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Nurse-Midwives' Knowledge and Promotion of Lactational Amenorrhea and Other Natural Family-Planning Methods for Child Spacing

By Richard J. Fehring, Lisa Hanson, and Joseph B. Stanford

The purpose of this study was to describe and assess certified nurse-midwives' (CNMs) knowledge and promotion of two modalities for child spacing, natural family-planning (NFP) and the lactational amenorrhea method (LAM). One thousand two hundred CNMs were randomly selected from a national membership list and mailed a 24-item questionnaire on NFP and LAM. Of the 514 respondents (42.8% return rate), 450 (87.5%) were currently practicing as CNMs. Respondents had an average age of 46 years, with an average of 10 years of practice. CNMs ranked NFP as the ninth most used and the eighth most effective family-planning method in their practice, with an average perceived method-effectiveness of 88% and use-effectiveness of 70%. Although most respondents felt somewhat prepared during their education program to provide NFP, only 22% would offer NFP as a family-planning option for child spacing.

Introduction

Certified nurse-midwives (CNMs)* and certified midwives (CMs)* are in key positions to promote or dissuade the use of breastfeeding and other natural family-planning (NFP) methods as a means of child spacing. These natural methods of family planning appropriately correspond to the philosophic base of midwifery practice, which advocates nonintervention in normal processes (1). Although promoted for more than a decade, breast-feeding is used by very few women in the United States as a natural method of child spacing (2,3). This may be due partly to cultural and lifestyle preferences that preclude exclusive breastfeeding and the likelihood that key health professionals, unaware of the effectiveness of the lactational amenorrhea method (LAM) as a viable method of child spacing, are not taught to counsel clients to use breastfeeding as an effective means of family planning (4,5). The purpose of the research study described herein was to describe CNMs' knowledge and promotion of breastfeeding and other NFP methods for child spacing and family planning.

Review of the Literature

For more than 10 years there has been scientific consensus that LAM for spacing children is an effective, healthy, and natural means of family planning. At a 1988 International

Conference on Breastfeeding in Ballagio, Italy, experts developed an algorithm on the use of breastfeeding as a means for family planning, now known as the LAM (6,7). The premise of LAM is that a woman who fully or near fully breastfeeds her infant and remains amenorrheic will have a less than 2% chance of getting pregnant within the first 6 months after birth (8–10) and a 3% or less chance for up to 12 months (11–13).

In the United States, health professionals and lay people alike have taught modern approaches to NFP, such as the ovulation method and the symptothermal method, for more than 25 years (14,15). Although studies on modern methods of NFP confirm their effectiveness (97–99% method-effectiveness) in helping motivated couples to space pregnancies (16–20), very few married couples in the United States (less than 3% of all married women) use natural methods as a means of family planning (21). As with LAM, the reason NFP is not used by more couples is probably due to lifestyle, personal choice, and lack of knowledge. Another reason may be that influential health care professionals have little knowledge of NFP and do not promote or trust its use as a means of child spacing, a supposition confirmed by several studies of physicians and nurses (22–26). However, when health professionals provide women with information on NFP in a positive way, 22–37% would likely or very likely use NFP to either avoid or achieve pregnancy (27,28). The knowledge and promotion of natural family planning and LAM in midwifery practice have not previously been studied.

Methodology

A descriptive survey was conducted with a randomly selected national sample of CNMs who were currently providing family planning and gynecologic services and were members of the American College of Nurse-Midwives (ACNM). The 14-item Stanford Brief Physician Opinion Questionnaire on Natural Family Planning was originally developed to determine physicians' knowledge of NFP and was pilot-tested with 29 physicians (26). The final version of the Stanford questionnaire was modified for the current study by substituting the term "CNM" for "physician" in the survey items and adding questions on breastfeeding and LAM. The revised questionnaire was piloted with seven CNMs by using the intensive interview technique developed by Royston (29) to ensure that the questions were answerable and sought the intended information. The final version of the questionnaire contained 24 items that elicited demographics, effectiveness rates, and the incorporation of NFP and LAM by CNMs in their practices.

After obtaining human rights approval from Marquette University and proposal review and approval by the ACNM Division of Research (DOR), the NFP/LAM questionnaire was mailed to a random selection of 1,200 CNMs from the approximately 4,000 members of the ACNM. Two

mailings were conducted; the second mailing to nonrespondents occurred 1 month after the initial mailing. The data were coded, entered, and analyzed by using the Statistical Package for the Social Sciences (SPSS, Inc., Chicago, IL).

