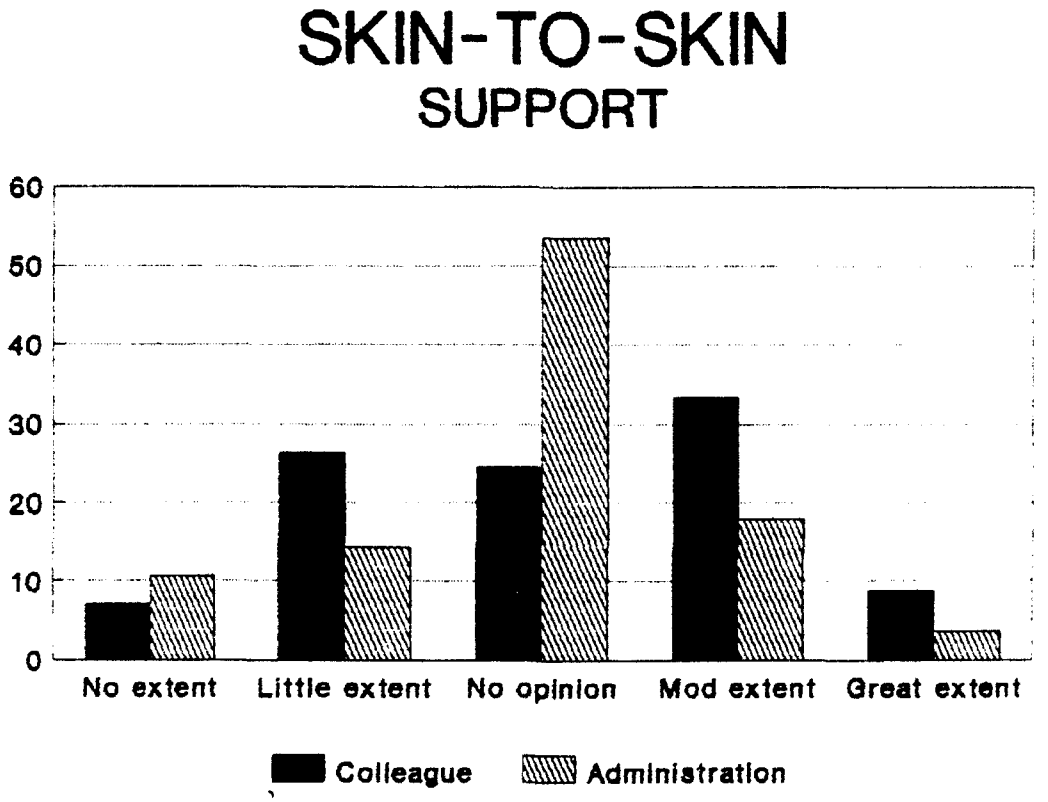


Research Awareness & Belief

Appendix F

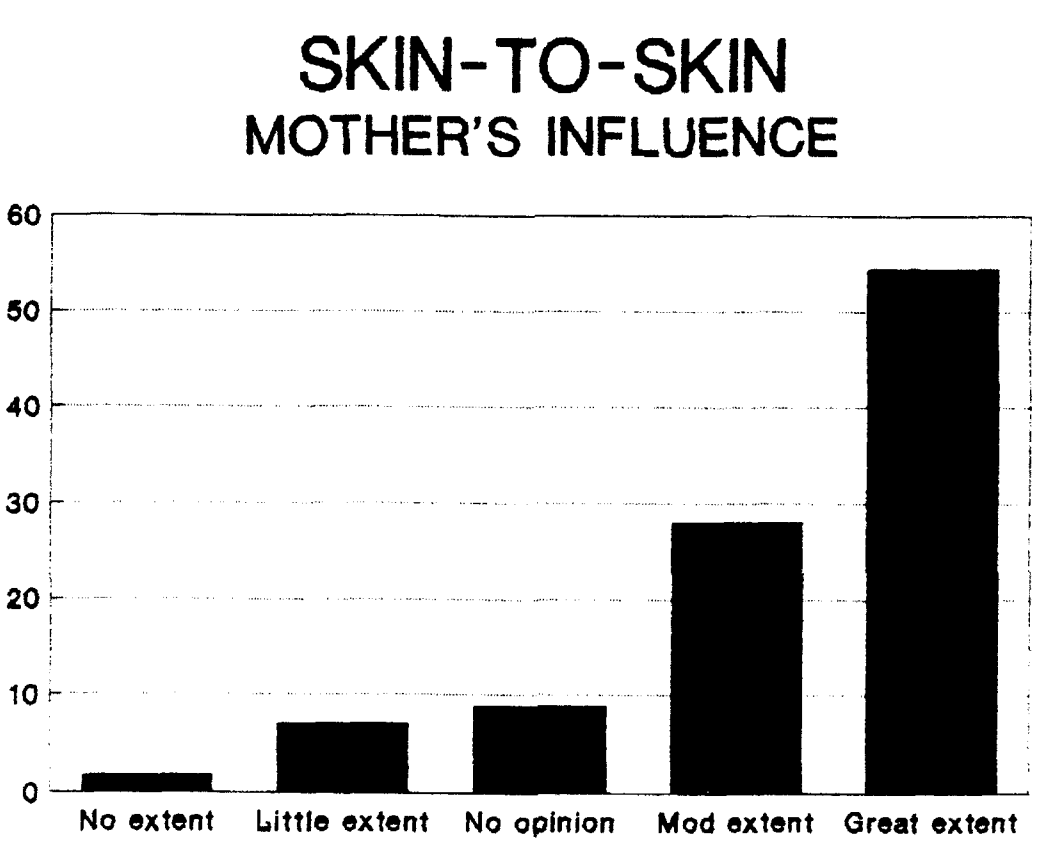

SKIN-TO-SKIN
BENEFITS
40
30
20
10
0
No extent
Little extent
No opinion
Mod extent
Great extent
Benefits to self

