

Resident research projects in obstetrics and gynecology: 10-year review

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Objective : *To review research projects of residents of the Department of Obstetrics and Gynecology, Faculty of Medicine, Chulalongkorn University in terms of publication, study design, topics and trends of the researches.*

Design : *Descriptive study*

Methods : *This study reviewed research projects of obstetrics and gynecology residents during the period of 1994 to 2003. Data collection was made by a research team of the department. Research topics, study design, publication and subsequent fellow training were recorded. The research topics were classified to six subgroups, and the study design was classified to five subgroups. Descriptive statistics and analysis were applied.*

Setting : *Department of Obstetrics and Gynecology, Faculty of Medicine, Chulalongkorn University.*

Results : *Over the ten-year period, there were 90 researches conducted by residents : 28 projects were on the obstetrics field, 21 family planning, 15 general gynecology, 14 menopause, 8 oncology and 4 gynecologic pathology. According to the study design, 36 were prospective descriptive studies, 21 retrospective studies, 17 randomized trial, 14 experimental studies, and 2 case control studies. According to the research methodology, of the 21 retrospective descriptive research projects, nine were related to obstetrics field, one general gynecology, two gynecologic pathology, seven oncology, and two on menopause. From the 36 prospective descriptive researches, thirteen were related to obstetrics, five general gynecology, one gynecologic pathology, thirteen on family planning and four on menopause. From the 17 randomized trial researches, three were related to obstetrics, seven to general gynecology, one to oncology, and six to family planning. From the fourteen experimental researches, two were related to obstetrics, two to general gynecology, one to gynecologic pathology, one to family planning and eight to menopause. The two case control studies were related to obstetrics and family planning. Thirty research projects (33.3 %) were published in the international journals, 30 research projects (33.3 %) in local journals. The research projects that they did during the residency training were correlated to the fields of their subspecialty training in 12 cases (46 %).*

Conclusion : *The research topics of the Ob-Gyn residents are mainly related to reproductive health. The distribution of the topics should be more balanced in the future. The number of publications and the randomized trial researches tend to increase with time.*

Key words : *Resident research, Obstetrics and Gynecology.*

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วัตถุประสงค์ : เพื่อวิเคราะห์งานวิจัยของแพทย์ประจำบ้านภาควิชาสูติศาสตร์-นรีเวชวิทยา ในแง่ของหัวข้อการวิจัย ชนิดและแนวโน้มของงานวิจัย ตลอดจนการลงตีพิมพ์ในวารสารทางการแพทย์

รูปแบบการวิจัย : การศึกษาเชิงพรรณนา
วิธีการศึกษา : ได้ทำการทบทวนงานวิจัยของแพทย์ประจำบ้าน ภาควิชาสูติศาสตร์-นรีเวชวิทยา ในช่วง พ.ศ. 2537 - พ.ศ. 2546 ข้อมูลของงานวิจัยได้รวบรวมโดยฝ่ายวิจัยของภาควิชา หัวข้องานวิจัย ชนิดของงานวิจัย การได้รับการตีพิมพ์ในวารสารทางการแพทย์ และการศึกษาต่อเป็นแพทย์ประจำบ้านต่อยอด ได้ถูกรวบรวมข้อมูลในงานวิจัยนี้ สถิติเชิงพรรณนาได้นำมาใช้ในการวิเคราะห์ข้อมูล