Results

Demographics

Five hundred fourteen (42.8%) of the 1,200 questionnaires were returned; of these, 450 (37.5%) were from CNMs in active practice and usable for analysis. The average age of the respondents was 46 years (range = 26 – 66 years), and the mean years of practice was 10 (range = 0.5– 40.5). All 50 states were represented. Reimbursement for CNM services came from public assistance (50%), private insurance (43%), and other payers (7%). About 75% of the clients served were 18 years or older; 54% were non-Hispanic white, 23% were non-Hispanic black, 22% were Hispanic, and 1% were non-Hispanic “other.”

Natural Family Planning

Table 1 contains CNM ratings of their educational preparation to effectively prescribe, administer, and/or educate clients regarding family planning methods. CNM respondents ($n = 433$) indicated that they had at least “some” preparation from their midwifery education program to prescribe, administer, and/or educate clients in the use of NFP. As noted in Table 1, respondents felt as prepared to educate clients in NFP as they did to provide sterilization counseling but less prepared than to administer or prescribe oral contraceptives, condoms, and other methods of contraception.

In responding to questions about the use of family-planning methods by their sexually active clients, NFP was ranked ninth in use and eighth in perceived-effectiveness among the 12 listed methods of family planning (Tables 2 and 3). LAM was not separated as a method to be ranked for use and effectiveness and should not be included in this interpretation. CNM respondents projected that, on average, 12.4% of women would become pregnant with perfect use of modern methods of NFP over a 12-month period (range = 0– 42%, SD = 8.46) compared with 28.3% of women who typically used NFP over the same period of time (range = 2– 80%, SD = 14.58).

Of the 370 CNMs with clients who used NFP, the type of method used was closely ranked in the following order: 1) basal body temperature (BBT), 2) ovulation method, 3) LAM, 4) symptothermal, and 5) calendar/rhythm. Forty-nine CNMs (10.9%) reported that they would not mention NFP to clients as an option for family planning. Two hundred eighty-six CNMs (63.4%)

would mention NFP only to select clients, and 101 (22.4%) would mention it as an option to most or all clients. Two hundred twenty-six (50.2%) CNMs reported that they felt prepared enough to provide NFP instructions by themselves, and 52.3% have NFP books or pamphlets available for their clients. When asked by a client specifically for information on NFP, most ($n = 281$ or 62.3%) of the CNM respondents would describe the symptothermal method, 215 (47.7%) would describe the ovulation method, 193 (42.8%) the BBT method, and 167 (37%) the calendar method. Slightly more than one third of CNM respondents ($n = 155$ or 34.4%) would refer their client to an NFP instructor.

Lactational Amenorrhea Method (LAM)

About one fourth of respondents ($n = 104$ or 23.1%) felt that LAM was not reliable, and 38 CNMs (8.4%) were not familiar with the method. However, 34.8% ($n = 157$) indicated that its efficacy in avoidance of pregnancy extended 6 months postpartum, and 2.4% ($n = 11$) felt that efficacy extended until the infant was 1 year old. Respondents projected that 17.1% of women using LAM will get pregnant unexpectedly in 6 months' time, with a range of 0–65% (SD = 14.12).

Location of Certified Instructors

Most (29.3%) of the certified NFP instructors available to the CNM respondents were church-based or part of a community organization (16%). An additional 12.2% were hospital-based and 10.6% were physician's office-based. Six percent of available NFP instructors taught out of their home.

Client education is an important aspect of CNM practice, and women seen by midwives are routinely taught about the physiologic processes of menstruation, fertility, and lactation. The philosophy of midwifery care is consistent with the integration or unity of the mind, body, and spirit and the use of nontechnologic approaches to health care needs. Both NFP and LAM are holistic and nonpharmacologic and are based on being attuned to biologic signals that can be easily interpreted to determine when a woman is fertile. Nonetheless, although NFP and LAM seem to be aligned with the philosophy of midwifery, the recommendation of these methods by midwives is limited. Although CNMs in this study described themselves as "somewhat prepared" to provide NFP, it was one of the least-used methods of family planning by their clients and was ranked as the eighth most effective among the 12 methods mentioned. The CNMs estimated efficacy as 88% perfect use and 72% typical use. These estimates can be compared with a 97–99% perfect use and 75–85% typical use as reported in *Contraceptive Technology* (30) and other published NFP efficacy studies (16–20). Therefore, CNMs' reported efficacy was close to, albeit lower than that reported in the literature.

