Quality of Diabetes Care in PCUs in Central Thailand

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Abstract: This descriptive study, using a mixed method design, sought to describe, within Central Thailand, the quality of diabetes care in terms of the structure of Primary Care Units (PCUs), care processes for diabetics and outcomes of diabetic care; and the relationships among these factors. Three hundred health care providers from 300 PCUs completed a researcher-designed questionnaire which sought information regarding the structure and care processes, used in the PCUs, with diabetics. Outcomes of diabetic care were assessed using fasting plasma glucose reports obtained from the PCUs. In addition, 9 care providers, who completed the questionnaire, served as key informants, for in-depth interviews, which validated and further explained the quantitative data. Quantitative data were analyzed using descriptive statistics and Pearson's product moment correlation, while qualitative data were examined by way of content analysis.

Almost one-quarter of the PCUs met all components of structure, based upon PCU standards. Results revealed the structure of most PCUs were sufficient in terms of facility, financing and networking. Although the majority of staff consisted of nurses, the PCUs were considered insufficiently staffed, and 825 demonstrated improper preventive care. However, 43% of the diabetics, being cared for in the PCUs, showed sound glycemic control.

Good PCU structure suggested an increase in the likelihood of appropriate care processes and corresponding positive outcomes. In addition, the presence of well- trained health volunteers provided assistance to the PCU staff, particularly when professional staffing levels were low. Thus, a need for an increase in the number of professional staff in PCUs, enhanced training for health care volunteers and revision of the standards of diabetic care was evident.

Thai J Nurs Res 2009; 13(3) 167 - 180

Key words: quality of diabetes care, primary care units, Thailand

Background and Significance of the Problem

Diabetes mellitus represents a significant public health problem in Thailand, with a prevalence rate ranking three times higher than the global average.[1] In 2000, the prevalence of diabetes, among Thai adults, was reported to be

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9.6% of the population. Furthermore, reports from recent health status surveys reveal that only 40% of Thai people with diabetes are able to maintain appropriate glycemic control.[2] However, control of glycemic rates in patients' cared for in one of Thailand's Primary Care Units (PCUs), which were set up to address primary care under the Universal Coverage Insurance Plan, have been found to be worse than the national average.[3] While evidence suggests 38% of diabetics attending PCUs have glycemic control,[3] the glycemic control rates at PCUs, in Central Thailand, were found to be 29.5 %.[4]

In addition to enhancing significant factors that improve diabetic health, the organizational structure of the health care system has been found to be a major contributing factor in good diabetes management.[3] As a result of the reform of Thailand's health care system, emphasis has been placed on the quality of primary health care delivery, including the care of diabetics. Using the guidelines established by the Thai National Health Plan of 2008, the PCUs have focused on quality of care.[5] Nurses play a major role in providing individuals with diabetes quality health care, including: service delivery, health promotion, health prevention, and coordination and continuity of care. All these factors serve as indicators of the delivery of quality care.

Factors that reflect the quality of care for diabetics can be grouped into the categories of: organizational structure; processes of care; and, care outcomes. Previous studies, regarding organizational structure, have found that finance,[6, 7] human resources,[8, 9] equipment[10] and networks[11, 12] positively influence the process of care. Adherence to guidelines for diabetes management, in terms of processes of care, also has been found to improve the outcome of care,[13, 14] while continuity of care has been shown to be associated with higher glycemic control rates.[15, 16] In addition, evidence suggests that coordination, such as referrals, is positively associated with care outcomes of individuals with diabetes.[17]

Organizational structure, processes of care and care outcomes also have been identified as key factors in quality of care.[18, 19] Since most studies have been conducted in Western countries, the quality and outcome of the care, in response to these standards, remains unclear in Central Thailand. Thus, the purpose of this study was to describe the quality of diabetes care in terms of the structure of PCUs, care processes for diabetics and outcomes of diabetic care, as well as to determine the relationships among these factors, in Central Thailand.