สถานที่ทำการศึกษา : ภาควิชาสูติศาสตร์-นรีเวชวิทยา คณะแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
ผลการศึกษา : ในระยะเวลา 10 ปี มีงานวิจัยทั้งหมด 90 เรื่อง มีงานวิจัยที่เกี่ยวกับทางด้านสูติศาสตร์ 28 เรื่อง มีงานวิจัยที่เกี่ยวกับด้านวางแผนครอบครัว 21 เรื่อง ทางด้านนรีเวชวิทยาทั่วไป 15 เรื่อง วิทยุหดรัด 14 เรื่อง มะเร็งนรีเวช 8 เรื่อง และพยาธิวิทยา 4 เรื่อง ในแง่ของชนิดของงานวิจัย มีงานวิจัย 36 เรื่องเป็นการศึกษาเชิงพรรณนาแบบไปข้างหน้า ส่วนใหญ่เกี่ยวข้องกับทางด้านสูติศาสตร์และด้านวางแผนครอบครัว 21 เรื่องเป็นการศึกษาแบบย้อนหลัง ส่วนใหญ่เป็นการศึกษาทางด้านสูติศาสตร์ และด้านมะเร็งนรีเวชวิทยา มีงานศึกษา 17 เรื่องเป็นแบบ Randomized trial ส่วนใหญ่เป็นทางด้านนรีเวชวิทยาทั่วไปและการศึกษาทางด้านวางแผนครอบครัว การศึกษาแบบทดลอง 14 เรื่อง พบว่า 8 เรื่องเกี่ยวข้องกับวิทยุหดรัด และงานศึกษาแบบ Case Control 2 เรื่อง งานวิจัย 60 เรื่อง (ร้อยละ 66.6) ได้รับการตีพิมพ์ในวารสารทางการแพทย์ และพบว่างานวิจัยมีความเกี่ยวข้องกับสาขาวิชาที่เลือกเรียนแพทย์ประจำบ้านต่อยอด 12 ราย จากทั้งหมด 26 รายที่ศึกษาต่อแพทย์ประจำบ้านต่อยอด (ร้อยละ 46)

สรุป : งานวิจัยของแพทย์ประจำบ้าน ภาควิชาสูติศาสตร์-นรีเวชวิทยา ส่วนใหญ่เป็นงานวิจัยที่เกี่ยวกับสูติศาสตร์และเวชศาสตร์การเจริญพันธุ์ งานวิจัยควรมีการกระจายตัวไปอยู่ในหมวดอื่น ๆ มากขึ้น ลักษณะงานวิจัยแบบ Randomized trial และจำนวนงานวิจัยที่ได้รับการตีพิมพ์มีแนวโน้มเพิ่มขึ้นตามระยะเวลา

คำสำคัญ : งานวิจัยแพทย์ประจำบ้าน, สูติศาสตร์-นรีเวชวิทยา

In Thailand, the education programs for specialty in obstetrics and gynecology require three years of training. In this period of three years, the residents are rotated to different clinical works and educational activities, such as topics review, journal club etc. Another mandatory work is to complete one research project during the training period. The researches encourage the residents to understand the process of gaining knowledge and understand how to prepare, conduct and analyze a scientific investigation. This process not only allows them to review medical literature critically, but also to learn about experimental design, statistical analysis, computerization of data, as well as preparation of abstracts and manuscripts. ⁽¹⁾

At King Chulalongkorn Memorial Hospital, there is still limited information about resident research projects. The analysis of the data can be helpful for the training curriculum and the database for in-training residents. The objective of this study is to study the research projects of residents in terms of publication, study design, topics and future trends of the researches.

Material and Methods

This study reviewed research projects of residents in-training of obstetrics and gynecology from 1994 to 2003. During their training, they were required to select a research project to complete their course. In the first year, they had to select a research topic and contact one of the staff in Ob-Gyn Department to be their supervisor or mentor. By the end of the first year of residency, the research project should start and ongoing until the end of the second year. Residents have to present their progression constantly

every few months in research monitoring session. The research project should be finished before the third year of their residency and the manuscript or report is to be presented to the Thai Royal College of Obstetrics and Gynecology. Some of the research projects were selected to present in the annual meeting of the Royal College of Obstetrics and Gynecology. The research presentations are judged for the prizes by the committee of the Royal College. Furthermore, the research projects were subsequently published in local and international journals depending on the quality of the work.

