

Satisfaction survey and complicated case studies from venipuncture clinic, King Chulalongkorn Memorial Hospital

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- Objective** : *To perform a satisfaction survey and report complicated case studies from venipuncture clinic, King Chulalongkorn Memorial Hospital*
- Setting** : *Venipuncture clinic, Division of Laboratory Medicine, King Chulalongkorn Memorial Hospital*
- Study design** : *Cross-sectional descriptive study*
- Subjects** : *1) 200 patients who visited the clinic, 2) 30 physicians of the hospital and 3) 11 practitioners of the clinic*
- Methods** : *A questionnaire survey about satisfaction was performed. 200 patients who visited the clinic were asked about their level of satisfaction and additional comments. 30 physicians were also selected for interview by the same questionnaire. 11 practitioners of the clinic were evaluated for their knowledge about quality provision according to the 5 S principle. Three additional complicated cases reports were also presented and discussed.*

Results : *Most of the patients (62 %) had an average level of satisfaction. The manner of the practitioners was the main reason for scoring in cases of high and low levels of satisfaction. Concerning the physicians group, all reported a high level of satisfaction with no reasons given. According to the knowledge evaluation of the practitioners, all had a high level of knowledge.*

Conclusion : *Satisfaction survey of patients can be a good indicator for service activity. Emotional desires of patients is a major topic to considered in service management. Total quality management is recommended for all medical services.*

Key words : *Satisfaction, Venipuncture, Complication, Quality.*

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- วัตถุประสงค์** : เพื่อสำรวจความพึงพอใจและรายงานกรณีศึกษาที่เป็นปัญหาของการให้บริการทางการแพทย์ ณ หน่วยเจาะเลือดโรงพยาบาลจุฬาลงกรณ์
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- วิธีดำเนินการศึกษา** : ใช้แบบสอบถามเป็นเครื่องมือหลักในการศึกษาโดยทำการสอบถามระดับความพึงพอใจและความเห็นเพิ่มเติมจากกลุ่มผู้ป่วยที่รับบริการจากหน่วยงาน 200 ราย และได้เลือกแพทย์จำนวน 30 รายเพื่อร่วมตอบแบบสอบถาม นอกจากนี้ได้ทำการประเมินระดับความรู้ในการให้บริการอย่างมีคุณภาพตามหลักการ 5 ส ในกลุ่มเจ้าหน้าที่ในหน่วยงาน และได้รายงานกรณีศึกษาที่เป็นปัญหาจำนวน 3 ราย ร่วมด้วย
- ผลการศึกษา** : ผู้ป่วยส่วนใหญ่ คิดเป็นร้อยละ 62 มีระดับความพึงพอใจปานกลางต่อการให้บริการ ทั้งนี้พฤติกรรมกรการให้บริการของเจ้าหน้าที่เป็นประเด็นหลักในการให้คะแนนระดับความพึงพอใจในขั้นสูงหรือต่ำจากการประเมินของผู้ป่วย สำหรับกลุ่มแพทย์ในโรงพยาบาลนั้นให้คะแนนระดับความพึงพอใจที่สูงต่อหน่วยงานโดยไม่มีเหตุผลประกอบและพบว่าระดับความรู้เกี่ยวกับการให้บริการอย่างมีคุณภาพของกลุ่มเจ้าหน้าที่ในหน่วยงานอยู่ในระดับที่สูง
- บทสรุป** : การใช้การสำรวจความพึงพอใจของผู้ป่วยสามารถเป็นตัวชี้วัดที่ดีของกิจกรรมการให้บริการ ทั้งนี้การให้บริการสอดคล้องกับความต้องการทางอารมณ์และจิตใจของผู้ป่วยเป็นประเด็นที่ควรให้ความสำคัญ การบริหารคุณภาพเบ็ดเสร็จเป็นสิ่งที่ควรใช้ในหน่วยบริการทางการแพทย์ทุกแห่ง
- คำสำคัญ** : ความพึงพอใจ, การเจาะเลือด, ภาวะแทรกซ้อน, คุณภาพ.

Quantification and standardization are the missions of every service organization. ^(1,2) Medicine is a type of service activity; therefore, the principle of service can be applied to this also. In the present day, the desires of the client must be considered in management of the service. All clients should get the best quality of service, which may be assessed as their satisfaction. ⁽³⁻⁵⁾ In order to evaluate the success of a service, the satisfaction survey is a useful method.