Method

Design: The study was descriptive in nature, using both quantitative and qualitative methods, undertaken within two phases. In Phase I, the quantitative portion of the study, the primary researcher obtained data by way of a structured questionnaire, regarding the PCUs' structure, diabetes care processes and diabetes care outcomes. In addition, 6-month fasting plasma glucose (FPG) reports of patients receiving care in the participating PCUs were obtained. Phase II, the qualitative portion of the study, involved in-depth interviews of 9 health care providers, each from a different PCU, who were selected from the survey sample and represented varying degrees of experience. The interviews were conducted in an effort to extend an understanding of the diabetes care phenomena.

Instruments: The quality of diabetes care was assessed by way of a, 85 item, researcher-designed questionnaire based on the: standards set forth for Primary Care Units;[20] Standards and Indicators for Setting up PCUs;[21] and, Diabetes Care Guidelines for Practitioners in PCUs.[22] The 3 part questionnaire sought information regarding the PCUs: (a) staff demographics and reports on

participating patients' FPG; (b) structure; and, (c) diabetes care processes. Part one of the questionnaire consisted of 15 items, which sought general information about the demographics of participating PCUs, as well as their monthly reports of patient FPGs. Examples of questions were: "What kind of PCU is this?" and, "How many diabetics visit the clinic daily?"

Part two of the questionnaire consisted of 30 items, which requested information about the structure of the facilities, as well as the financial, staffing and networking aspects of the PCUs. Examples of questions included: "Does your PCU have a glucose test machine?" and, "Have you received up to date diabetes mellitus training?

Forty items, in part three of the questionnaire, sought data regarding the PCUs diabetes care process, specifically service delivery, continuity of care and coordination. Examples of questions were: "How many times did you visit people with diabetes at their home last year?" and, "Does the PCU have a counseling system?"

Consideration was given to the format of the questionnaire to ensure that it was user-friendly and easy to complete. A check list was used in Parts I and II. The items which represented the standard level of performance were rated as 1, while items failing to met the standard were rated as 0. A Likert-like scale was used in Part III. Items which were positively stated were rated as 1 for 'strongly agree' and 5 for 'strongly disagree.' Items which were negatively stated were rated as 5 for 'strongly agree' and 1 for 'strongly disagree.'

The researcher developed an interview guide, after the quantitative data were gathered, to obtain in-depth qualitative information about: how health care providers administered diabetes care; provision of services: continuity of diabetes care in the past year: and, what things were needed to provide quality care. The interview guide consisted of five open-ended questions, including: "How do you provide care for a diabetes patient?"; "What are the barriers to providing good diabetes care?"; "How do you manage such problems;?" and, "If you could change everything, what would you want to change in order to improve the quality of diabetes care?"

Seven experts in PCUs diabetes care and research were asked to review the questionnaire and interview guidelines for validity, understanding and practicality. Sixty-eight of the 85 items were considered valid; however, some wording was refined to make the questions more practical. Seventeen of the 85 items were deleted.

Once the questionnaire was finalized, a pilot study was conducted, using 20 health care providers working in a PCU, for the purpose of testing the questionnaire's reliability and face validity. Participants were selected from health care providers who had a main responsibility in diabetes care in PCUs, in Central Thailand, which were not part of the study sample. Subjects, in the pilot study, were asked to assess comprehensibility of the wording of each item and determine which aspect of diabetes care quality was being measured by each item. Based upon the results, item wording was adjusted and similar items were placed under the specific factors being measured, in each of the three parts of the questionnaire.

The refined questionnaire consisted of 68 items. Part I consisted of 13 items regarding general information; while Part II consisted of 22 items regarding finance, facility, staffing and networking. The 33 items that made up Part III assessed service delivery, continuity of care and coordination. All items in the interview guidelines were justified as being valid. The content validity index (S-CVI) of the questionnaire was found to be 0.97, while the reliability, using Cronbach's alpha, was 0.86. Interpretation of the content, from the in-depth interviews, was validated with individuals who took part in the interview process.