Data collection was made by a research team of the department. Research topics, study design, publication and subsequent fellow training were recorded. Some of the missing data were collected by direct contacts with the resident alumni. According to the subspecialty unit in Obstetrics and Gynecology Department, the research topics which related to maternal-fetal medicine unit were classified in obstetrics group. The research topics which related to gyne-pathology unit were classified in gynecologic pathology group. The research topics which related to gyne-oncology unit were classified in gynecologic oncology group. The research topics which related to menopause unit were classified in menopause group. The research topics which related to family planning unit were classified in family planning group, and the research topics that not related to pregnant women or subspecialty unit in the department were classified as general gynecology. The topics of the projects were also classified as clinical research if they were clinical-based research and laboratory research if they were laboratory-based research. Study design was classified to five subgroups: retrospective descriptive,

case control, prospective descriptive, experimental study and randomized trial. Yearly analysis of the data was also done. Descriptive statistics were applied and presented.

The period of this study was separated in 2 parts: the first 5 years (1994 -1998) and the later 5 years (1999-2003). The trends of research projects in obstetrics and gynecology resident can be demonstrated by comparing between these 2 periods.

Results

Over the ten years period, there were 90 residents trained in Department of Obstetrics and Gynecology, King Chulalongkorn Memorial Hospital. There were 28 research projects in the field of obstetrics, 21 projects in family planning, 15 projects in general gynecology, 14 projects in menopause, 8 in oncology and 4 in gynecologic pathology. All of the projects were clinical or laboratory- related clinical research projects. The research topics are demonstrated in diagram1.

According to the study design, there were 36 prospective descriptive studies, 21 retrospective studies, 17 randomized trial, 14 experimental studies, and 2 case control studies. (Diagram 2)

The yearly distribution of the research topics and study designs can be demonstrated by diagram 3 and 4.

Regarding the research methodology of the 21 retrospective descriptive research projects, nine were related to obstetrics field, one to general gynecology, two to gynecologic pathology, seven to oncology, and two to menopause. From the 36 prospective descriptive researches, thirteen were related to obstetrics, five to general gynecology, one to gynecologic pathology, thirteen to family planning and four to menopause. From the 17 randomized trial researches, three were related to obstetrics, seven general gynecology, one oncology, and six family planning. From the 14 experimental researches, two were related to obstetrics, two to general gynecology, one to gynecologic pathology, one to family planning

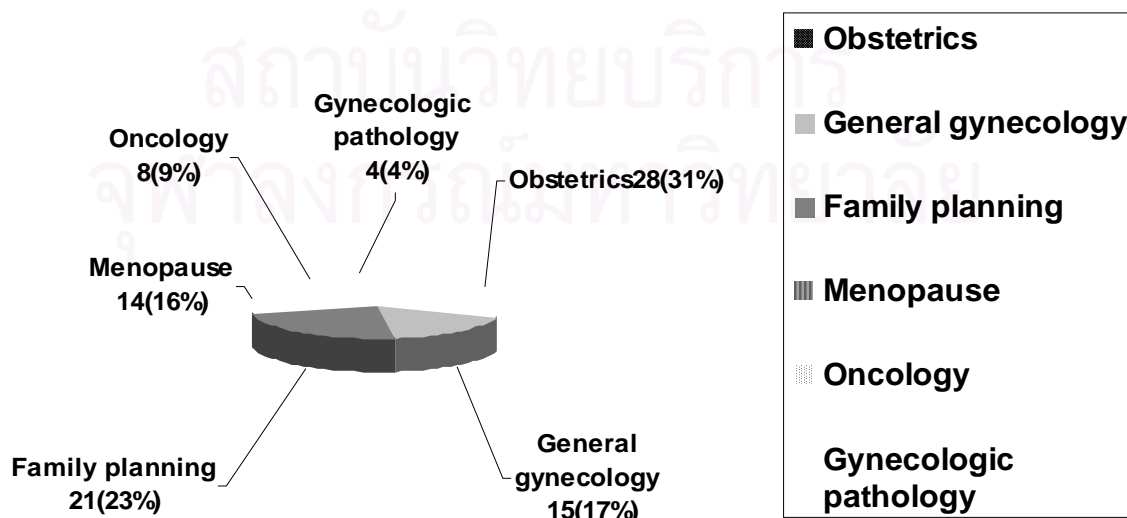


Diagram 1. The ratio of research topics in the 10-year period.

