

---

## Original Articles

---

### **Factors Influencing Research Experience Among Professional Nurses in the Southern Regional Hospitals of Thailand**

*Assoc. Prof. Dr. Petchnoy Singchungchai*

*Asst. Prof. Salee Chalermwannapong*

*Faculty of Nursing, Prince of Songkla University, Songkhla, Thailand*

#### **Abstract :**

This is a descriptive survey to determine influencing factors related to research experience among nursing professionals in southern regional hospitals of Thailand. A sample of 190 nurses was selected using the systematic random sampling method and the data were collected using a questionnaire. The data were analyzed both by descriptive and by discriminant analysis statistics.

The study showed that only 20% of the nurses had experience in conducting their own studies while 53.7% had experience in collecting data for other researchers. Only 10% of the nurses had experience in presenting reports, of which 7% reported their own studies and 3% other researchers' work. In the past year, 36.3% of the professional nurses read research reports related to nursing. Among the 190 respondents, 67.4% had good attitudes towards doing research.

On analyzing factors influencing research experience, five factors; i.e., funding support, availability of research advisors, knowledge of research methodology, agency's policy to support research and attitudes toward conducting research were found to have a statistically significant influence.

**Key words :** Nursing profession, research experience, regional hospital.

#### **Introduction**

Improvement of nursing services requires research and development (R&D) in the nursing technologies and health services systems. Such research-based improvement also strengthens the role of nurses<sup>(1-4)</sup>. Therefore, conducting research should be significant activity of nurses in health service institutes<sup>(5)</sup>.

In Thailand, Regional Hospitals provide secondary & tertiary care for the rural Thai people<sup>(6)</sup>. There are 4 regional hospitals in the South of Thailand, i.e. Nakhon Si Thammarat Hospital, Yala Hospital, Surat Thani Hospital and Hat Yai Hospital. All these hospitals are situated in strategic locations close to all levels of service recipients. In order to provide quality nursing services, nurses need to have potential and ability in developing their knowledge and techniques in nursing, which are compatible with new technologies. Ability to conduct research is one technique that is needed for effective and quality nursing services development<sup>(7)</sup>. However, most nursing research projects in Thailand between 1972 and 1982 were those conducted by graduate students. Research carried out by nurses in public health agencies were the least, frequent with about 4 projects per year<sup>(8)</sup>. A survey by the National Nursing Council (1982-1986) found that out of 351 research projects commissioned during the five year period, only 17.5% (61 projects) were conducted by nurses attached to

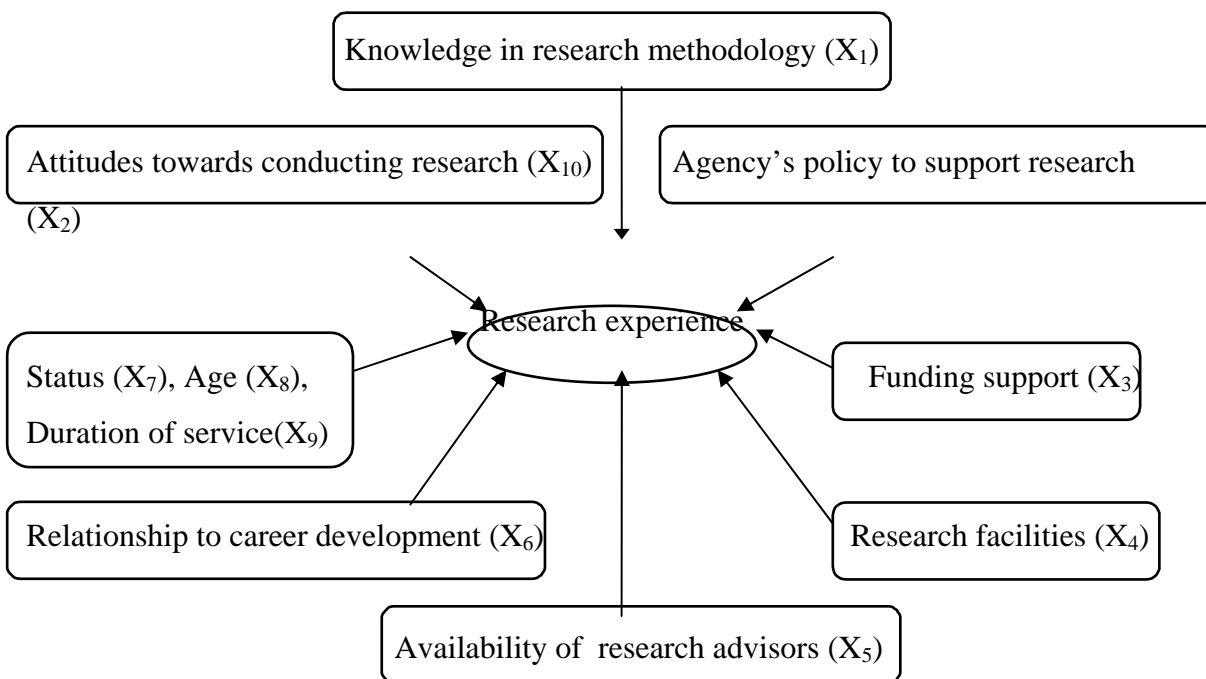
the Ministry of Public Health, and 82.5% (290 projects) by those in the Ministry of University Affairs<sup>(9)</sup>. As the nurses in the MOPH outnumber those in the Ministry of University Affairs, the difference in the number of research projects per nurse will be much greater. This situation necessitates studies on factors influencing research experience among nurses in the Ministry of Public Health<sup>(10)</sup>.