Sample: The sample consisted of employees of PCUs in Central Thailand. The PCUs were randomly selected, using two stage cluster sampling. Inclusion criterion were: being an employee who worked in a PCU, managed by the Minister of Public Health (MOPH), and providing care to individuals with diabetes. Since the National Health Security Office divided the area of Central Thailand into 6 zones,[23] the steps of the two-stage sampling involved the following: 1) randomly selecting a province from each zone; 2) randomly selecting 50 PCUs from each selected province; and, 3) identifying employees, at each selected PCU, to serve as respondents, to the questionnaire, for their respective PCU.

Using Yamane's formula,[24] a sample size of 295 participants was considered adequate for completing the questionnaire. However, to assure an adequate return rate, 325 questionnaires were distributed. Three hundred, usable, questionnaires were return, for a return rate of 92.3%.

The majority (n = 251, 83.7%) were female with an average age of 36 years. Nearly all (n = 245, 81.7%) had a bachelor's degree in nursing or public health. Most (n = 289, 96.3%) reported the structure of their PCU had been developed from the health posts to meet MOPH standards, while only 3.7% (n = 11) of the PCUs were newly established within a hospital. An average of 64 diabetics were registered in each of the PCUs, with a range of 2 to 575 (SD =75.20) individuals with diabetes per PCU.

In addition, a total of 9 employees served as key informants for the in-depth interviews. The informants were interviewed until no new categories, concepts, dimensions or incidents emerged[23] from the data. They represented 9 PCUs, had a broad range of experiences[24] and were identified from the completed and returned questionnaires. Five key informants were selected from PCUs that provided the best diabetes care (i.e. highest glycemic control rates among all PCUs in the study). Four key informants also were selected from PCUs with the lowest glycemic control rates among all of the PCUs in the study. The key informants were purposely chosen to reflect the gender, average age, average level of education and average work experience characteristics of the 300 questionnaire respondents.

Ethical considerations: Approval to conduct the study was granted by the Committee on Human Rights Related to Human Experimentation at the primary researcher's university. Each participant was informed about: the study's purpose; what was involved in participating in the study; maintenance of participants' anonymity and confidentiality; and, the right to withdraw, at any time, without negative repercussions. Informed consent was obtained from all participants and key informants. All participants were asked to sign a consent form before they completed the questionnaire or were interviewed. Anonymity was maintained by placing code numbers on the completed questionnaires after they were returned to the primary investigator. Confidentiality was addressed by keeping the completed questionnaires in a locked file and viewed only by members of the research team.

Procedure: Survey data were obtained from October 2007 through February 2008, while interview data were obtained between April and June 2008. The procedure for obtaining data consisted of two parts.

Part I: The primary researcher requested permission, by way of a formal letter to the Director of the Provincial Health Office, to collect data. After approval was granted, the Coordinator of each provincial public health office was called so as to build a relationship, explain objectives of the study and request assistance in collecting data. The researcher and each Coordinator then created a timetable for collecting data together.

Data were collected the days the monthly provincial meetings with healthcare providers,

working in each PCU, were held. After the meeting, at the provincial health office, the researcher and/or the coordinators explained the objectives of the study and requested the healthcare workers informed consent. Those who gave consent to participate were given the questionnaire and asked to complete and return it that day. It took an average of forty-five minutes to complete the questionnaire. The participants also were asked to save, on a researcher provided CD, their FPG data or to copy the FPG data and send it, via mail or e-mail, to the researchers.

Part II: After the quantitative information were analyzed, appointments were made, telephonically, with the participants working in the PCU with the lowest, as well as the PCU with the highest glycemic control rates, as compared with the sample value, to conduct in-depth interviews. Seven participants were interviewed, in private, at his/her respective PCU. Two participants were interviewed, by phone, to reduce interviewer effect, since one interviewee was a former student of the primary researcher and one was the researcher's classmate. An interview guide was employed, as needed, during the interviews. Each interview was audio-taped, and lasted approximately one-half hour. During the interviews, changes sometimes were made changes in data collection techniques, i.e. re-wording questions, changing the sequence of questions, and/or modifying the interview locations. Field notes were written regarding interactions, observations and occurring events, as soon as possible, after each interview.