Appendix G

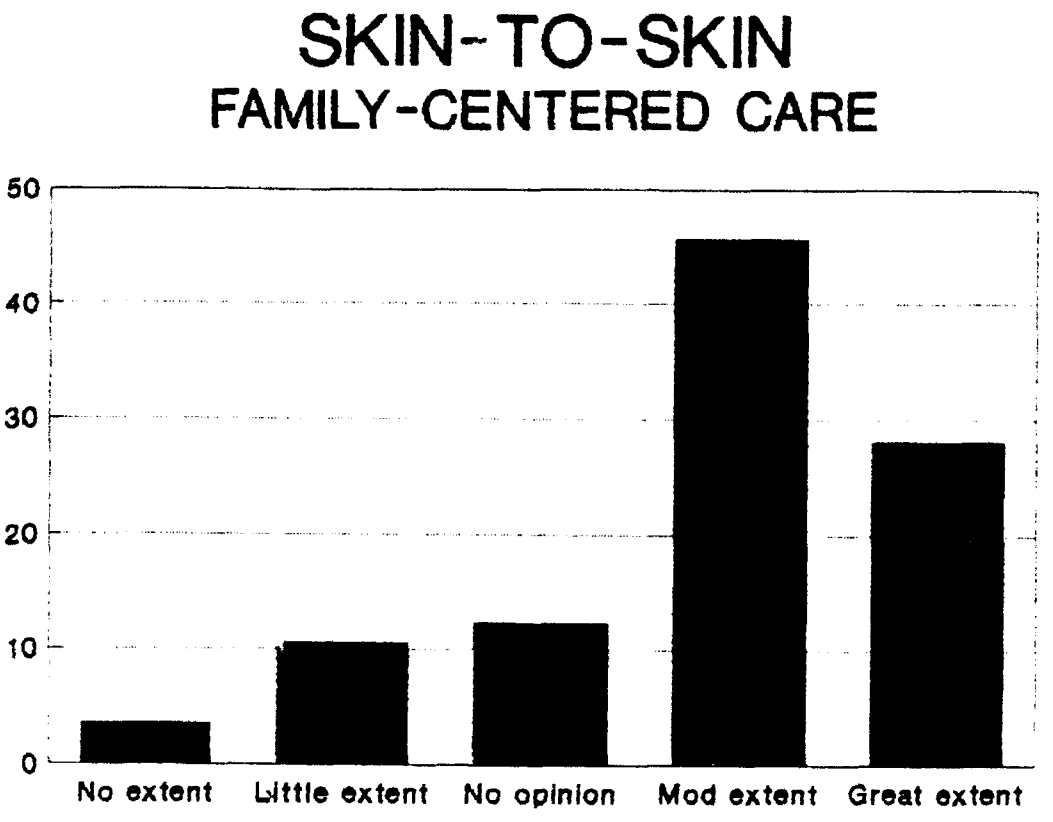


Colleague & Administrative Support

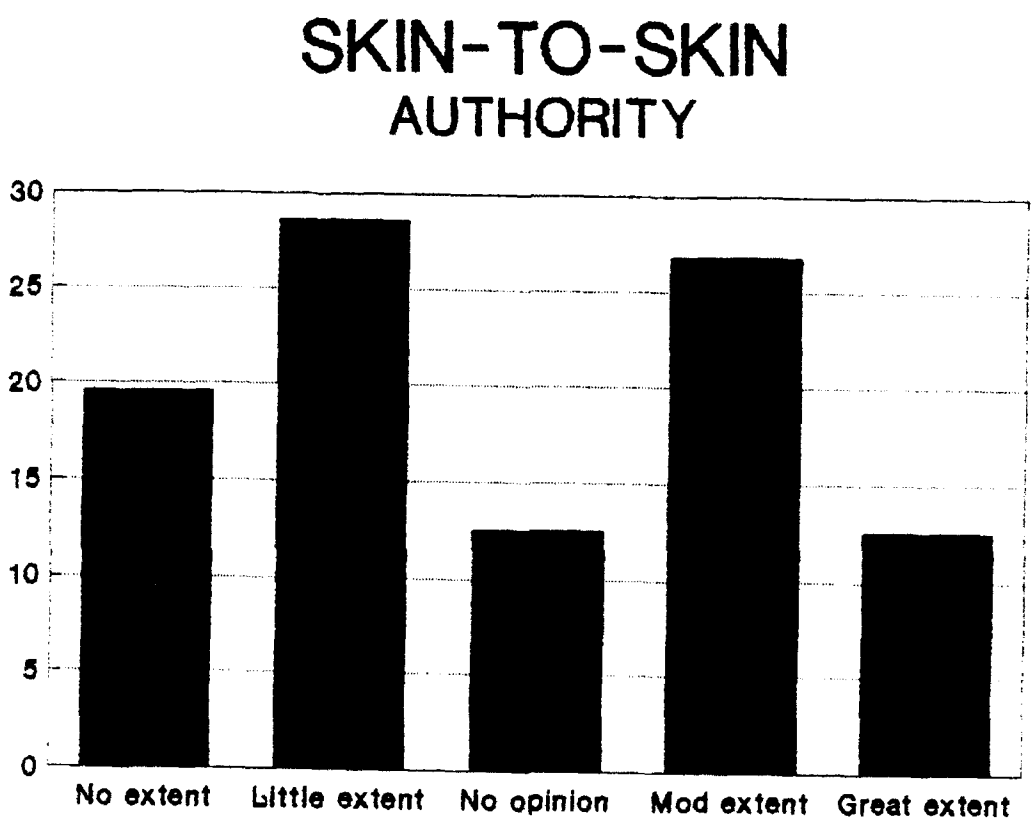
Appendix H


SKIN-TO-SKIN
MOTHER'S INFLUENCE
60
50
40
30
20
10
0
No extent
Little extent
No opinion
Mod extent
Great extent