Several factors were claimed to be the causes of low research capability, e.g., a lack of support from their agencies and little knowledge in how to conduct research<sup>(11-12)</sup>. However, these were only presumptions without supporting evidence. This study aims at identifying research experience and its contributing factors among professional nurses. Strategies to strengthen research experience among professional nurses can later on be developed appropriately.

### Method :

It is postulated in this study that factors related to research experience among practising nurses are knowledge in research methodology, parent agency's policy, funding support, research advisors, research facilities, relationship of research to career development, and attitudes of nurses on conducting research. The relationship between independent and dependent variables was summarized as shown in Figure 1.

**Figure 1** Relationship between influencing factors and research experience.



This study is a descriptive questionnaire survey.

The population consisted of 925 professional nurses in the four southern regional hospitals, and the 190 samples were selected by systematic random sampling method<sup>(24)</sup>.

The data were collected through a questionnaire consisting of both open-ended and closed-ended questions. The questionnaire consists of three parts, i.e., general information, nursing research experience, and factors influencing research experience. The questions in the latter part were rating scale questions and the three scales were 3 = high, 2 = medium, and 1 = low. The tool was tested for its content validity. It was then administered to 20 nurses for testing of the reliability. The reliability of the questionnaire was analysed using Cronbach's alpha and the result was 0.92.

There was a 100% questionnaire response rate. The SPSS/PC<sup>+</sup> was used in data processing.

## Results

### 1. General Data

Most of the samples were bachelor degree graduates (98.9%). More than half (56.1%) were married with an average age of 38.2 years. It is also notable that one fourth (25.1%) of them were widowed, divorced or separated. About half (45.8%) were at PC 3-4<sup>a</sup>, and have worked for an average of 10 years (Table 1 and Table 2).

**Table 1** Number and percentage of the samples classified by general data.

| Variables                      | Number | Percentage |
|--------------------------------|--------|------------|
| <b>Marital Status</b>          |        |            |
| Single                         | 36     | 18.8       |
| Married                        | 107    | 56.1       |
| Widow, Divorced, Separated     | 47     | 25.1       |
| <b>Education</b>               |        |            |
| Bachelor Degree or Equivalent  | 188    | 98.9       |
| Master Degree                  | 2      | 1.1        |
| <b>Position Classification</b> |        |            |
| PC level 3-4                   | 87     | 45.8       |
| PC level 5-6                   | 58     | 30.5       |
| PC level 7-8                   | 45     | 23.7       |
| <b>total</b>                   | 190    | 100.00     |

**Table 2** Average and standard deviation of ages and in-service years in the southern region.

| Variables                    | $\bar{X}$ | S.D.  |
|------------------------------|-----------|-------|
| Age (years)                  | 38.2      | 12.84 |
| Durations of service (years) | 10.05     | 7.04  |

<sup>a</sup> position classification of Thai Civil service system range from PC1 to PC11

## 2. Research Experiences

The finding showed that only 20% of professional nurses had experience in conducting research. However 53.7% of them had experience in collecting data for other researchers. During the past year, 10% presented research work, 7% did their own research projects, and 3% participated in research projects where they were assistants. In the past year, only 36.3% of professional nurses read journals related to research. Two-thirds (67.4%) of them had positive attitudes toward conducting research (Table 3).