The researcher performed member checks, after each interview, so as to provide the respective participant an opportunity to confirm and/or clarify the researcher's interpretation of the interview data. Sometimes, new data emerged and was recorded.

Data analysis: Descriptive statistics were used to analyze contents of the questionnaire, while Pearson's product moment correlation was carried out to examine correlations among the structure of PCUs, care processes for diabetics and outcomes of diabetic care. Each interview was recorded and transcribed, wherein, content were analyzed, via descriptive categories, naming substantial phenomena and coding.[25]

Findings

PCU Structure: Over two-thirds of the PCUs had sufficient financial support for delivery of services for diabetics, and three-fifths o f them had sufficient financial support for coordination and continuity of care **(Table 1).** The major source of support was drawn from Contracting Units for Primary Care (CUP). PCUs with insufficient financial support searched for other financial support sources, i.e. donation boxes, local administrative organizations, national health security offices and other local organizations. However, information from the survey showed that over half (56.7 %; n =170) were unable to find additional financial support sources; wherein, the key informants explained that this was because they did not have good connections with other organizations. One key informant commented:

> "I didn't obtain funds from other financial support sources because I didn't know the sub-district administrator. I got my only budgetary funds from the hospital and it was not enough to visit patients at home"

Some 59.7 % (n = 179) of the PCUs had sufficient facilities for diabetes care in terms of both general office supplies and medical supplies. The PCUs could draw supplies from CUP and share supplies with other PCUs. All of them had blood glucose testing machines, and the vast majority had a sufficient amount of diabetic drugs

to prescribe in their clinic (**Table 1**). Those that needed additional facility supplies also could share supplies with other organizations. One key informant explained obtaining secondary supply needs as follows:

> "We used to have more glucose test strips, needles, and weight scales of our own. Sometimes, we can borrow things from other PCUs."

Sufficient staff were available in only 19 % (n = 57) of the PCUs, with only 9.7% (n = 29) having full-time physicians and 81% (n = 243) having full-time registered nurses. The standards, provided by the MOPH, regarding total number of staff members, was met only by 2.7% (n = 8) of the PCUs, with an average of 2-3 full-time staffs per PCU, including one to two nurses. Some CUPs supported the PCUs by rotating staff, at least once a month, from the CUP to work in one of the PCUs. However, only 57% (n = 171) of the participants reported their PCU received such staff support. Almost one-fourth (n = 71; 23.7%) of the PCUs reported that, even though they had support, they continued to experience staff shortages (See **Table 1**).

Table 1 Structure of primary care units (n = 300)

Quality of Care	Factors	Standard	PCU met the standard	
			N	%
PCU Structure	**Financing**	Budget for diabetes service delivery	208	69.3
		Budget for coordination and continuity of care	184	61.3
		Other sources of budget	130	43.3
	Facilities	Glucose test machine	300	100.0
		Family folder	282	94.0
		Safety & privacy clinic	267	89.0
		Diabetes mellitus drugs	250	83.3
		Computer databases	202	67.3
		Mission and goal	109	36.3
	Staffing	Staffs supported by the CUP	171	57.0
		Continuity of diabetes mellitus training	242	80.7
		Physician: Population1:≤10,000	22	7.3
		Nurse: Population1:≤1250	110	36.7
	Networking	CUP and other PCUs	300	100.0
		Community participation	235	78.3
		Local organizations	152	50.6
		Local people in community	300	100.0

CUP = Contracting Units for Primary Care
PCU = Primary Care Units

The key informants explained that, due to staff insufficiency, the PCUs could not provide quality care, nor provide certain procedures, i.e. home visits and/or health education. The PCUs managed this problem by training health volunteers to help nurses take blood pressures and weights, while managing their outpatient department (OPD) cards. One described the insufficiency of staff and quality of care as:

> "We had a lot of work, but we had only 3 staff members...This insufficiency of staff caused us to provide low quality care, as we could not perform everything that we were supposed to."

