CHAPTER II

LITERATURE REVIEW

This research was aimed at studying the opinions of the customers and the providers toward the risk incidence in anesthetic service at Maharaj Nakhon Si Thammarat Hospital . As this research has never been conducted by anybody before, the researcher has been studying the concept , theories and the related researches as follows:

1. The concept and theories concerning opinions.
2. The concept and theories concerning the risk incidence and risk management .
3. The risk incidence in the process of anesthesia .
4. The development and hospital accreditation .
5. The concept concerning the satisfaction of the customers toward the medical service.
6. The results of both foreign and domestic researches concerning this field.

The Concepts and Theories Concerning Opinions

The word **"opinion** " means quite the same as the word **"attitude** ", and it is often substituted .

According to the Thai dictionary, it means understanding and feeling.

According to the New Webster' s Century Dictionary(1974 : 525), it means decision making, comment , point of view or the pattern of mental estimate of the received information or the individual's belief toward the incidents and information. The belief is based on the experiences and the observation of an individual or an expression of thought, interest, feeling of a scholar toward something or any happenings.

According to the educational dictionary, "opinion" means thinking, appreciation,
Belief and judging. Something that we don't know whether the judgement is right or wrong .

Rungsi Chareonwongrayap (2000: 8) has concluded that "opinion" is an expression of feelings, thinking of something by means of speaking or writing on the basis of background and environment, which is the foundation of expression which easily happens and fade away quickly. This opinion can't be told whether it is right or wrong. It might be either accepted or turn down by other people. We have to admit that ordinary people have different opinions and they can constantly change their opinions.

Pirun Rattanawanit and Suwadee Chusuwan have concluded that "opinion" is thinking and the way we feel toward someone or something that results from learning. Both the direct or indirect experiences can cause an individual person to express the positive characteristics, such as interest, satisfaction, support and fondness , and the adversary characteristics, such as disagreement, boredom, indifference and none cooperation.

It is conclude that "opinion " means an expression of thought, belief, an individual's judgement toward someone or something by means of speaking or writing on the basis of knowledge and experiences with or without satisfaction, approval or disapproval, and the opinions may be changeable due to the facts and the attitudes of an individual person. The opinions expressed might or might not be accepted by other people.

The Things that Bring about the Difference in Opinions

1. The teaching and cultivating in the family have the greater effect on an individual than any other factor because the family is the main institute where an individual begin learning.
2. The education and the level of education have an influence on one's opinion because education is an individual's situational management.
3. An individual has to follow the traditions and customs that have been handed down through generations.
4. The relevant groups of people have a role in urging an individual learning. All the media such as newspaper, radio and television also have a big role in creating the opinion both positively and negatively.

5. The background experience of an individual based on the perception of anything that an individual thinks it is right has a role in expressing an opinion.

The Opinion and the Evaluation

There were various ways to evaluate an individual's opinion. The most favorable approach is to do the questionnaires and the interviews. The easiest way to indicate the opinions is the show the percentage of each answer to each question and because of this the overall opinions are very clearly shown and this results can be used to regulate the main scheme or the policy (Best,1977: 53).

Hence, in the research "opinion " means an expression of thought, feeling or the assessment considered by the perception and the experiences of the customer toward the risk incidence of the anesthetic service in the physical, emotional, social and spiritual aspects which can result in the satisfaction of the customers toward the quality of the anesthetic service also.

The Concepts and Theories Concerning the Risks

The meaning of the concept and theories concerning the risks and the management of anesthetic risks.

"Risk " has a variety of meanings :

According to Hornby Oxford Advanced learner's Dictionary, " risk " means the possibility of meeting danger or suffering harm, loss , etc., or a person or thing insured or representing a source of risk.

According to Hershey and Bowes(1978: 33 - 34) , " risk " in term of the administration of health agency, means the possible loss which might take place during the management in the hospital, at the rehabilitation or the health service places. There are two types of risk, that is, the risk concerning losing money directly, such as a blaze , and the risk concerning the loss from the direct and indirect medical treatment.