**Table 3** Number and percentage of subjects classified according to their research experiences and attitudes toward conducting research

| <b>Experiences and attitudes toward conducting research</b> | <b>Number<br/>N=190</b> | <b>Percentage</b> |
|---|-------------------------|-------------------|
| <b>Conducting nursing research</b>                          |                         |                   |
| Yes   | 38                      | 20.0              |
| No  | 152                     | 80.0              |
| <b>Data collection for research</b>                         |                         |                   |
| Had collected   | 102                     | 53.7              |
| Had not collected   | 88                      | 46.3              |
| <b>Research work presentation in the past year</b>          |                         |                   |
| Never presented   | 171                     | 90.0              |
| Had presented research work                                 | 19                      | 10.0              |
| - Presenting work as a project leader                       | 13                      | 7.0               |
| - Presenting work as a researcher in the project            | 6                       | 3.0               |
| <b>Reading research-related journals in the past year</b>   |                         |                   |
| Read  | 69                      | 36.3              |
| Did not read  | 121                     | 63.7              |
| <b>Attitudes toward conducting research</b>                 |                         |                   |
| Conducting research is not difficult (positive)             | 128                     | 67.4              |
| Conducting research is difficult (negative)                 | 62                      | 32.6              |

## 3. Factors influencing research experience.

On analyzing the seven independent variables it was found that those who conducted research had a higher average score in all the variables. Factors with high average scores are research facilities, funding support, agency's policy, relationship to career development and the availability of research supervisors, respectively (Table 4).

Table 5 illustrates discriminating variables (independent variables) influencing the research experience analyzed by stepwise methods. In the first step, it was found that the funding support ( $X_3$ ) was the first discriminating factor with the Wilks' Lambda value of

0.91012 and this was significant. In the second, third, fourth and fifth steps, it was found that the factors of the availability of research advisors, agency's policy to support research, the knowledge of research methodology and attitudes toward conducting research ( $X_1$ ,  $X_2$ ,  $X_5$ , and  $X_{10}$ ) were the next discriminating variables which entered the discriminating equations and the Wilk's Lambda value was statistically significant.

**Table 4** Average score and standard deviation of the variables of the group which has and had not conducted nursing research.

| Discriminating variables                               | Conducted research |      | Not conducted research |       | Total     |       |
|--|--------------------|------|------------------------|-------|-----------|-------|
|  | $\bar{X}$          | S.D  | $\bar{X}$              | S.D.  | $\bar{X}$ | S.D   |
| 1. Research facilities ( $X_4$ )                       | 2.81               | 0.73 | 2.38                   | 2.10  | 2.52      | 0.97  |
| 2. Agency's policy to support research ( $X_2$ )       | 2.57               | 0.67 | 2.55                   | 0.68  | 2.47      | 0.79  |
| 3. Availability of research advisors ( $X_5$ )         | 2.33               | 0.78 | 2.27                   | 0.78  | 2.41      | 0.98  |
| 4. Relationships to career development ( $X_6$ )       | 2.51               | 0.76 | 2.18                   | 1.07  | 2.32      | 0.78  |
| 5. Funding support ( $X_3$ )                           | 2.58               | 0.97 | 2.00                   | 0.77  | 2.28      | 0.67  |
| 6. Knowledge in research methodology ( $X_1$ )         | 1.20               | 0.80 | 1.09                   | 0.70  | 1.42      | 0.77  |
| 7. Status ( $X_7$ )                                    | 0.57               | 0.49 | 0.43                   | 0.49  | 0.55      | 0.49  |
| 8. Age ( $X_8$ )                                       | 39.95              | 9.38 | 36.45                  | 12.70 | 38.2      | 12.84 |
| 9. Duration of service (years) ( $X_9$ )               | 12.02              | 7.65 | 8.08                   | 5.71  | 10.05     | 7.04  |
| 10. Attitudes towards conducting research ( $X_{10}$ ) | 1.64               | 0.78 | 1.07                   | 0.65  | 1.39      | 0.79  |