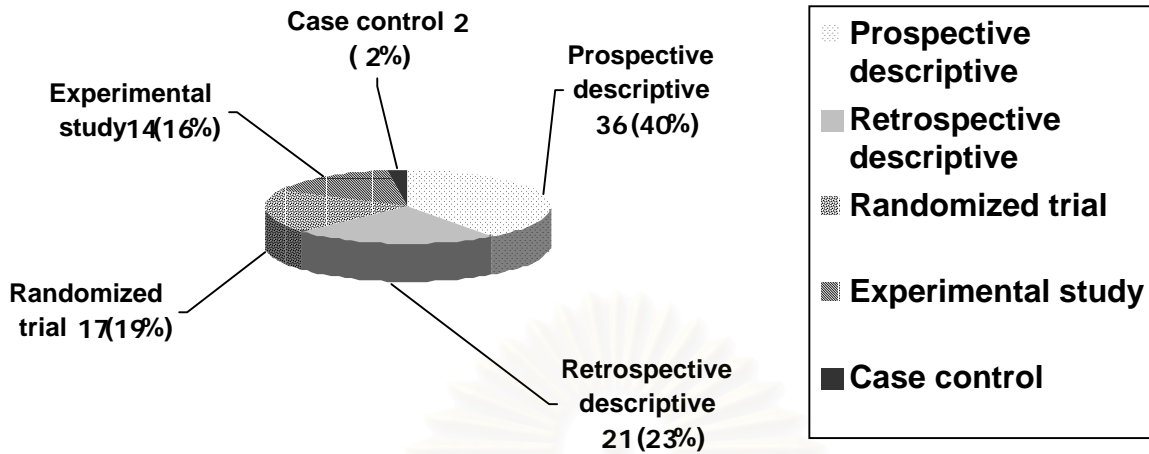


Diagram 2. The study design in the 10-year period.

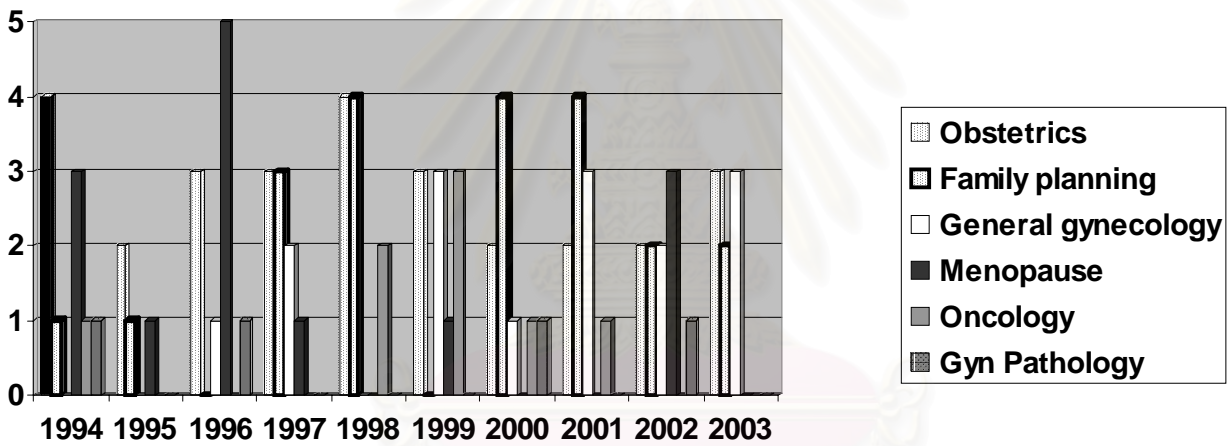


Diagram 3. Topics of researches conducted in each year.