The key informants also explained that the major network, for sharing staff, knowledge and supplies, was the CUP. However, 23% (n = 69) of the participants indicated they had networks with local administrative organizations, and all reported having connections with health volunteers. Some of them stated health volunteers were able to help with home visits, referrals from the community and community-based disease surveillance.

Diabetes Care Process: The diabetes care process was explained in terms of service delivery, continuity of care and coordination. Only 35% (n = 103) of the PCUs provided proper service delivery, i.e. medical treatment, health prevention and health promotion, while 84.3% (n = 253) regularly provided proper diabetes treatment.

As shown in **Table 2**, 90.3% of the time, nurses in the PCUs administered, to those with a normal range blood-glucose level, the prescribed dosage of diabetic medication. This was done in accord with the clinical practice guidelines and under the physician's orders, without need for consultation with, or another order from, each individual's physician. However, for those unable to control their blood-glucose level, the nurses, 32% of the time, adjusted their medications according to the clinical practice guidelines or referred them, 47 .3% of the time, to the CUP, in accord with the clinical practice guidelines. One key informant's description of the medical treatment process was:

> "... If patients had high blood glucose levels, we would adjust drugs or refer patients to the CUP. Nurses could adjust diabetes drugs under the physician's permission or clinical practice guidelines...."

Although only 18.3 % (n = 55) of the participants indicated their PCU regularly provided preventive care, which met the clinical standards, 58% reported receiving annual triglyceride and cholesterol blood tests. Less than one-third (30%, n = 90) of the PCUs provided annual foot and eye examinations, while 19.0% provided HbA1Cc examinations at least once yearly, and 11.0% provided neuro-examinations, at every visit, in order to meet MOPH standards (See **Table 2**).

With respect to health promotion, all PCUs provided education to each diabetic, while only 35.3% reported providing diabetic care education to the families of the diabetics. Furthermore, 85% of PCUs provided proper continuity of care, and 82.0% had an appointment system and made appointments every 4-6 weeks for both poor and well glycemic controlled individuals. Health volunteers followed-up with those who missed appointments, by visiting them in their homes. One key informant described the follow-up system in this manner:

> "We had appointment registration in paper form. If patients missed their appointments for more than 1 month, we would follow-up on the patients by making calls or visiting the patients at home."

Some 69.3% of PCUs provided proper coordination services regarding referral and consultation. The PCUs referred those with poorly controlled glycemia (100%), new cases of diabetes (100.0%), emergency cases (66.0%), laboratory tests (56.7%) and diabetic patients with complications (78.0%). Key informants explained that full-time nurses consulted the respective physician and/or pharmacist regarding FPG levels between 100-126mg%, while managing those with complications and drug-related side effects.

Care Outcomes: As shown in **Table 2**, the outcome of care (See **Table 2**) was measured from the average six-month FPG level, of 19,141 diabetics who were seen in one of the 300 PCUs, with approximately two-fifths demonstrating good glycemic control (FPG = 100-126 mg%). The average FPG level was 147.10 mg% (min = 109.96 mg%; max = 190.71 mg%; SD = 16.27 mg%). A significant relationship was found between each of the components of the PCUs' structure and care processes, and the service delivery component of the process of diabetes care and outcome (See **Figure I**).