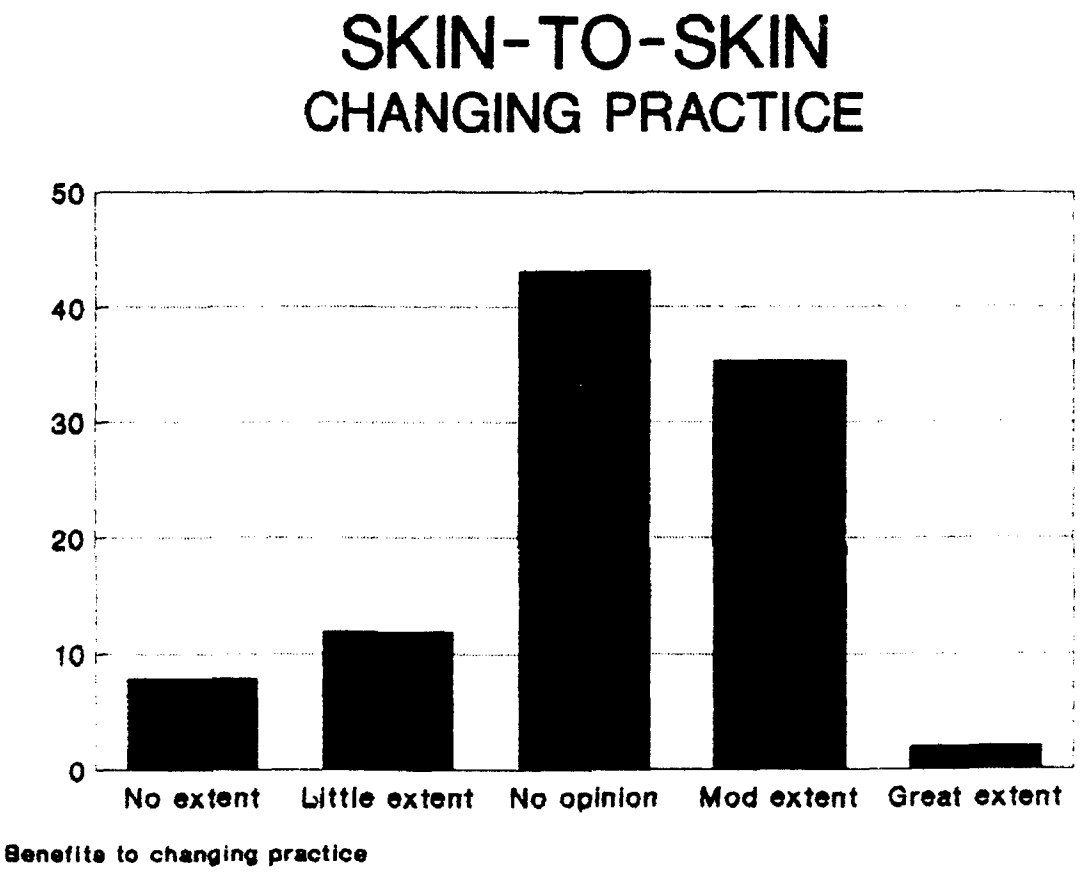
Appendix I


SKIN-TO-SKIN
FAMILY-CENTERED CARE
50
40
30
20
10
0
No extent
Little extent
No opinion
Mod extent
Great extent