**Table 5** Discriminating variables (independent variables) influencing the research experience by the stepwise method

| Steps in entering equations | Discriminating variables                           | Wilks' Lamda | P- value |
|-----------------------------|--|--------------|----------|
| 1                           | Funding support ( $X_3$ )                          | 0.91012      | 0.0023*  |
| 2                           | Availability of research advisors ( $X_5$ )        | 0.97138      | 0.0015*  |
| 3                           | Knowledge in research methodology ( $X_1$ )        | 0.99932      | 0.0029*  |
| 4                           | Agency's policy to support research ( $X_2$ )      | 0.99510      | 0.030*   |
| 5                           | Attitudes towards conducting research ( $X_{10}$ ) | 0.88830      | 0.001*   |

## Discussions

We found that the average working experience of nurses in the 4 regional hospitals was 10 years ( $\bar{X} = 10.05$ ), and their average age was 38 years ( $\bar{X} = 38.2$  years). It was found that only 20% of them have conducted and completed their own research works. This finding is, therefore, in line with the findings of other previous studies in Thailand<sup>(8,9,11-13)</sup>, and in other countries<sup>(14)</sup>. Deans, Lea, and Geyer in surveying research conducted by nurses in a psychiatry department in Victoria, Australia in 1997, found that 10% of the nurses were directly involved in conducting research<sup>(14,15)</sup> while Rizzuto, Bostrom, Suter, and

Cherits<sup>(16)</sup> found that 28% of nurses in nine health care centers in California, U.S.A. conducted research.

Nevertheless, on analyzing the skills related to nursing research, it was found that, 53.3% of the nurses had experience in collecting data for other researchers. This can be regarded as good research experience because nurses should cooperate in data collection as they are usually very perceptive observers<sup>(3)</sup>. The supporting reason from this research may be that most nurses, (67.4%) have good attitudes towards conducting research (conducting research is not difficult). Answers to open-ended questions revealed that the reason for the cooperation in collecting data was the feeling that nursing research will facilitate advancement in the nursing profession, so nurses should contribute more to research work. This study, therefore, found that the attitudes of Thai professional nurses towards nursing research is very positive as compared to studies in the west<sup>(15-16)</sup>. This finding indicates that promotion of nurses involvement in data collection and presentation of research findings may be a good starting point for the development of research skills among professional nurses.

The results of the discriminant analysis revealed that only five factors significantly contributed to the research experience.

Funding support was the first factor or variable entering the first step of discrimination. The budget allocated by the government for research of all branches is less than 0.5% of the country's total annual budget<sup>(9)</sup>. In Thailand, at present the Nursing Council allocates only 400,000 baht as research grants annually<sup>(27)</sup>. This indicates that research funding is limited as in other countries, where research grants are provided by national institutes of health<sup>(17-18)</sup>.

The factor or discriminating variable (independent variable) which entered the discriminating equation in the second and third steps was availability of research advisors, and knowledge of research methodology. There is a large gap in integrating the knowledge in research methodology with that in nursing. Almost all the nurses (97.3%) were bachelor degree holders or equivalent so their knowledge in research methodology was very basic. Conducting nursing research requires more knowledge in research methodology which most researchers have acquired from their graduate studies (master and doctorate degree). At present, there is no university in Thailand offering a master's degree program in nursing research. Even in the field of nursing, there are few students studying for a master degree. Thus, there is a lack of qualified personnel having knowledge in research methodology who can be researchers or research advisors in regional hospitals in the South.

The discriminating variable (independent variable) entering the fourth step of the discriminating equations was a parent agency's policy to support research. This finding is in line with that of the study by Gredy<sup>(23)</sup> who found that an important problem and obstacle related to research is research promotion policy, which is usually not clear. This may result from the fact that regional hospitals place their emphasis on service, their policy related to research is rather broad and undefined. It does not specify whether the emphasis is on promotion for nursing research, nursing practice, or nursing administration. As a result, administrators lack interest in implementing the policy.

The last independent variable was attitudes toward conducting research. This corresponds to the findings of the study in the USA by Boston, et. al. and Poster et. al.<sup>(29, 30)</sup> which found that nurses who had conducted research had positive attitudes toward

doing research. This again coincides with the results of a study done in Australia<sup>(14)</sup> and a study by Lynn<sup>(26)</sup> who found that nurses who had negative attitudes toward conducting research did not do much research.