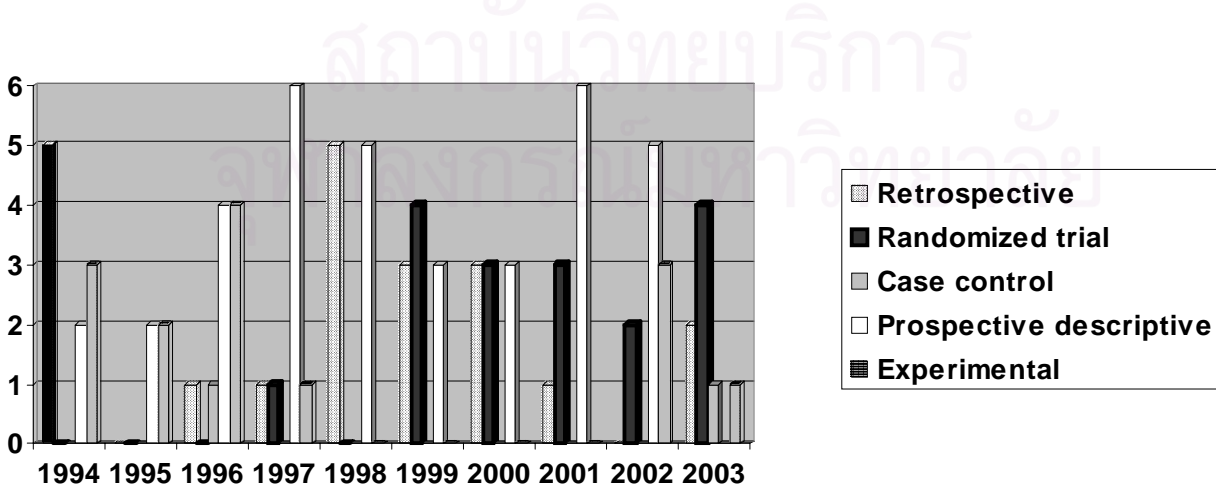


Diagram 4. Study design in each year.

and eight to menopause. The two case control studies were related to obstetrics and family planning.

Thirty research projects (33.3 %) were published in international journals, 30 research projects (33.3 %) in local journals; and thirty (33.3 %) have never been published. The distribution of the publication year is demonstrated in diagram 5.

The design and publication of the researches in the first half (1994-1998) and second half period (1999-2003) are demonstrated in table 1.

According to the subsequent training in subspecialty, 26 of 90 residents were enrolled in the fields of subspecialty. The research projects that they did during the residency training were correlated to the

field of their subspecialty training in 12 cases (46 %). So far, 14 of the research projects (54 %) were not correlated to their subspecialty.

Discussion

In this retrospective review of the 10-year research projects conducted by Ob-Gyn residents, research topic in obstetrics shared the highest ratio in the overall topics (28 researches, 31%). Regarding gynecology, research topics related to family planning shared the highest ratio (21 researches; 23 %). The factor influencing the outcomes may relate to residents' interest, mentors/supervisor specialty, or the availability of the researches. Supervisors or

