

Nationwide Peritoneal Dialysis Nurse Training in Thailand: 3-Year Experience

Jutiporn Thaiyuenwong RN*,
Nanta Mahatanan RN**, Somsong Jiravarannun RN***,
Achara Boonyakarn RN****, Somrak Rodpai RN**,
Somchai Eiam-Ong MD**, Kriang Tungsanga MD**,
Prateep Dhanakijcharoen MD*****, Talerngsak Kanjanabuch MD***

* Kidney & Metabolic Research Center, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

** Division of Nephrology, Department of Medicine, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

*** Department of Adult and Geriatric Nursing, Thai Red Cross, College of Nursing, Bangkok, Thailand

**** The Thai Nephrology Nurses Association (TNNA), Bangkok, Thailand

***** National Health Security Office of Thailand, Bangkok, Thailand

Peritoneal dialysis (PD) center is not possible to operate if there is no availability of dedicated PD nurse. Generally, the nurse has to play many roles, including educator, coordinator, and sometimes leader. As professionalism, the PD nurses need to have both theoretical and practical skills. With the tremendous leap of PD population after the launch of “PD First” policy in Thailand, the shortage of skillful PD nurse is concerned. Hence, the nationwide PD nurse training course was established with the collaborations of many organizations and institutes. Until now, 3 generations of 225 PD nurses are the productions of the course. This number represents 80 percent of PD nurses distributed throughout the whole nation. The survey operated in the year 2010 demonstrated that the output of the course was acceptable in terms of quality since most of the trained PD nurses had a confidence in taking care of PD patients. The quality of patient care is good as indicated by KPIs.

Keywords: Peritoneal dialysis nurse, Training program, Professionalism, PD First policy

J Med Assoc Thai 2011; 94 (Suppl. 4): S162-S166

Full text. e-Journal: <http://www.mat.or.th/journal>

One option of renal replacement therapy (RRT) for acute or chronic kidney disease (CKD) is peritoneal dialysis (PD). Since 1962 the year PD was invented, up to now it has been day to day update from glass to plastic bag, from single bag to double bag, more and more. The global numbers of PD patient also have been increasing annually, especially in Asia. The growth of PD cases seems to pace in the same direction of an economic burst. However, many countries in Asia had limitation of the treatment accessibility because of shortage skillful human resources and poverty. In Thailand, although PD has been started for more than 30 years, only 30-40% of end stage renal disease (ESRD) patients can access to the treatment, likely due to

dialysis cost barrier. To ensure social equity in accessibility of RRT, the Thai government by the aids of the National Health Security Office (NHSO) has launched the “PD First” policy in 2007, under the umbrella of universal coverage scheme allowing all incidence cases of ESRD patient to have a PD treatment with a “free-of-charge” campaign. However, advanced technology including automatic machine and new solutions are capped. With the “PD First” policy, the numbers of PD patients had tremendously grown from 1,100 cases in 2007 to almost 11,000 cases in the early of the year 2011⁽¹⁾, only three years apart. The new PD units have been established every month. The leap of patient numbers and naive PD centers generate the concerns of PD quality and shortage of PD nurse. Hence, the nationwide PD nurse training program has been developed.

Course preparation

There is an essential statement “The successful PD program depends on a highly motivated,

Correspondence to:

Kanjanabuch T, Division of Nephrology, Department of Medicine and Kidney & Metabolic Disorders Research Center, Faculty of Medicine, Chulalongkorn University, Bangkok 10330, Thailand.

Phone: 0-2256-4251 ext. 211

E-mail: golfnephro@hotmail.com

educated, and professional nurse”⁽²⁾. Since PD is a home-based therapy, the patients have to take care of their own. Thus, much knowledge and skill have to be learned. The person that has closed contact to the patient, of course, is PD nurse and, hence, the PD nurse is one of a crucially key member of a multidisciplinary team. The PD nurse inevitably has to act as an educator, coordinator, and leader at the same time. As stated by Dimitrios G. Oreopoulos, the past director of PD program at The Toronto Western Hospital that “I am convinced that a well-informed and enthusiastic nurse is a great blessing to the nephrologists and the PD patient”⁽³⁾. With the statement, the task force of the nationwide PD training program in Thailand pays more attention to the nurse production.

Developing the nationwide PD training program required excellent collaboration and well organization⁽⁴⁾. The curriculum has to be grounded on the principle of evidence-based knowledge. PD nurses according to the requirement of the ISPD practice guideline 2006⁽⁵⁾ are those who are good at communication skill, innovative, consistent, and firmly believe in patient self-care. Indeed, the training program called “Teaching nurse to teach” has been developed by the University of Pittsburgh and endorsed by ISPD. It is a web-based lesson; However, the program is among the process of development. The authors nearby country, Malaysia, Poo Cho Tan also establishes the PD nurse training program.