It was found that the factors which did not influence conducting nursing research in regional hospitals in the South were availability of research facilities, relationship between career development and research experience. This finding can be discussed as follows :

The reasons why the availability of research facilities does not influence research experience may be due to the fact that there is high accessibility to computers and the Internet, which provide opportunities for nurses to conduct research. The answers to the open-ended questions could explain the reason for the irrelevance between career promotion and research experience. The respondents explained that the evaluation for promotion of professional nurses from the classified position level 6 to level 7 (C6 to C7) is based on an evaluation emphasizing case studies rather than publication of research papers. However, for a promotion from level 7 to level 8 (PC7 to PC8), the emphasis is then on research work. This fact explains why nurses do not see the importance of conducting research because most of the respondents were at PC level 3-4. This study also found that one of the factors that hinders research experience is the lack of academic atmosphere as can be seen from the fact that (only 36.3%) of professional nurses read research reports despite their positive attitudes towards conducting research (67.4%).

### **Recommendations**

1. The Ministry of Public Health should evaluate professional nurses career promotion, by placing more weight on nursing research.

2. Administrators for nursing services should give more importance to formulating policies and strategies for promoting nursing research with clear scope and direction, aimed at improving quality nursing care. The government should allocate sufficient budget to support nursing research, as well as to assist in seeking funding support from other sources. Funds should be available to support both new and experienced researchers. Information regarding funding should be easily and widely accessible. Nursing administrators should appoint research advisors to assist new researchers to learn and feel more confident in implementing their projects. These research advisors are readily available in the nearby academic institutes.

3. Institutes responsible for continuing nursing education, e.g., faculties of nursing, public health nursing colleges, and the nursing council should play the following roles:

3.1 Offer master's degree programs in nursing research and/or health research. This is in line with the 8th National Social and Economic Development Plan which emphasizes human development. Faculties of nursing and nursing colleges should put more emphasis on teaching research methodology. At present, there is no faculty of nursing which offers courses on this subject.

3.2 Offer special training courses on research methodology for in-service nurses who want to conduct nursing research. This will provide an opportunity for in-service nurses, who do not have the chance to pursue a master's degree, to develop themselves and utilize data as a researcher or as a competent research assistant. Preferably the training programs should end up with actual research proposals and appropriate funding

mechanisms. Subsequent practical training on data analysis, report writing and results presentation will provide a complete circle training program.

3.3 Establish a special advisory unit where advice and information on nursing research can be obtained. This can be accomplished either via correspondence or by establishing regular advisory clinics within the regional hospitals.

4. Agencies responsible for national research development in medical science such as the subcommittee of the National Research Council and the Nursing Council should coordinate the development of clear national policies and specific goals to support comprehensive development of nursing research aimed at the overall improvement of the quality of nursing services.

5. More indepth qualitative research should be supported related to research experience and research capability among professional nurses at different levels of the health services system. This will helps ensure knowledge-based nursing service systems development.

## Conclusion

Conducting research is one good way to strengthen critical thinking skills among health personnel. Health research also provides new knowledge, tools, and technologies to support knowledge-based development of nursing services. This study confirms the long held belief that few professional nurses providing nursing care in hospitals participate actively in conducting research. This could be an impediment to improving the quality of nursing care. Several factors contribute to this phenomenon, particularly the availability of funding support and research advisors, knowledge and skills in research methodology, and attitudes toward conducting nursing research.

We propose a comprehensive and integrated approach, from policy development to complete circuit technical support, including the linkages between research and career development, to strengthen the research capability among professional nurses with the ultimate aim of improving nursing service quality.

## Acknowledgments

We wish to extend our gratitude to the Prince of Songkla University for the financial support of this study and thank peer reviewers of the nursing faculty who improved this report.

## References

1. Talbot L A. **Principles and practice of nursing research**. USA: Mosby, 1995: 1-23.
2. Robert SCA, Burke SO. **Nursing research: a quantitative and qualitative approach**. Boston: Jones and Bartlett Publishers, 1989: 5-22.
3. Polit F, Hunggler P. **Essentials of nursing research methods, appratise, and utilization**. Philadelphia: Lippincott, 1997: 6-9.
4. Office of the National Research Council. **Study on research status of Thailand between 1982-1986: research in medicine and public health**. Bangkok: Office of National Research Council, 1988. (Mimeograph in Thai).
5. Maeve M.K. A critical analysis of physician research into nursing practice. *Nursing Outlook* 1998; 1: 24-28.