Table 2 Process and outcome of diabetes care in primary care units (n = 300)

Quality of Care	Factors	Standard	PCUs met standard	
			n	%
Care Process	**Service Delivery**	**Medical treatment**		
		Distribution of the correct diabetes mellitus drugs	253	84.3
		No long waiting for services	173	57.7
		Adjusted drugs under the monitoring of a physician	142	47.3
		Adjusted drugs using clinical practice guidelines	96	32.0
		Preventive care		
		Blood pressure examinations at least 4 times/yr	271	90.3
		Fasting blood sugar examinations at least 4 times/yr	246	82.0
		Triglyceride and cholesterol testing once a year	174	58.0
		Foot examination at least once a year	91	30.3
		Eye annual check-ups	90	30.0
		HbA1Cc examination at least once a year	57	19.0
		Neuro- examinations at every visit	33	11.0
		Health promotion		
		Individual health education	217	72.3
		Family education	106	35.3
	Continuity of Care	Out-patient department cards and report system	262	87.3
		Appointment system	246	82.0
		Continuity of health history to physicians	204	68.0
		Follow-up system	141	47.0
		Home visits 4 times a year	109	36.3

Table 2 (continued)

Quality of Care	Factors	Standard	PCUs met standard	
			n	%
	Coordination	A referral system for emergency cases	198	66.0
		A counseling system	180	60.0
		Patient information was referred	176	58.7
		Less than 60 minutes in transportation to refer	167	55.7
Care Outcome	Glycemic Control	Fasting plasma glucose < 126 mg%	8,227 (n= 19,141)	42.98

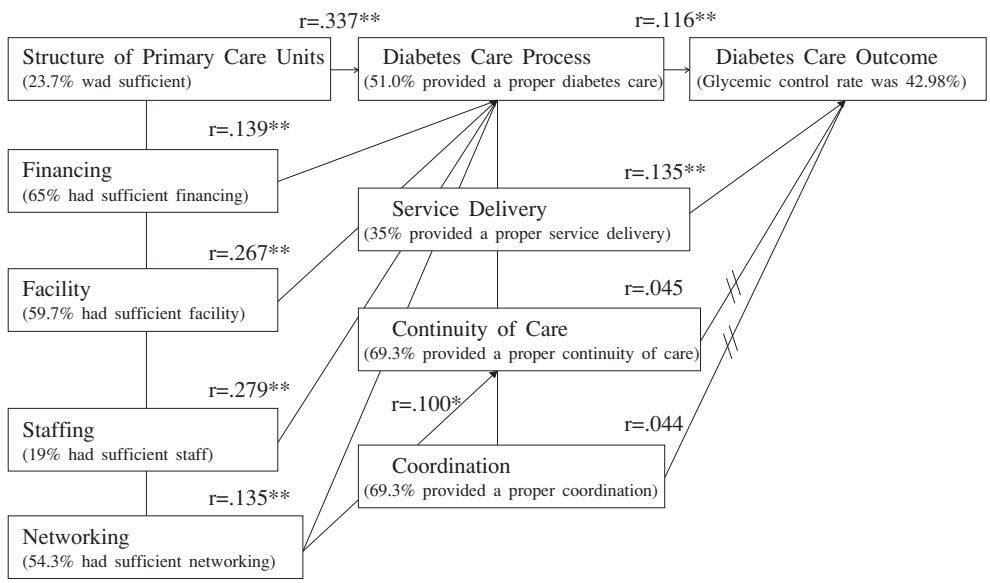

Figure 1 Relationships among the structure of primary care units, diabetes care process and diabetes outcomes

Discussion

The management of diabetes care failed to meet most of the required standards set forth for good diabetes management in PCUs, although care-giving standards have been recommended to assure individuals with diabetes receive quality care.[22, 28] One-third of those with diabetes had foot examinations once a year, while 11% had neurological examinations every visit, in accord with the standards. These results are similar to previous studies, in Thailand, wherein low rates of preventive care have been found among diabetics.[29] The findings, of this study, are similar to those of Dunn and Pickering,[30] Chin and colleagues,[31] Grant[32] and Saaddine and colleagues,[33] who found few creatinine and cholesterol tests, as well as foot and eye examinations, were performed in primary care.

The lack of suggested preventive care practice may be due to the shortage of available staffs in the PCUs. Since health care reform was instituted, the number of PCU staff positions has not increased; however, diabetes care has been extended to the PCUs. Thus, nurses have had to provide care, in the PCUs, be proactive in their communities and perform tasks beyond the role of nursing (i.e. general management and coordination with the community). This, in turn, has lead to nurses experiencing increased workloads.