In King Chulalongkorn Memorial Hospital, the largest Thai Red Cross Hospital, many medical services are provided for patients. The venipuncture clinic is a crowded service setting in the hospital. The major activity of this clinic is patients' medical specimen collection according to physicians' requests. With the concept that a basic information survey is necessary for quality improvement, this study was performed in order to survey the satisfaction of the clients of this clinic.

Material and Method

This was a cross-sectional descriptive study. A questionnaire survey was used for client's satisfaction evaluation. The setting of this study was the venipuncture clinic, Division of Laboratory Medicine, King Chulalongkorn Memorial Hospital, Bangkok. This pilot study was performed during April 1999. Both the major types of the venipuncture clinic's clients, patients who receive a health service and physicians who request laboratory tests were evaluated in this study. Furthermore, a small survey of the staff in the clinic for quality of service was also performed.

Satisfaction survey of the patients

A questionnaire survey was used for

evaluation. 200 questionnaires were randomly distributed to patients attending the clinic in the study period. The questions used in the questionnaire focused on these topics; 1) basic demographic data, 2) a classification score for level, of satisfaction with reasons, and 3) additional suggestions or comments.

All subjects were allowed to freely answer the questionnaire. After completion a reception box was provided for returning the questionnaire. When the study was complete, all questionnaires were collected, read, interpreted and the results analyzed.

Satisfaction survey of the physicians

A questionnaire survey was used for evaluation. 30 physicians of the hospital (including interns, residents and medical staffs) were selected to answer this questionnaire. Interview questions were the same as those used for evaluation of the patients.

All answers from each subject were recorded. Data from completed surveys were collected, interpreted and the results analyzed.

Evaluation of staff for quality of service

The staffs or phlebotomists in the clinics attended small session to educate them about quality provision according to the 5 S principle ⁽⁶⁾ before evaluation. After the session they were also evaluated using a questionnaire. The details of the 10 questions in the questionnaire concerned classification of workplace practices according to the 5 S principle. Descriptive statistical analysis was performed.

Results

During the study period, there were about 2000 patients who attended the clinic, therefore, the studied group was about 10 % of the total. From 200 patients surveyed by questionnaire, 108 were male

and 92 were female. Considering the types of service, 84 subjects (42 %) received a routine check up service, 62 subjects (31 %) received a pre admit service and 54 subjects (27 %) received a pre visit service.

72 subjects (36 %) specified a high level of satisfaction, 4 subjects (2 %) specified a low level of satisfaction and 124 subjects (62 %) specified an average level of satisfaction. Most subjects, whose

satisfaction levels were average, did not give a reason for their scoring. Concerning the groups with high or low satisfaction levels, the main reason given was the manner of the phlebotomists (Table 1).

Most subjects (168 subjects, 84 %) did not give additional suggestions; but from those who did, many suggestions for improvement of the service of the clinic were received (Table 2).

Table 1. Reason for scoring the satisfaction level of the subjects.

Reasons for each satisfaction level	Number	percentage
1. high satisfaction		
- Good impression on practitioners' manner	56	28
- Systematization service of the clinic	8	4
- Comfortable place of the clinic	4	2
- No comment	4	2
2. average satisfaction		
- No comment	122	61
- Service is same as other hospitals	2	1
3. low satisfaction		
- Bad impression on practitioners' manner	2	1
- Slow service	1	0.5
- Dirty place of the clinic	1	0.5

Table 2. Additional comments of the subjects.

Additional comments	Number	percentage
No comments	168	84
Improvement of the communication system	4	2
Do not take care of some specific patients	4	2
Increasing number of phlebotomists	5	2.5
Rearrangement of the workplace	5	2.5
Limitation of the daily workload	4	2
Setting the ordering system of the patients	4	2
Comments on other relating unit (such as Financial unit, OPD)	6	3

Concerning the survey of the physicians group, all of the subjects reported a high level of satisfaction but no reasons were given. None gave any additional comments. Considering the staff, all (11 subjects) scored more than 80 % on evaluation.

Complicated cases

Case 1

A teenage female patient presented to the venipuncture clinic for receiving blood collection. Waiting for venipuncture, the phlebotomist notified some abnormalities on her. She had dyspnea and cramp-like symptoms. She was calmed down and applied for mouth gag. After taking care by physician in charge, her symptoms improved. She revealed no history personal illness. Her blood pressure was normal.