6. Wasi P. "Cooperation in Health Development for the Thais. *Songklanagarind Medical Journal* 1987; 1: 14-15. (in Thai).
7. Khamphalikhit S. "**Research and the Nursing Profession**". In.... **Nursing issues and trends**. Nonthaburi: Sukhothaihammathiraj University, 1990.
8. Thongkrachai E. and Liewchindathavorn P. Nursing research in Thailand : analysis for the last decade. *Nursing Journal* 1989; 3: 253-243.
9. Srisuphan W. **Research for development of nursing practice**. Report on Direction in Nursing Practice in the Changing Period. Songkhla: Faculty of Nursing, Prince of Songkla University, 1996. (Mimeograph in Thai).
10. Sitthi-amorn J. **Why is it difficult for community hospital to do research?** Report on Roles of Community Hospitals and Public Health Development in the Last Decade and the Future Trends. Bangkok: Office of the Permanent Secretary, Ministry of Public Health and Rural Doctor Society, 1996.
11. Phancharoenworakul K. Survey of Nursing Research in Thailand 1969-1987. *Nursing Journal* 1993; 32-42.
12. Wichinchareon KA. Survey of nursing research in Thailand 1987-1989. *Nursing Journal* 1993; 1: 42-52.
13. Singchugchai P, Surprapisil A. A survey of quantity and characteristics of nursing research in the last decade (1982-1991) at the Faculty of Nursing, Prince of Songkla University. *Songkhlanagerind Nursing Journal* 1992; 4: 1-12.
14. Deans C, Lea D, Geyer R. Nursing research "down under". *Journal of Psychosocial Nursing* 1997; 2: 25-31.
15. Loomis M.E. Emerging content in nursing: an analysis of dissertation abstracts and titles 1976-1982. *Nursing Research* 1985; 2:113-119.
16. Rizzuto C, Bostrom J, Suter WN, Cheritz WC. Predictors of nurses involvement in research activities. *Western Journal of Nursing Research* 1994; 2: 193-204.
17. Nuchareonkul S. **Research for nursing practice development**. Report on Direction in Nursing Practice in the Changing Period. Songkhla: Faculty of Nursing, Prince of Songkla University, 1996. (Mimeograph in Thai).
18. O'Connell KA. **Nursing practice: a decade of research in nursing profession**. New York: McGraw Hill, 1989: 113-119.
19. Copp LA., Deans. Identifying factors which inhibit and facilitate research conducting. *Nursing Research* 1984; 15: 13-17.
20. Larson E. The current of nursing research. *Nursing Forum* 1986; 21:131-134.
21. Schlotfeldt R.M. Critical issues in nursing practice education and research. *Occupation Health Nursing* 1984; 32: 11-16.
22. Sigmon HD, Grady PA, Amende LM. The National Institute of Nursing Research explores opportunities in genetic research. *Nursing Outlook* 1997; 45: 215-219.
23. Grady PA. Incorporating environmental sciences and nursing research: an NINR initiative. *Nursing Outlook* 1997; 45: 73-69.
24. Yamane T. **Statistics: an introductory analysis**. Singapore: Harper International Education, 1977.
25. Phuphaibun R. **Way in acquiring nursing knowledge**. Paper presented at the First National Nursing Research Conference, 25-27 March 1996, Ambassador Hotel, Bangkok. (Mimeograph in Thai).

26. Lynn MR, Laymun EL, Englebardt SP. Nursing administration research priorities: a national Delphi study. *JONA* 1998; 28: 7-11.
27. Boston A C, Malnight M, MacDonald J, Hargis D. Staff nurses' attitudes toward nursing research: A descriptives survey. *Journal of Advanced Nursing* 1989; 14: 915-922.
28. Davis L L. Instrument review: getting the most from a panel of experts. *Applied Nursing Research* 1992; 5: 194-197.
29. Poster EC, Betz CL, Randel B. Psychiatric nurse's attitudes toward and involvement in nursing research. *Journal of Psychosocial Nursing* 1992; 30: 26-29.
30. Poster EC, Betz CL, Randel B, Omery A. **Prob: A nursing research questionnaire.** Los Angeles: University of California Los Angeles, 1986.