Although an average of 64 diabetics/per day comes to the PCUs for care, there only are one to two health care providers available to deliver care. Thus, the nurses often are unable to provide preventive care for all with diabetes. These findings are congruent with those of previous studies, in Thailand, which have found the lack of staffs in the PCUs leads to a work overload for the nurses.[34, 35] The findings also are consistent with those of Davidson, Ansari and Karlan,[36] and Render and colleagues,[37] who revealed staff shortages to be associated with poor diabetes control.

In Thailand, an individual with diabetes, whether it is controlled or not, is scheduled to visit a PCU every four to six weeks. The frequency of the visits is slightly higher than recommended by the American Diabetes Association (ADA).[22, 28] However, the guidelines for quality practice recommends diabetics, with poor metabolic control, visit a PCU every one to two weeks.[22, 28] Unfortunately, in this study, this action was not being carried out. It appears the standards for diabetes care were not being done, due to the lack of adequate staff and the presence of a local organizational network.

Findings, of this study, reveal the staff shortages resulted in inadequate service delivery, especially in terms of improper preventive care (see **Figure 1**). However, given those limitations, it appears the health care providers provided proper health promotion and continuity of care, and achieved good care outcomes. This may have been due to the available network, wherein the health care providers had good relationships with health volunteers who helped them connect with the community.

The health volunteers also helped the health care providers with home visits and communication, which facilitated continuity of care, as well as the transfer of those with diabetes from the community to the PCUs. The findings demonstrated the increased role of volunteers, within the health care system, was the result of the primary health care project[38] launched in the late 20th century, wherein local people were encouraged to become involved in the health care system within their community. Finding that the involvement of the volunteers had a positive impact on the health care being delivered is congruent with Chuengsatiansup's[39] research, which suggested that health volunteers are an extremely valuable health resource.

Similar to Chuang's[40] findings, almost half of the diabetics utilizing the PCUs reached the desired level of glycemic control. When compared with the glycemic control rates found in studies conducted in Western countries,[33-35] the glycemic control rate found, in this study, was slightly higher. However, compared to the glycemic control rate found by Nitiyanant and colleagues,[29] the glycemic control rate, found in this study, was considerable higher. The fact the glycemic control rate, found in this study, was higher than that in other studies,[41] conducted in Thailand, may have been due to differences in the setting, as well as to the condition of those utilizing the specific health care institution. For example, in Thailand, those attending tertiary care facilities usually have more severe cases of diabetes than do those receiving care at a PCU.

The fact that a high glycemic control rate was found, in this study, may reflect the efficiency and effectiveness of the system and the staff members in the PCUs. The majority of health care providers were nurses and able to provide, within the primary care concept, diabetes care in the PCUs. Even though the existing work overload brought about improper service delivery, the glycemic control rate was compatible with rates found in Western countries. This suggests the primary care provided, by nurses, reduced costs, increased access to appropriate medical services for the population being served and did not reduce the quality of care being delivered.

The findings were consistent with those of prior studies which have suggest the structure of an organization has an important affect on health care performance and outcome.[29-31] These results also support Donabedian's[19] model, a well accepted method for setting standards in hospitals, which proposes that structures affect care processes, which in turn, affect care outcomes. The relationships among PCU structure, diabetes care processes and care outcomes, in this study, support the application of Donabedian's framework within the primary care settings in Thailand.

Limitations

One cannot apply the findings of this study without examining its limitations. Data were obtained exclusively from providers working within PCUs and did not address information from individuals with diabetes or their families. Furthermore, quality of care was assessed in terms of technical quality and did not include amenities or the interpersonal domain.

Implications

Based upon the study's findings, the following recommendations are suggested:

(1) The shortage of nurses working in PCUs, as well as nurses' current work overload need to be addressed.