It is a 4-week program which comprises theoretical and practical training with 7 modules: basic medical science, clinical nephrology, renal failure, hemodialysis (HD), PD, renal transplant, rehabilitation, and patient education⁽⁶⁾.

The pharmaceutical companies also provide the courses. Baxter Healthcare, one of the active participants in the field of PD, has launched modules of PD nurse training course known as “Training Education Advice Mentoring”. The course is conducted by a pharmaceutical nurse team and covers various issues as follow: renal anatomy and kidney function, basic fluid transport principle, chronic kidney disease (CKD), and introduction to PD⁽⁷⁾. The Fresenius’ PD nurse training course is more intensive and needs a longer time to graduate. Generally, it takes 12 months for the registered nurse to become a PD nurse specialist. The course carries 6 modules of training program: 1) patient profile and care of patient with ESRD, 2) principles and application of dialysis, 3) pharmacology for professional practice, 4) professional practice and dialysis, 5) clinical outcome practice and

ESRD, and 6) clinical competencies and professional practice⁽⁸⁾.

As mentioned earlier, there is a dearth of established standards and practices for PD training. Moreover, the curriculum must be comprehensible to nurses from diverse experiences and be applied and relevant to the authors unique situation. The authors task force, leading by the Division of Nephrology and Nursing Department of King Chulalongkorn Memorial Hospital (KCMH), and Thai Red Cross College of Nursing with the assistances of the department of Health service, Ministry of Public Health (MOPH), The Nephrology Society of Thailand (NST), The Thailand Nursing and Midwifery Council (TNC), and The Thai Nephrology Nurses Association (TNNA) as well as 19 medical schools, has established the nationwide PD nurse training program in the year 2007 with full financial support from the NHSO. The course includes all of the following elements⁽⁹⁾.

1. Fundamental concepts of CKD and knowledge related to PD nursing practice.
2. Community health issues.
3. Special care for vulnerable patients.
4. Collaboration skill with multidisciplinary team.
5. Continuous quality improvement (CQI) concept.
6. Research methodology.

The affiliated PD training centers are required to have adequate number of PD patients (trainee per patients ratio < 1:10) with appropriate CQI program, “patient-center” service, and established multidisciplinary team support (physician, nurses, dietitian, social workers, etc). The trainer or coach must be already registered nurses and had undergone at least 4 years of clinical practice in PD care, plus certified HD nurses given by the TNNA^(10,11).

PD nurse training program

Similar to general nurses, the PD nurse is responsible for treating patients, educating both medical and non-medical related problems, and performing basic medical test and nursing procedure. As nurse practitioner and specialist, the PD nurse shall involve in both preventing and assessing healthcare condition of the patients and their families. Sometimes, the PD nurse has to explain the dietary information, blood test results to the patients, and initial management of co-morbid diseases such as diabetes mellitus, hypertension, infection, and cardiovascular disease. As part of multidisciplinary team for dialysis care, the

PD nurse shall have communication and management skills. Most of the times, PD nurse has to play the role of team coordinator by evaluating, analyzing, summarizing, presenting the patient information, and discussing the problem with whole team to find out the best solution for the patients and family. To fulfill all tasks and responsibilities, the PD nurse should be a professional and has personal satisfaction for the role of educator, clinical coordinator, clinical nurse, monitor, and leader^(5,6).

Program objectives

1. The PD nurse should be able to understand health care system, health care policy, and health economics.
2. The PD nurse should be able to understand the principles of PD (both anatomy and physiology) and RRT (PD, HD, and kidney transplantation).
3. The PD nurse should be able to understand the nursing care of PD patients and must perform properly and safely all PD procedures.
4. The PD nurse should be able to do health assessment for comorbid diseases.
5. The PD nurse should be able to early detect abnormality and give a first aid to prevent the severe PD complications.
6. The PD nurse should be able to train, encourage, and motivate the patient and their families to have confidence in self-performing a safe PD at home.
7. The PD nurse should understand his/her role and be able to use knowledge and skill in developing a standardized, good practice for both patients and professional healthcare team.
8. The PD nurse should be able to practice and manage quality control in PD.

Program topics

1. Healthcare system and nursing.
2. Advanced health assessment and clinical judgment.
3. Nursing care for patients with RRT.
4. Nursing care for CKD patients undergoing RRT.
5. Nursing care practicum.
6. Chronic PD nursing care practicum.

Program candidates

1. Licensed practical nurses (LPNs).
2. Underwent 2 years experiences on patient care.
3. Must have an empathy and proper

communication.