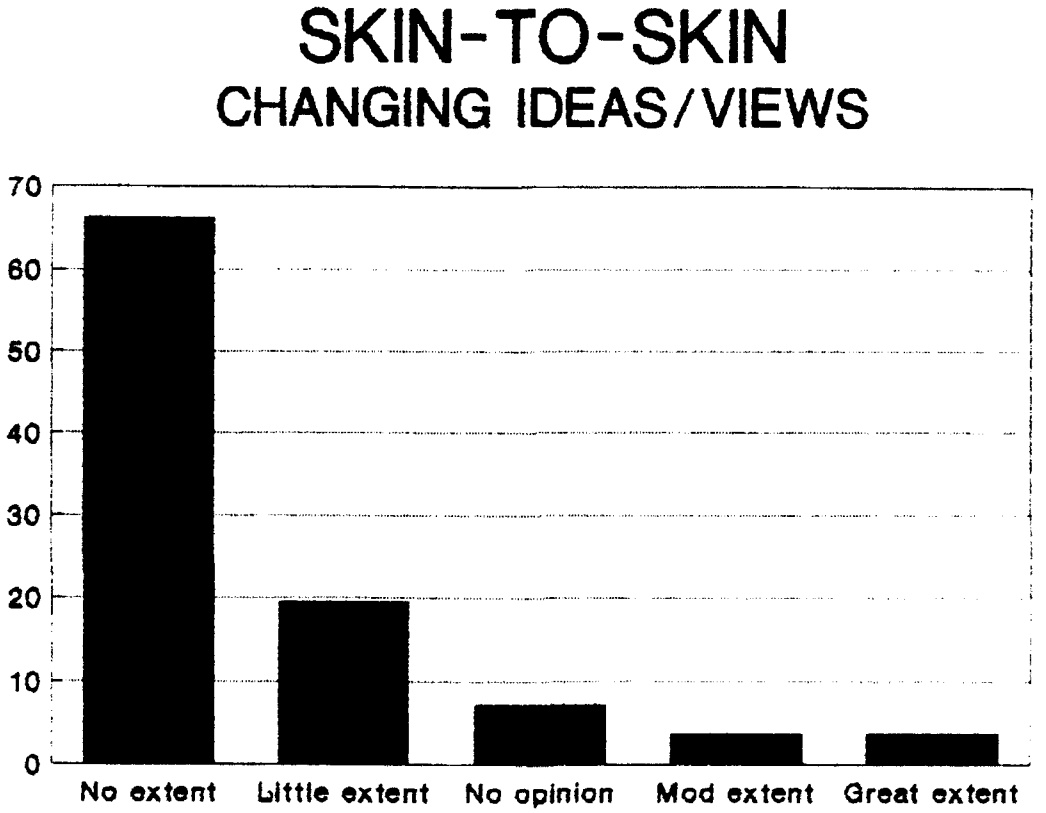
Appendix J


SKIN-TO-SKIN
AUTHORITY
30
25
20
15
10
5
0
No extent
Little extent
No opinion
Mod extent
Great extent