Case 2

An old male patient presented to the physician for the complaint of severe bruise on his arm. After receiving antecubital venipuncture, the symptoms developed. He was the known case of post bypass operative ischemic heart disease. He revealed that he was prescribed for daily anticoagulant therapy. He was diagnosed to have subcutaneous hematoma. He was prescribed for analgesic drug and hot pad physical therapy.

Case 3

Before performing venipuncture, the phlebotomist notified some abnormality on the patient on the wheel chair. This patient was requested for fasting blood test. This case was a poor control diabetic patient. The patient developed progressive respiratory difficulty symptoms. This patient had cardiopulmonary resuscitation (CPR) performed and

rapidly delivered to the emergency room. The blood test revealed severe hypoglycemia and severe acidosis.

Discussion

In the management of every service activity customer – based theory should be used.⁽⁷⁾ The satisfaction of clients can be a good indicator for monitoring the success of the service. Therefore, a useful method to evaluate a service is the satisfaction survey.

According to customer theory⁽³⁾, emotional desire has more effect than scientific design in selection of a service. Medical services in the hospital are also subject to this theory. In this study, a venipuncture clinic in the hospital was evaluated by a satisfaction survey. This clinic is an important section of the hospital, having to deal with both patients and physicians. To improve this clinic according to the quality principle is necessary. The basic clients' satisfaction survey is an important tool for receiving data about the service of the unit.⁽⁸⁾

In this study, the patients' satisfaction was evaluated. Most of the subjects mentioned an average level of satisfaction. This indicates that the unit still requires improvement. Presently, using concepts of total quality management, the continuous improvement of service quality is necessary. Considering the reasons for satisfaction scoring among the subjects who reported high or low satisfaction levels, it appears the manner of the practitioner plays an important role. Therefore, the importance of client's emotion is underscored. Therefore, in the management of a medical service, the importance of staff activity is paramount. Sometimes, misunderstandings, which

may discredit the unit, are related to the poor staff-client relationship.⁽⁹⁾

Considering the physicians, another group of clients, a high level of satisfaction, has reported. In general, this group of client can be defined as internal clients, therefore, a bias due to peer group influence might have been expressed in the satisfaction survey. Therefore, the author does not recommended an isolated medical personnel satisfaction survey without patient satisfaction survey as an index to determine the service activity of any unit.

Furthermore, in this study, the evaluation for basic knowledge of the practitioners or staff about quality provision according to 5 S principle was also performed. The result revealed good knowledge of the practitioners. Therefore, only behavior adaptation should be used as a quality improvement program.

Study from the complicated cases revealed that the first case was a case of a common anxiety neurosis called hyperventilation syndrome, which can be found in every venipuncture clinic setting.⁽¹⁰⁾

Fainting and psychogenic shock can be expected in every steps of venipuncture procedure. However, one important differential diagnosis for these cases is the epileptic attack, which can also be detected. Therefore, the preparation of the equipment and patient before venipuncture is necessary (Table 3).

The second case was a good example of complication from blood collection due to the difficulty in some specific groups of subjects. Patients with bleeding tendency are considered difficult cases for venipuncture due to lack of proper of hemostasis system. In these cases, to practice blood collection procedure, specific methods should be set and applied (Table 4).^(11,12) Some complications were a totally unwanted event in medical practice. Possibly penetrating or misguided insertion of the needle into the vein adjacent structures can lead many complications^(11,12) (Table 5). Carefully practice based on good basic knowledge on human surgical anatomy is necessary.

Table 3. Preparation for venipuncture procedure.

Items	Preparation
1. equipment	<ul style="list-style-type: none">• sterilization or autoclave• equipment certification
2. patient	<ul style="list-style-type: none">• bed or chair with back plate for the patients• positioning of the body part for venipuncture
3. phlebotomist	<ul style="list-style-type: none">• training for the procedure• legal phlebotomist• training for basic support• patient right concept

Table 4. Difficult groups of subjects for venipuncture.

Group	Cause	Recommendation
1. pediatric	Small vessel	Small equipment Supportive equipment (as Leur's adapter)
2. bleeding tendency	Fragile vessel, hemostatic disorder	Supportive equipment (as Leur's adapter) Compression device and technique
3. infectious	Virulence blood-borne pathogen	Universal precaution Infectious control Separation venipuncture protocol
4. immunocompromised (on chemotherapy, steroid)	Low immunity	Separation venipuncture protocol
5. psychotic	neurosis	Doctor patient relationship
6. elderly	Fragile vessel, loose supporting tissue	Supportive equipment (as Leur's adapter)

Table 5. Adjacent structures usually injured from venipuncture.