With emphasis of these challenges, the task force designed a 4-month course comprising 173-hour integrated healthcare knowledge and 300-hour skill development with actual practices in the main center and 19 affiliated PD centers. At the end of the program, the community-based PD center visit and PD camp were organized in order to integrate community and presentation skills into their practice and to build up relationship and friendship among PD nurses. The program also incorporated dilemma to help them combat at ease with situations of stress, emotional issues or uncertainty in the future.

Results

From starting date until now, the total numbers of graduated PD nurses are 225 trainees (Table 1). Two of these are male. Most of the PD trainees came from government hospitals throughout the country with full financial support from NHSO. In the first year, 2008, most of the trainees worked in the secondary (regional or provincial) and tertiary (referred) hospitals. However, in the year 2009 and 2010, the year that the "PD First" policy expanded rapidly to a community-based hospital around the country, most of the trainees came from the provincial and community-based (primary) hospitals. One thirds of them were from small community-based hospitals (less than 90 beds). Some of the centers had non-capability and fewer facilities to be a stand alone PD center. Thus, the centers had to closely adhere to the fostered PD center located nearby.

In 2010, the task force launched the post-training survey to evaluate the nurse competency and efficacy of the program by using the questionnaires. The main questions were "Do the PD nurses have a confidence to do the role of the PD nurse after training?" the results are shown in Table 2.

Most of the graduated PD nurses seemed to have much more confidence in caring the patients, especially the items of exit site evaluation, and were more comfortable with patient training. However, in

Table 1. Details of trainee and hospital during 2008-2010

Year	Training period	Trainees	Hospital*
2008	June 30-Oct 30	72	68
2009	Sep 3-Nov 30	82	69
2010	Sep 2-Nov 30	71	67

* Hospital = Government hospital

Table 2. PD nurse role evaluation after training

Topics	Confidences			SD	n
	Low	Medium	High		
Educating patient to choose PD as an option for RRT	1.1% (1)	13.8% (13)	85.1% (80)	0.396	93
Catheter placement procedure	1.1% (1)	31.9% (30)	67.0% (63)	0.498	94
Ability to train patient	2.1% (2)	8.2% (8)	89.7% (87)	0.389	97
Performing skill of peritoneal equilibrium test	3.1% (3)	20.8% (20)	76.0% (73)	0.513	96
Evaluating exit site and tunnel	1.0% (1)	6.3% (6)	92.7% (89)	0.313	96
Peritonitis evaluation and nursing management	2.1% (2)	19.6% (19)	78.4% (76)	0.474	97
Fluid overload evaluation and nursing management	1.0% (1)	18.8% (8)	80.2% (77)	0.433	96
Nutritional status evaluation, education, and management	2.1% (2)	36.5% (35)	61.5% (59)	0.535	96
PD knowledge as a trainer	1.0% (1)	16.7% (16)	82.3% (79)	0.418	96
Quality assurance in PD	7.3% (7)	63.5% (61)	29.2% (28)	0.566	96
Proactive activities: home visit, group training	4.2% (4)	47.9% (46)	47.9% (46)	0.577	96
PD unit organization	6.3% (6)	57.3% (55)	36.5% (35)	0.583	96
PD clinic organization	9.5% (9)	51.6% (49)	38.9% (37)	0.634	95

some items, for instance, quality assurance in PD and organizing a PD unit as well as PD clinic, the nurse had moderate levels of confidence. Indeed, these latter items need longer experience to build their own confidence.

The nationwide nurse training course also combined a 2-day annual meeting with the objective to update knowledge and skill including how to set the standardized nursing care for PD patients. It is the best time of the year to build a PD nurse network in the authors' country. The event allowed sharing their experiences and entertaining each other. With all efforts, the authors teams hope the quality of PD care will meet the acceptance of the ISPD and world standard in terms of high quality, low peritonitis rate, and good patient survival and quality of life.

Acknowledgement

This survey was supported by NHSO Fund, Thailand. The authors gratefully acknowledged the staffs of Excellent Center of Peritoneal Dialysis, King Chulalongkorn Memorial Hospital and Kidney & Metabolic Disorders Research Center, Faculty of Medicine, Chulalongkorn University for data collection.

Potential conflicts of interest

None.

References

1. National Health Security Office (NHSO), Thailand. CAPD report 2011. (cited 2011 Mar 3). Available

from http://kdf.nhso.go.th/CAPD/monitor_capd1.php. Bangkok: NHSO; 2011.