In addition to the perceived relative ineffectiveness of NFP, providers and potential users often view the periodic abstinence required for its use as a negative (18,23– 25); thus, providers of family-planning methods who have a negative view of periodic abstinence may be less likely to prescribe any method that requires it. Although this study did not ask about family planning use among its CNM respondents, a recent study of female physicians showed that NFP was used in only about 2% of the sample (31), which corresponds to a study that indicates usage of NFP as a primary method of family planning in only about 2–3% of women in the United States (21). Whether the contraceptive practices among female CNMs would influence their recommendations for family-planning methods is not known. Furthermore, very little time is spent in nursing programs and in continuing education on NFP as a viable method of family planning (25). If NFP is not promoted and taught as a viable method of family planning in professional schools, graduates would not be expected to include it in their practices. The breadth and depth of NFP content in midwifery education programs have not been studied.

A study on the knowledge and use of NFP among perinatal nurses showed that, in addition to perceiving NFP to be ineffective, it was also felt that NFP would only be of use among educated and motivated married couples (25) because of the cooperation, mutual motivation, and trust required. NFP methods also require accurate daily observations and charting of fertility indicators. It may be assumed that the behaviors needed for successful use of NFP may not be those found in a typical CNM client population. CNMs frequently care for vulnerable populations of low-income women, single, sexually-active mothers, and sexually-active teens (32). Indeed, a significant proportion of CNMs in this study reported that many of their clients were younger than 18 years of age and on public assistance. Although many of these women may not be in relationships in which NFP would work, NFP has been found to be very effective in vulnerable populations in other countries (13,19).

Although questions on breastfeeding behaviors were not part of this study, the consideration of LAM as a natural method of child spacing is especially timely because of the increased incidence of breastfeeding in the United States (3) and the goal of Healthy People 2010 to increase the proportion of mothers who breastfeed their babies at 6 months to 50% (33). Furthermore, the American Pediatric Association recommended in 1997, that whenever possible, breastfeeding should be encouraged for at least 12 months (34). Although LAM is considered by experts to be 98% effective in avoiding pregnancy for 6 months (6–13), the perceived effectiveness by the CNMs respondents in the current study was only, on average, about 83%, and only 34.5% felt the efficacy extended to 6 months. As with the use of NFP, LAM may not be behaviorally adaptable in the United States because it requires exclusive breastfeeding to

ensure efficacy. Offering no supplementation before 6 months is currently not a pediatric practice standard in the United States (4,34).

Stanford and associates (26) conducted a similar study on the knowledge and use of NFP among 840 Missouri physicians. Compared with the Missouri physicians, the CNMs in this study were somewhat more knowledgeable about the efficacy of NFP and used it more often in their practices. More than 75% of the CNMs versus 41% of the physicians ranked the best possible effectiveness of NFP as greater than 81% (Fig. 1). The typical effectiveness of NFP was ranked as 70% or less by 46.5% of CNMs versus 65% of physicians; 14% of CNMs ranked it less than 50% compared to 35% of physicians (Fig. 2). CNMs were, therefore, substantially closer to rating the effectiveness of NFP as that reported in the literature than were the physicians.

CNMs in this study more readily recommended the use of NFP for their clients and were more up-to-date in their recommendations than were physicians. Sixty-three percent of CNMs would mention NFP as an option to select women compared to only 36% of physicians (Table 4). If a client requested information on NFP, only 1% of CNMs in this study would tell her it was not effective, compared to 9% of physicians. CNMs were also more apt to provide written information on NFP and describe the use of the symptothermal or cervical mucus method, whereas most physicians recommended BBT, calendar rhythm, and/or the cervical mucus method. The most studied, effective, and modern methods of NFP are the symptothermal and cervical mucus method (also known as the ovulation method) (16–20).

Finally, CNMs differed from physicians in their recommendations when women and couples were having difficulty achieving pregnancy. Most CNMs recommended either observation of the cervical mucus cycle (81%), BBT (79%), or midcycle intercourse (77%), in comparison with the physicians, who recommended BBT (71%), midcycle intercourse (64%), and observation of cervical mucus (36%), even though observation of cervical mucus is a prospective marker of ovulation and much more pertinent to achieving pregnancy than BBT, which is a retrospective measure of ovulation (35).