Proteet (1983:462) mentioned that there were nine aspects of medical treatment risks: 1) Medication error 2) The mistake in taking care of the patient during the operation 3) Stumbling / falling off the bed 4) Fire burn 5) Electric shock 6) The injury from the dilapidation of the medical instruments 7) Infection in the hospital 8) Giving medical treatment to wrong patient 9)Making the wrong interpretation of the patient' s systems.

Anuwat Supachutikul et al.(2000: 260 -261) mentioned that the risk are the chance of facing the loss or something that is unfavorable. There are seven risks in the hospital :

1. The risk happening to the patients and customers of the hospital in the physical, emotional, social and spiritual aspects.
2. The loss of reputation which will cause the hospital not to be trusted by the people .
3. 3.The loss of income which will cause a suspense in investing for the development and the implementation .
4. The loss and the damage of the properties of the hospital, the patients, the patients' relative and the hospital staff.

5. The injuries or the danger happening to the hospital staff which will cause the lack of manpower.
6. The environment devastation which will cause the direct effect on the people's health and the other living things in that surrounding and the money funded to solve the problems.
7. The burden of the damage recovery.

The four aspects happening to the customers are as follows:

1. The physical risk involves the physical injuries of the patients, such as slippery , falling off the bed, infection and unnecessary operation.
2. The emotional risk involves the mental abuse, humiliation, losing face, confusion, frustration and having no privacy.
3. The social risk involves the rights of the patients and the social reaction with the patients.
4. The spiritual risk involves the belief, insecurity, and loss.
5. It is concluded that " risk " means the chance of the unwanted things to negatively happen and it is the mistake that will result in doing physical , mental, emotional, social and spiritual damage to the patients.

The Cause of the Risk

Wilson(1999:47) said that The causes of the risks were as follows:

1. The failure of the system is due to the lack of indicating the process, the procedure and the clear guideline.

2. The hospital staffs always bypass the procedure and the step of work as a result of workload, stress, tension and the lack of support and advocacy. These things will lead to the mishandling or intentions to make the dangerous mistakes.
3. The problem of the communication between the health service staff and between the health care agencies, which will cause the patients and their relatives to feel unsatisfactory in the service.
4. The distinct responsibility was not indicated.
5. The staff were not well- trained and sophisticatedly knowledgeable.
6. The policy and the procedure of work are not sufficiently informed enough to bring about the fruitful output.
7. The problem of giving the right data and information is caused by the lack of the co-operation between the health care agencies.
8. The staff were dishonest and they intend to cause the delay and suspend of the work system.

Risk Management

The people who clarify the meaning of the risk management are as follows :

Duran(1980: 21) said that risk management in the hospital is to reduce the risk likely to happen to the patients and to reduce the danger which might cause the patients to be injured. The process must begin by considering the risk, analyzing and assessing the risk, and choosing the best way to control the risk.

Young and Hayne (1988:324) said that there are two risks generally found in the health care agencies, that is, negligence and medical malpractice, which were composed of four legal factors:

1. It was the duty of the provider.
2. There was a gap in that duty.
3. there was a destructive loss.
4. The gap was the cause of the destructive loss.

Gruendemann and Fernsebner (1995; 92) said that to reduce the risk was having a program to guarantee the quality and a perpetual development. It is necessary to merge the activities of the risk management and the quality development together in order to reduce the risk of the patient and multiply the quality of the health care relevant to the hospital's accreditation process.

The four steps to manage the risks were as follows (Anuwat Supachutikul and company (2000: 262 -263) :

1. Risk identification is conducted by finding out the casualty reports, incidence reports, enquiring the staff, the customers, petitions, filing the lawsuit, reviewing the morbidity and the mortality of the patients , surveying the structure and following up the flow of the patients' possessions and data.
2. Risk analyzing is conducted by assessing the frequencies and the intensity from the risk which have a high and low effect on the patients and making the risk profile.