(2) Nurses need to enhance the assistance of health care volunteers by providing them appropriate training. In addition, nurses continually need to foster relationships with key community leaders for the purpose of strengthening the organizational network.

(3) The standards of diabetes care, practiced in PCUs, should be refined to better address the level of quality care.

Acknowledgements

The primary investigator expresses gratitude, for support of this study, to the Commission of Higher Education, the Thai Ministry of Education; and, the Thai Council of Nursing and Midwifery.

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คุณภาพของการดูแลผู้ป่วยเบาหวานในระบบบริการปฐมภูมิ เขตภาคกลาง ประเทศไทย

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บทคัดย่อ: วัตถุประสงค์ของการวิจัยเชิงบรรยายนี้ เพื่ออธิบายคุณภาพของระบบบริการดูแลผู้ป่วยเบาหวานในปฐมภูมิ ประกอบด้วยโครงสร้างของสถานบริการปฐมภูมิ กระบวนการดูแลผู้ป่วยเบาหวาน ผลของการดูแล รวมทั้งความสัมพันธ์ของปัจจัยดังกล่าว การศึกษานี้เป็นการวิจัยเชิงผสมผสาน โดยทำการสำรวจผู้ให้บริการในสถานบริการปฐมภูมิจำนวน 300 แห่ง และบันทึกผลระดับน้ำตาลในเลือดย้อนหลัง 6 เดือนของผู้รับบริการจำนวน 19,141 ราย และสัมภาษณ์เชิงลึกผู้ให้บริการในสถานบริการปฐมภูมิจำนวน 9 คน วิเคราะห์ข้อมูล โดยหาค่าความสัมพันธ์เพียร์สัน และการวิเคราะห์เนื้อหา

ผลการศึกษาพบว่าร้อยละ 24 ของสถานบริการปฐมภูมิมีโครงสร้างเหมาะสมในการให้การดูแลผู้ป่วยเบาหวาน สถานบริการปฐมภูมิส่วนใหญ่มีสิ่งอำนวยความสะดวก งบประมาณ และเครือข่ายอย่างเพียงพอ แต่ขาดแคลนด้านกำลังคน นอกจากนั้นยังพบว่าร้อยละ 82 ให้การบริการในการป้องกันภาวะแทรกซ้อนจากโรคเบาหวานยังไม่ตรงตามมาตรฐาน และพบว่าผู้ป่วยเบาหวานร้อยละ 43 สามารถควบคุมระดับน้ำตาลในเลือดได้ ผลการศึกษายังพบว่า โครงสร้างของสถานบริการปฐมภูมิที่ดีช่วยส่งเสริมให้เกิดกระบวนการการดูแลผู้ป่วยเบาหวานที่เหมาะสม ($r = 0.337$) และทำให้มีอัตราผู้ป่วยเบาหวานที่ควบคุมระดับน้ำตาลได้สูงขึ้น ($r = 0.116$) ทั้งนี้อาสาสมัครสาธารณสุขมีส่วนสำคัญในการเชื่อมต่อของสถานบริการปฐมภูมิและชุมชน ซึ่งทำให้สามารถให้การดูแลผู้ป่วยเบาหวานอย่างต่อเนื่องได้ดี

จากผลการวิจัยครั้งนี้มีข้อเสนอแนะให้ผู้กำหนดนโยบาย ได้เพิ่มอัตรากำลังพยาบาลในสถานบริการปฐมภูมิ และผู้ให้บริการในสถานบริการปฐมภูมิ ควรเพิ่มศักยภาพของ อสม โดยการจัดให้มีการอบรมเพิ่มพูนความรู้ ทั้งนี้เพื่อเป็นการพัฒนาคุณภาพการให้บริการผู้ป่วยเบาหวานในสถานบริการปฐมภูมิต่อไป

วารสารวิจัยทางการพยาบาล 2009; 13(3) 167 - 180

คำสำคัญ: คุณภาพการดูแลผู้ป่วยเบาหวาน ระบบบริการปฐมภูมิ ประเทศไทย

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