Conclusion

Although the CNMs compared favorably with physicians in regard to the knowledge and use of NFP and LAM, neither group readily recommends the use of NFP or LAM as a means of avoiding pregnancy. The major reasons for this seem to be the perceived lack of effectiveness of these methods and perceived lack of behavioral “fit” with their clients, primarily vulnerable populations of women. In addition, other methods of family planning are seen as easier to use and easier to prescribe by CNMs or physicians (30,36). NFP methods require a considerable

amount of teaching time for their effective use by women and couples, as well as follow-up and the development or use of a teaching and charting system. Midwives may not be adequately prepared to provide instruction to their clients interested in using NFP or LAM, which may contribute to the perceived effectiveness of their use.

This study could be replicated among family planning and women's health care providers to describe commonalities and differences in practice. Future research should address the actual preparation of midwives to teach NFP and how preparation could be enhanced. A study that examined the contraceptive practices of midwives would be of interest to determine if personal practices influence family-planning recommendations. Also, research could help determine the magnitude of interest in NFP and LAM among midwifery clientele. NFP and LAM may be family-planning methods of interest and use to more clients served by midwives than indicated in this study (27,28,37). Further research may help clarify how midwives can successfully balance the diverse needs of their clients with their philosophy of care.

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References

1. Philosophy Statement of the Academy of Certified Nurse Midwives, Approved, October, 1989.
2. Gross BA. Is the lactational amenorrhea method a part of natural family planning? Biology and policy. *Am J Obstet Gynecol* 1991;165: 2014–9.
3. Weimer JP. Breast-feeding: health and economic issues. *Food Rev* 1999;22:31–5.
4. Olds SB, London ML, Ladewig PW. *Maternal-newborn nursing*. Upper Saddle River (NJ): Prentice Hall Health, 2000.
5. DeCherney AH, Pernoll ML. *Current obstetric and gynecologic diagnosis and treatment*. 8th ed. Norwalk (CT): Appleton Lange, 1998.
6. Family Health International. Consensus statement: breast-feeding as a family planning method. *Lancet* 1988;2:1204–6.
7. Kennedy KI, Rivera R, McNeilly A. Consensus statement on the use of breast-feeding as a family planning method. *Contraception* 1989;39: 477–96.
8. Kennedy K, Lobbok MH, Van Look PF. Lactational amenorrhea method for family

- planning. *International J Gynecol Obstet* 1996;54:55–7.
9. Perez A, Labbok MH, Queenan JT. Clinical study of the lactational amenorrhoea method for family planning. *Lancet* 1992;339:968–70.
 10. Kazi A, Kennedy KI, Visness CM, Kahn T. Effectiveness of the lactational amenorrhoea method in Pakistan. *Fertil Steril* 1992;64:717–23.
 11. Ramos R, Kennedy K, Visness CM. Effectiveness of lactational amenorrhoea in prevention of pregnancy in Manila, the Philippines: noncomparative prospective trial. *Br Med J* 1996;313:909–12.
 12. Cooney KA, Nyuirabukeye T, Labbok MH, Hoser PH, Balard E. An assessment of the nine-month lactational amenorrhea method (MAMA-9) in Rwanda. *Stud Fam Plann* 1996;27:162–71.
 13. World Health Organization Task Force. The World Health Organization multinational study of breast-feeding and lactational ammeorrhea. III. Pregnancy during breast-feeding. *Fertil Steril* 1999;72:431–9.
 14. Geerling JH. Natural family planning. *Am Fam Physician* 1995;52: 1749–56.
 15. Klaus H. Natural family planning: a review. *Obstet Gynecol Surv* 1982;37:128–50.
 16. Fehring R, Lawrence D, Philpot C. Use effectiveness of the Creighton model ovulation method of natural family planning. *J Obstet Gynecol Neonatal Nurs* 1994;23:303–12.
 17. Hilgers TW, Stanford JB. Creighton model NaProEducation Technology for avoiding pregnancy: use effectiveness. *J Reprod Med* 1998;43: 495–502.
 18. Howard P, Stanford JB. Pregnancy probabilities during use of the Creighton model fertility care system. *Arch Fam Med* 1999;8:391–402.
 19. World Health Organization. A prospective multicenter trial of the ovulation method of natural family planning. II. The effectiveness phase. *Fertil Steril* 1981;36:591–8.
 20. Frank-Herrmann P, Freundl G, Gnoth C, Godehardt E, Kunert J, Baur S, et al. Natural family planning with and without barrier method use in the fertile phase: efficacy in relation to sexual behavior: a German prospective long-term study. *Adv Contracept* 1997;13:179–89.
 21. Piccinino LJ, Mosher WE. Trends in contraceptive use in the United States. *Fam Plann Perspect* 1998;30:4–10.
 22. Snowden R, Kennedy KI, Leon F. Physicians' views of periodic abstinence methods: a study in four countries. *Stud Fam Plann* 1988;19: 215–21.
 23. Doring G, Baur S, Frank-Herrmann P. Report on the results of a representative opinion poll among physicians on the degree of knowledge about and attitudes towards natural