3. Action to manage risk is to avoid the risk, to reduce or to prevent the patients from the risk and to accept it.
4. Risk evaluation is performed to revise the liable result which has the clear assessment form.

It was concluded that the risk management is the process to reduce or to protect the patients from the medical malpractice and negligence which will bring about the injuries and the danger to the patients, the patients' relatives, the hospital staff . As a result of this mistake, the hospital and the people involved might be sued for the damage. The risk management is the quality activity which is related to the quality guarantee. If there is an effective risk management, it will bring about the favorable health care system.

The Risk in the Anesthetic Service

The risk in the anesthetic service in this research was focused on the risk frequently happening to the customers.

The Risk Happening to the Customers

Since the anesthetic service was a medical vocation that helps enable the other medical services to achieve the target of the medical treatment, such as giving anesthesia to operate a particular part of the body, a painless labor, a pain suppressant for the patient to have an operation or for other diagnostic procedures.

Generally, the patients have already had the primary disease, and when they are treated with anesthesia, all kinds of which have an effect to suppress the neurological system, the blood circulation and the respiratory, so the patients who come for an operation have to take risks from both the primary disease and those from being given anesthesia by an anesthesiologist and nurse anesthetist (Prapapen Srichintai, 1999; 3:225 - 26).

There are two main objectives in the risk management of anesthetic service.

1. Preventing the adverse outcome
2. If the adverse outcome happen, there must be a plan to eliminate the damage likely to happen to the patient, to reduce the rate of disability or other unfavorable outcomes. Though there are very rare cases of anesthetic damage, they tend to be very seriously effective to the patients. They might be suddenly dead or fatally disabled.

According to the study of Harward Risk Management Foundation,(Holzer, 1984: 22- 91), it suggested that the most frequent accusation in the anesthetic services were the emotional trauma, nerve injury, cardiac arrest and dead. The less serious accusation is dental injury caused by endo-tracheal tube , the inappropriate choice of anesthesia for the patient which causes halothane hepatitis, the careless of the anesthetic staff in choosing the monitor and anesthetic machine during the operation. As a result, when a problem arise, nobody could solve it in time to avoid seriousness.

There are Three Periods of the Main Process of the Anesthetic Services

1. **Pre – anesthetic period** consists of the following activities:

    1.1 The practice before administering anesthesia is to check the operation timetable. If the case is not emergent, the anesthetic staff should visit the patient at the ward to assess the condition of the patient and give some advice or information to the patient and relatives. Should any problems arise, the staff have to give medical treatment before the operation.

    1.2 The readiness in the preparation for anesthesia is as follow :

        1.2.1 Readying the patient such as checking the identification, an agreement to be given anesthesia and operated, none per oral (NPO), blood group match reservation, repeated assessment of the patient, choice of anesthesia and giving further necessary information.

        1.2.2 Preparing the medical instrument and medication such as anesthetic machine, monitors, medication, respiratory instruments and other necessary instruments.

2. **Peri - anesthesia**

The main activity of this period is to monitor the patient, give anesthesia, record the data of anesthesia , assess the patient after giving anesthesia and to deliver the patient to the recovery room , intensive care unit (ICU) or ward.

3. **Post – anesthetic period** consists of two steps :

   3.1 The initial step : the major activity of this step is that the anesthetic staff has to refer the patient to the recovery room, to take good care of the patient in recovery room, to assess the patient before returning the ward or discharging back home, and giving medical advice to the patient.

   3.2 The post step : There is post anesthetic visit at the ward in order to make an assessment .

Types of Anesthesia

There are two main types of anesthesia given to the operational patients as follow;

1. General anesthesia makes the patient unconsciousness, analgesia, muscle relaxant and reflex reduction (Willenkin RI, 1994 : 10445 - 56) during the entire operation. The anesthesiologist or nurse anesthetist may administer via the muscle, the veins or the respiratory inhale. After the operation, the patient will be constantly taken care in recovery room.
2. Regional anesthesia is to administer a pain suppressant to inhibit the peripheral nerve in the wanted area with the least side effects or none at all(Harvey Williams Cushing ,1939). It will stop the local pain and the patient will be conscious during the time of operation. There are a variety of techniques in giving anesthesia as follow :