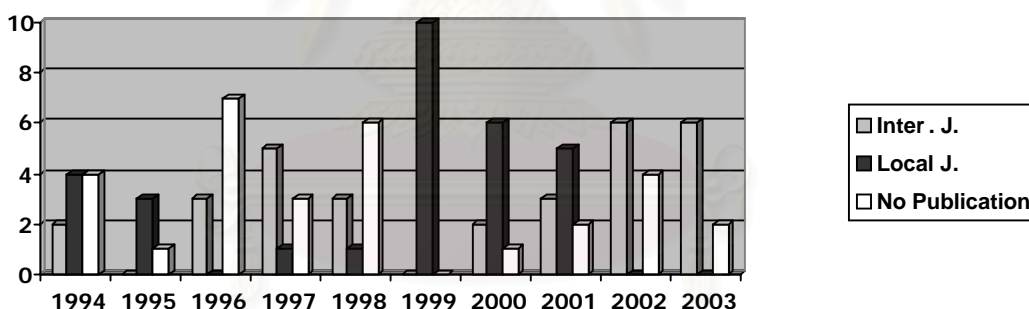


Diagram 5. Number of publications by year.

Table 1. Compare the character of the researches between two periods.

Character Time	Research design					Publication		
	Retrospective	Randomized trial	Prospective descriptive	Case control	Experimental	Local publication	International Publication	No publication
1994-1998	12	1	19	1	10	9	13	21
1999-2003	9	16	17	1	4	21	17	9

mentors have an important role in the research projects of the residents. The entire resident research projects of the Department of Ob-Gyn from King Chulalongkorn Memorial Hospital have their advisors or mentors of the projects. A previous study showed that non-university programs were more likely to be conducted without faculty mentors.⁽²⁾

Oncology and gynecologic pathology share the two lowest ratios (9 % and 4 % respectively). This may be caused by the lack of interest of the residents, the low influence from supervisors or difficulties in research designs. Furthermore, the first year residents were not rotated to oncology and pathology unit during selection of their research topics, thus, they may not be able to form any idea in these fields. The distribution of the research topics should be more balanced in the future. The staff of the oncology and pathology unit should encourage residents to take part in their research projects.

According to the study design, descriptive study shared the highest ratio (63 %). Limitation of time and resource can influence to the study design. Interestingly, randomized trial researches seem to increase when comparing between the first five years and the later five years of this study (1 vs. 16 researches). This may imply the improvement of the study design and ultimately, research quality. The retrospective design was most frequently found in oncology researches (7 from 8 researches), conversely to the family planning research, which almost all of the researches were prospective and randomized trial (13 and 6 respectively).

The publication of the resident research projects has resulted in an increase of national recognition. It is clear that the quantity and quality of

the publication will improve when the training program includes research project in the requirement.⁽²⁾ The same situation can be demonstrated in the training in Ob-Gyn. According to the regulation of the Thai Royal College of Obstetrics and Gynecology, since 1999, residents' research projects which are published in journals will be determined to pass the research exam without any requirement of full manuscripts. This factor may influence the number of publication that year. Regarding the publications of the first five years compared to the later five years of this study, there seem to be an increase in the number of publications (22 vs. 38 publications). Overall publications of resident research projects reached nearly 70 %; nevertheless, greater assistance of the faculty can increase publication of research projects.

During residency training, research must be cost-effective in the time constraint period.⁽⁴⁾ The outcomes of complete the research process will not only encourage participants to improve their critical review in medical literature, but also to learn about experimental design, statistical analysis, computerization of data, as well as abstract and manuscript preparation. To fulfill these objectives, apart from lectures on the principle of research design, research competition, separation of the research time and technical support from faculty may improved the quality of the research projects.^(1,5) It was mentioned that the most frequently cited obstacle to research was the lack of time of the residents.⁽⁶⁾

All research projects reviewed in this study are purely clinical or laboratory- related clinical research projects, this is similar to the other study.⁽⁷⁾ The training in obstetrics and gynecology is clinical - based training. During this 3 years period, residents

spent most of the time in clinical work, there was no rotation for laboratory aspects except one month in gynecologic pathology unit. The characteristics of the researchs may related to the field of their training program. The influence of the research projects to the residents' subsequent training in fellowship program seems to have no correlation.

In conclusion, the research topics of Ob-Gyn residents are mainly related to reproductive health. The distribution of the topics should be more balanced in the future. The number of publications and the randomized trial researches tend to increase with time.

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