- family planning in the Federal Republic of Germany in 1988. *Geburtsh u Frauenheilk* 1988;50:43–8.
24. Girotto S, Del Zotti F, Baruchello M, Gottardi G, Valente M, Battaggia A, et al. The behavior of Italian family planning physicians regarding the health problems women and, in particular, family planning (both contraceptive and NFP). *Adv Contracept* 1997;13:283–93.
 25. Fehring R. Physician and nurses knowledge and use of natural family planning. *Linacre Q* 1995;62:22–8.
 26. Stanford JB, Thurman PB, Lemaire JS. Physicians' knowledge and practice regarding natural family planning. *Obstet Gynecol*.1999;94: 672–8.
 27. Stanford JB, Lemaire JC, Thurman PB. Women's interest in natural family planning. *J Fam Pract* 1998;46:65–71.
 28. Stanford JB, Lemaire JC, Fox A. Interest in natural family planning among female family practice patients. *Fam Pract Res J* 1994;14:237–49.
 29. Royston P. Validation of Survey Instruments by Intensive Interview Techniques. A paper presented at the Fifth Conference on Health Survey Research Methods. Keystone, CO, 1989.
 30. Hatcher RA, Trussell J, Stewart F, Cates W Jr, Stewart GK, Guest F, et al. *Contraceptive Technology*. 17th ed. New York: Irvinton Publishers, 1997.
 31. Frank E. Contraceptive use by female physicians in the United States. *Obstet Gynecol* 1999;94:666–71.
 32. Scuphpolme A, DeJoseph J, Strobino DM, Paine LL. Nurse-midwifery care to vulnerable populations. Phase 1: demographic characteristics of the national sample. *J Nurse Midwifery* 1992;37:341–7.
 33. U.S. Department of Health and Human Services. *Healthy people 2010* (Conference Edition, Vol. 2). Washington, DC: January 2000.
 34. American Academy of Pediatrics Work Group on Breast-feeding. Breast-feeding and the use of human milk. *Pediatrics* 1997;100:1035–9.
 35. Leader A, Wiseman D, Taylor PJ. The prediction of ovulation: a comparison of the basal body temperature graph, cervical mucus score, and real-time pelvic ultrasonography. *Fertil Steril* 1985;43:385–8.
 36. Oddens BJ. Women's satisfaction with birth control: a population survey of physical and psychological effects of oral contraceptives, intrauterine devices, condoms, natural family planning, and sterilization among 1466 women. *Contraception* 1999;59:277–86.

37. Blake D, Smith D, Bargiacchi A, France M, Gudex G. Fertility awareness in women attending a fertility clinic. *AustNZJ Obstet Gynecol* 1997;37:350–421.

Appendix

Table 1: How CNMs Rate Educational Preparation in Effectively Prescribing, Administering, and/or Educating Clients in Family Planning Methods

<i>Method</i>	<i>n*</i>	<i>Mean preparation**</i>	<i>SD</i>
Oral contraception	423	4.33	0.76
Condom and foam	424	4.03	0.97
Male condom	424	4.01	1.01
Diaphragm	423	3.99	0.94
Depo-provera	270	3.68	1.33
Sterilization	415	3.36	1.11
Natural family planning	423	3.27	1.07
Intrauterine device	414	3.14	1.12
Female condom	262	2.64	1.28
Norplant	275	2.51	1.10
Cervical cap	345	2.14	1.08

* Respondent numbers vary because some respondents answered “N/A,” or not available.

** Ratings: 1 = “No Preparation” to 5 = “Well Prepared”

† Natural family planning (NFP) includes lactational amenorrhea method (LAM).