Structure	Type of venipuncture
1. median nerve	Antecubital venipuncture
2. radial nerve	Wrist venipuncture
3. femoral artery	Femoral venipuncture
4. brain (in infant)	Cavernous venipuncture
5. pleural cavity	Subclavian venipuncture
6. carotid artery	Jugular venipuncture

The last case was very interesting. Like other unit in the hospital, basic CPR protocol and training for basic support for medical personnel is necessary. Sudden attack on the severe patients can be expected. Identification of the risk in the clinical unit not only in the venipuncture clinic is necessary (Table 6). Another interesting point in this case is the proper care and protocol or transferring and setting the priority of the patients in request for laboratory analysis.

Unnecessary transferring of severe patients for investigation without specific transferring team can make complications during transferring or waiting and considered irrational request.⁽¹³⁾

This was only a pilot cross sectional study; therefore, its implication is limited. In general, process quality monitoring must be continuously performed. The reorganization of the unit according to total quality management principles is recommended. One important benchmark for the unit is the high level of satisfaction among the patients. Many suggestions were received but they will be of no use if an improvement program is not continuously performed. Supplementary considerations of the service unit such as architecture management and workload and turnaround time management should also be considered⁽¹⁴⁾, not only in the venipuncture clinic, but also in other health service units, where the satisfaction of the client must be monitored. Quality management for all health service units should be instigated.

Table 6. Risk management in venipuncture clinic.

Items	Risk	management
1. accident	Falling	Control of room floor
	Flooding	Specific protocol
	Fire	Specific protocol, anti fire equipment
	Chemical spillage	Waste management protocol
	Body fluid & blood spillage	Waste management protocol
	Glass ware crack	Waste management protocol
	Needle stick injury	Post exposure protocol
2. sickness	Fainting	Basic support
	Epileptic attack	Basic support, fall control
	Cardiac arrest	CPR team, equipment, transferring
3. complaint	Unsatisfactory, complaint	Complaint management
4. non conforming Product	Misidentification	Guideline for practice
	Malpractice	Guideline for practice, legal aspect control

References

- 48(2): 134 - 6
1. Wiwanitkit V. ISO 9000 quality system in laboratory medicine. Med J Ubon Hospital 1999 Oct - Dec; 20(4): 217 - 25
 2. Wiwanitkit V. ISO 14000 quality system in laboratory medicine. Bull Lampang Hospital 2000 Jan - Apr; 21(1): 62 - 6
 3. Rustein DD, Berenberg W, Chalmers TC, Child CG 3d, Fishman AP, Perrin EB. Measuring the quality of medical care. New Engl J Med 1976 Mar 11; 294(11): 582 - 3
 4. นภาพร พูลรัตน์. การจัดจำหน่าย. ใน : นภาพร พูลรัตน์, บรรณาธิการ. ความรู้เกี่ยวกับลูกค้า. พิมพ์ครั้งที่ 1. กรุงเทพมหานคร : ศูนย์ตำรานิติพร, 2540 : 1 - 15
 5. Dybkaer R. Quality assurance, accreditation and certification : needs and possibilities. Clin Chem 1994 Jul; 40(7 pt 2): 1416 - 20
 6. Wiwanitkit V. 5 S, an application for nurses in venipuncture clinic. Thai J Nurs 1999 Apr - Jun;
 7. Sriratanaban J. Quality of medical services: a marketing - oriented approach. Chula Med J 1994 Apr; 38(4): 169 - 78
 8. Wiwanitkit V. Modern concepts of venipuncture clinic setting. Chula Med J (in press)
 9. Wiwanitkit V. A case from a governmental hospital venipuncture clinic. (What was the problem? Who was responsible?) J Med Assoc Thai 1999 May; 82(5): 528 - 30
 10. Kleinknecht RA. Acquisition of blood, injury, and needle fears and phobias. Behav Res Ther 1994 Nov; 32(8): 817 - 23
 11. Wiwanitkit V. Evacuated blood collection system in some difficult cases. Bull Lampang Hospital 2000 May - Aug; 44(5): 163 - 70
 12. Wiwanitkit V. Evacuated blood collection system in septic cases. Bull Lampang Hospital 2000 May - Aug; 44(5): 171 - 5

13. Wiwanitkit V. Rationalization and compliance in laboratory investigation. Chula Med J 1999 Jun; 43(6): 353 - 60
14. Hirsch PT. Workflow analysis in determining instrument needs. Clin Lab Med 1998 Dec; 8(4): 753 - 8