   2.1 Topical anesthesia causes painlessness. It is used to examine respiratory tract, esophagus , vagina and eyes , etc

2.2 Local anesthesia cause painlessness and it is used in a miner operation.

2.3 Nerve block is used for hand and arm operation.

2.4 Spinal block causes unconsciousness in the lower part of the body. It is used for the pelvis and leg operation.

2.5 Epidural block causes unconsciousness in the lower part of the body It is used for the pelvis and leg operation also.

The Concepts of the Development and Hospital Accreditation

In Thailand the concept to develop the quality of hospital services was encouraged by health system research institute. The World Health Organization and the Health Assurance Development had initiated the research project to improve the quality of hospital services. The first conference was held on June 18 , 1973 . Eight hospital joined the pioneer project. The project has built a model of the accredited hospital to regulate the work of the staff in carrying out the proper health care of the patient including the improvement of the future patient services (Penchan Sanprasarn and et al.1999).

Health System Research Institute (1998) suggested that each hospital should have three process of quality improvement of hospital services :

1. The basic quality in safety assurance of the medical places was to avoid the risks that are likely to happen to the patients. The framework of the building has to be standardized and there must be plenty of medical

supply and equipment, and medical staff which were relevant to the Hospital Acts.

2. Quality assurance was the standard in carrying out the patient services and it is the clear bench work that can be referred to , such as infection rate , death toll and the standard in treating patients with a various kind of diseases .
3. Quality improvement was an attempt to improve the work in every aspect , which were management, service, and academy. There was self-assessment, which was compared with the internal and external benchmark and there must be a continuous quality improvement.

Continuous Quality Improvement (CQI)

Anuwat Supachutikul et al.(1998:57) had given the definition of CQI. They said that CQI was to recruit and mix the sources of the organization in order to improve the working system would the purpose of meeting the needs of the patients and the customers and this method had brought about learning organization and constant improvement.

Total Quality Management (TQM)

Duncan William L. (quoted in Adul Bandhukul , 2001) had defined TQM . He said that it was the system which caused the constant improvement of the value addition every process being implemented. The customer would judge the proceeding on the basis of satisfaction , and made sure whether there was a real value addition. The staff's co-operation in the improvement and the tradition of the organization are

inevitable in TQM . It was stated that the key words of TQM was the system which was the main process of the work. Everyone had to know what the main process of the work was and tried to improve it by indicating the priority and using the major number data as a benchmark to make a perpetual improvement in the whole organization.

The word CQI is comparatively used with the word TQM as the system improvement in response to the needs of the customers constantly is based on the co-operation of all the staff and the executives of the organization and that organization may become a learning organization which consists of the well – trained manpower with very high motivation. The manpower is able to improve their work via the process of statistics and various data. The improvement is mainly found on the customers.

The Concepts and the Theories of Satisfaction

Andy and Andersen (1975) said that satisfaction involves the understand in the result of health care that the patients had expected. Besides , it involved the attitude of the person who had experience in the medical services system.

Edward (1983) said that the survey of the satisfaction could become a benchmark of the medical services quality and it could also reduce the gap between the providers and the customers.

Donabedian (1980) said that the quality of health care could be assessed on the basis of the theoretical system , which was classified in to three main factors , which were structure , process and out come these factors were mutually related to one

another and the systematic quality would bring about the quality of the outcome which was in fact the satisfaction of the customers.

Oberst (1984) said that when the customers were in the health care system, they would perceive and be given the additional data by occupational health staff , and they would be answer of their own situation , and realize what the necessary health care was. This was the expectation of the customers which was in fact the expectation of outcome of the health care. The behavior of the provider and the work in the customers expectation system was believed to be the standard of the health care which the customers should actually receive , and the customers could make a judgement whether they were satisfactory or not.

It is concluded from the definition of satisfaction , which means the feelings of the clients based on the experiences they have obtained when they come in for medical service in some certain medical places , and these experiences are what they expected.