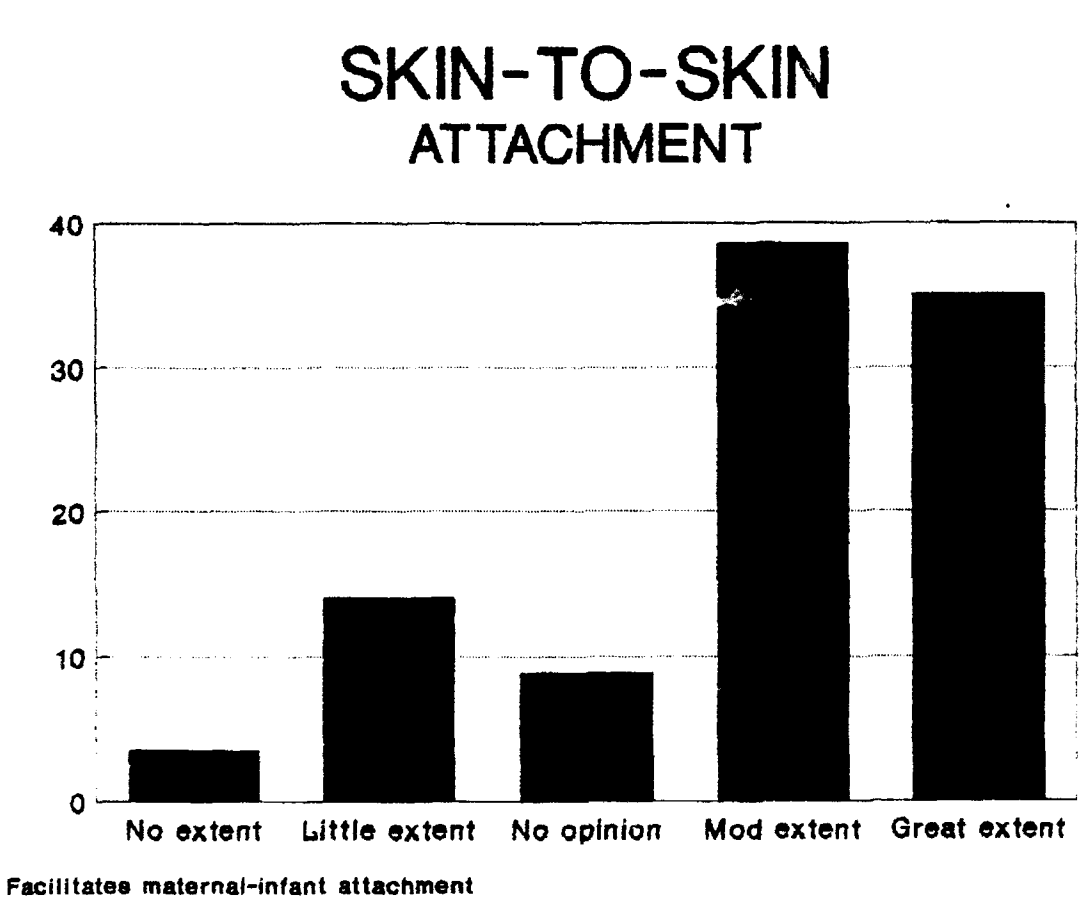
Appendix K


SKIN-TO-SKIN
CHANGING PRACTICE
50
40
30
20
10
0
No extent
Little extent
No opinion
Mod extent
Great extent
Benefits to changing practice

Appendix L


SKIN-TO-SKIN
CHANGING IDEAS/VIEWS
70
60
50
40
30
20
10
0
No extent
Little extent
No opinion
Mod extent
Great extent

Appendix M


SKIN-TO-SKIN
ATTACHMENT
40
30
20
10
0
No extent
Little extent
No opinion
Mod extent
Great extent
Facilitates maternal-infant attachment