Table 2: CNMs Ranking Frequency of Use of 12 Family Planning Methods Used by Sexually Active Clients

<i>Method</i>	<i>n*</i>	<i>Mean Rank**</i>	<i>SD</i>
Oral contraceptives	423	1.58	1.30
Depo-provera	413	2.98	1.75
Male condom	415	3.37	1.83
Male condom and foam	406	4.76	2.16
Sterilization	413	5.14	1.96
Intrauterine device	388	6.04	1.96
Diaphragm	394	6.57	2.14
Withdrawal	348	7.14	2.30
Natural family planning [†]	382	7.29	2.34
Norplant	281	8.08	2.18
Cervical cap	154	9.19	2.58
Female condom	131	10.53	1.89

* Respondent numbers vary because some respondents answered “N/A” for methods not used.

** Ranking: 1 = “most used” to 12 = “least used”

† Natural family planning (NFP) includes lactational amenorrhea method (LAM).

Table 3: CNMs' Ranking of Effectiveness of 12 Family Planning Methods in their Client Population

<i>Method</i>	<i>n*</i>	<i>Mean Rank**</i>	<i>SD</i>
Sterilization	396	1.24	0.72
Depo-provera	402	2.32	1.26
Intrauterine device	357	2.67	1.45
Norplant	235	2.79	2.03
Oral contraceptives	409	3.01	1.36
Male condom and foam	366	4.87	1.81
Diaphragm	352	5.29	1.91
Natural family planning [†]	336	5.50	2.18
Male condom	388	5.53	2.01
Cervical cap	122	5.70	2.57
Withdrawal	320	7.33	2.37
Female condom	78	7.42	2.76

* Respondent numbers vary because some respondents answered "N/A" for methods not used.

** Ranking: 1 = "most effective" to 12 = "least effective"

† Natural family planning (NFP) includes lactational amenorrhea method (LAM).

Table 4: Comparison of Physician and CNM Responses to Requests for Information About Natural Family Planning

Recommendation	% MDs (n = 295)	% CNMs (n = 450)
"I tell clients it doesn't work"	9	1
Describe use of calendar/rhythm	45	37
Describe use of cervical mucus method	40	48
Describe use of basal body temperature	54	43
Give written natural family-planning information	20	58
Refer client to another MD/CNM	7	1
Refer client to natural family-planning instructor	30	34

Figure 1: CNM and Physician Estimates of Best Possible NFP Effectiveness Rates

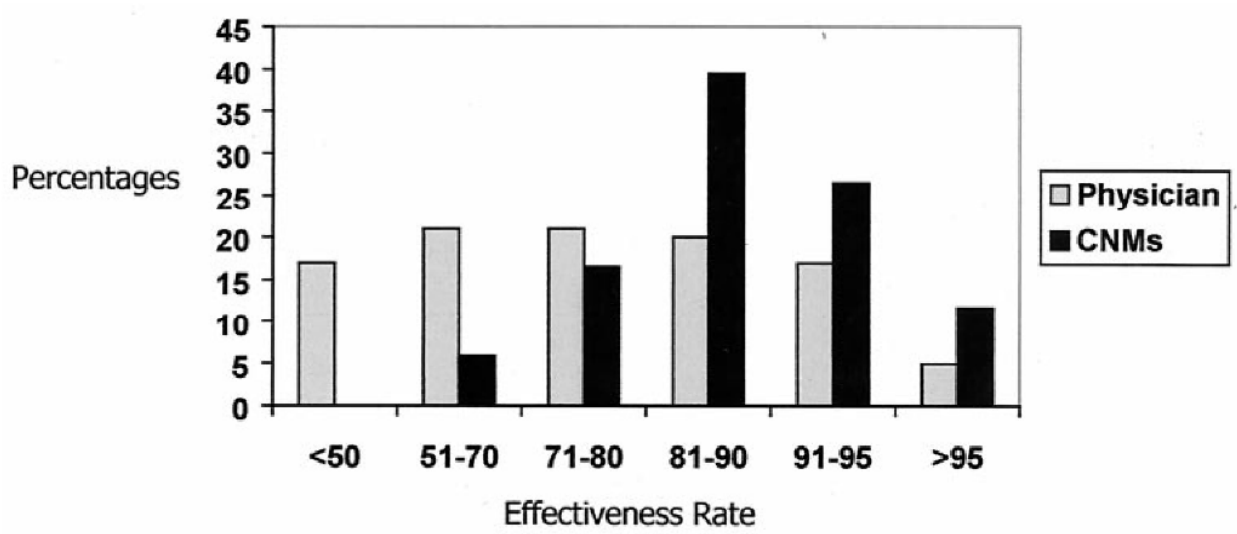


Figure 2: CNM and Physician Estimates of NFP Typical Effectiveness Rates