2. Krishnasami Z. The physician role in a succesful peritoneal dialysis program. *Nephrol Nurs J*. 2004; 31: 598.
3. Oreopoulos DG. The peritoneal dilaysis nurse: the key to success. *Perit Dial Bull* 1981; 1: 113-4.
4. Finkelstein FO, Ezekiel OO, Raducu R. Development of a peritoneal dialysis program. *Blood Purif* 2011; 31: 121-4.
5. Bernardini J, Price V, Figueiredo A. ISPD Guideline Recommendation: Peritoneal dialysis patient training, 2006. *Perit Dial Int* 2006; 26: 625-32.
6. Tan PC, Morad Z. Training of peritoneal dialysis nurses. *Perit Dial Int* 2003; 23 (Suppl 2): S206-9.
7. Team PD. Nurse Training, education, advice and mentoring for peritoneal dialysis nurse. (cites 2011 Mar 4. Available from <http://www.homebybaxter.com/how/resource-center/team-pd.aspx>. Baxter healthcare <https://www.renalinfo.com/na/professionals/showHomePage.do>
8. Sanchez OM. Patient care innovation: training the peritoneal dialysis nurse. Fresenius Medical Care annual report. 2007. (cites 2011 Mar 31. Available from [http://reports.fmcag.com/cgi-bin/show.ssp?companyName=fmcagvage=Englisha report_id.gb-2007aid=7040](http://reports.fmcag.com/cgi-bin/show.ssp?companyName=fmcagvage=Englisha%20report_id.gb-2007aid=7040).
9. Chulalongkorn Hospital course syllabus: peritoneal dialysis nurses training. Bangkok 2008.
10. Luongo M, Prowant B. The Nurse's role. In: Khanna R, Krediet R, editors. *Nolph and Gokal's*

Textbook of peritoneal dialysis. 3rd ed. New York: Springer; 2009: 335-7.

11. Kong IL, Yip IL, Mok GW, Chan SY, Tang CM,

Wong SW, et al. Setting up a continuous ambulatory peritoneal dialysis training program. Perit Dial Int 2003; 23 (Suppl 2): S178-82.

ประสบการณ์ 3 ปี การอบรมพยาบาลผู้เชี่ยวชาญการล้างไตทางช่องท้องหลักสูตรรวมประเทศ

จุติพร ไทยยืนวงษ์, นันทา มหัทธนนท์, สมทรง จีราวรรณันท์, อัจฉรา บุญกาญจน์, สมรัก รอดพ่าย, สมชาย เอี่ยมอ่อง, เกรียง ตั้งสง่า, ประทีป ธนกิจเจริญ, เถลิงศักดิ์ กาญจนบุษย์

การบริหารจัดการหน่วยบริการการล้างไตทางช่องท้องจะไม่สามารถดำเนินไปได้หากขาดพยาบาลผู้เชี่ยวชาญเฉพาะทาง เพื่อที่จะทำหน้าที่เป็นผู้ให้ความรู้ ผู้ประสานงาน และผู้นำในบางครั้ง ดังนั้นเพื่อความ เป็นมืออาชีพ พยาบาลผู้เชี่ยวชาญการล้างไตทางช่องท้องจึงต้องมีความรู้ทั้งด้านทฤษฎีและปฏิบัติ ในประเทศไทย หลังจากที่มีการ ประกาศนโยบาย “พิถีพิถัน” พบการเพิ่มขึ้นของจำนวนผู้ป่วยล้างไตทางช่องท้องอย่างมาก จึงเป็นเหตุให้ขาดแคลน พยาบาลผู้เชี่ยวชาญการดูแลผู้ป่วยพิถี เพื่อแก้ไขสภาวะดังกล่าว หลายองค์กรจึงได้ร่วมกัน จัดตั้งหลักสูตรการอบรม พยาบาลผู้เชี่ยวชาญการล้างไตทางช่องท้องรวมประเทศขึ้นมา จบจนถึงปัจจุบัน หลักสูตรได้ผลิต พยาบาลผู้เชี่ยวชาญไปแล้ว 3 รุ่น มีพยาบาลที่ผ่านการอบรมทั้งหมด 225 ราย คิดเป็นร้อยละ 80 ของพยาบาล ผู้เชี่ยวชาญการล้างไตทางช่องท้อง ทั่วประเทศ จากการออกแบบสอบถามเพื่อสำรวจความมั่นใจ และประเมินผล หลักสูตรของพยาบาลผู้เชี่ยวชาญ การล้างไตทางช่องท้องทั่วประเทศในปี พ.ศ. 2553 พบว่าส่วนใหญ่มีความมั่นใจ ที่จะให้การดูแลผู้ป่วยหลังจากผ่านการอบรม ซึ่งการที่ผู้ป่วยได้รับการดูแลที่ดีทำให้การ รักษา มีคุณภาพเป็นตัวชี้วัดที่ดี