Related Researches

The study of the opinions of customers and providers toward risk incidences from anesthetic services that nobody has ever studied before, but there were some related researches to this study and they could be used to the guide line for this research as follows :

Geneva Rukmahakun(2001: 80) described that the risk control measures for peri-operative nursing in King Chulongkorn Memorial Hospital were considered by 11

measures as follows : control measures for retained sponges, retained needles, retained instruments, sharp injuries, operation on wrong patient and wrong site, patient burn related to electro-surgical units, staff burn related to electro-surgical units, burn related to defibrillator, staff hazard related to defibrillator, surgical wound infection and injuries related to positioning.

Pawaporn Paisanwatcharakit (1999:113-114) studied a comparison of risk management among head nurses of central hospitals participated and non participated in hospital accreditation program found that there was no significantly difference between risk management mean score of both type of hospitals, but in the aspect of fire prevention, risk management mean score of hospital participated in hospital accreditation program was higher than non participated hospital at .05 level.

Parichat Pakvipas (2000: 96) studied the expected and actual nursing services among patients in operating room at Maharaj Nakorn Chiang Mai hospital , the study revealed that the level of nursing services expectation by overall were high(53.8%) . The mean score of actual (94.4) and expected(93) nursing services were not significantly difference. It was found that the mean score of actual services during pre-operating and intra-operating period were higher than the expected nursing services, which were significantly difference ($p < .01$ and $p < .05$) respectively.

It was also found that the mean score of actual services during post-operating period was lower than the expected nursing services ,and it was significantly difference ($p < .001$).

Wiroat Tungcharernsatean ,et al.(1997) studied the patients' opinions in nine government and private hospitals showed that the patients' perception the information about the result of laboratory , operation, the detail of medical treatments and diseases between 58% - 97 % .The most perceptible information was operation(88%). It was found that the least perceptible information was laboratory(70%) , and the detail of diseases(73%). It was also found that the patients could decision making to the medical treatments(62%),and knew the name of the doctors who cured them in the government hospitals (41- 53%) and private hospitals(76-91%).

Maneerat Poatchongrak (1995:105-108) studied the relationship between the practice of nursing process, caring and risk management of nurses and patient satisfaction toward nursing service, Chulalongkorn Hospital found that the mean score of patient satisfaction toward nursing service was at the medium level. It was also found that the practice of nursing process and caring behaviors of nurses as perceived by patients were significantly and positively related, at the medium level , while risk management of nurse as perceived by patients was significantly and positively related, at low level, to patient satisfaction toward nursing service at the .001 level.

American Society of Anesthesiologist(ASA) Closed Claims Projects(1999 cited in Somrat Jarulaxananun,2000:339-340) mentioned that an American anesthesiologist was claimed about the sociodemographic data of the patients who were more than 18 year old(90%), non emergency case (73%),ASA Physical status I or II from general anesthesia (70%), It was female case (59%),the adverse outcomes from respiratory system (26%), anesthetic machine system (10%), the abnormal of cardiovascular

system (9%), dead (32%), neurological disorder (16%), brain malfunction(12%), the abnormal of respiratory system conditions that effected to death and brain damage (85%), hypoxia (38%), difficult intubation (17%),cardiac arrest during spinal block in healthy patients and not severe operation found 14 cases, and awareness during anesthesia was claimed (1.9%).

Pongpot Theeranantachai (2001:35-36) studied the model of analytical and risk management for obstetric service in Potaram Hospital , the result showed that the risks were identified 239 hazards , which separate into moderate risk level 10.6%, acceptable risk level 40.6% and tolerate risk level 48.8%.As above principle obstetric service provide the plan for moderate risk as follows: infectious prevention plan, prevention of electrical hazards from medical equipment plan, complaint prevention plan, and emergency prevention plan. After implementation for 10 months the study show that the organization gain more benefit such as there good systematic prevention for significant risks and employee's safety awareness are high level (84.8%).

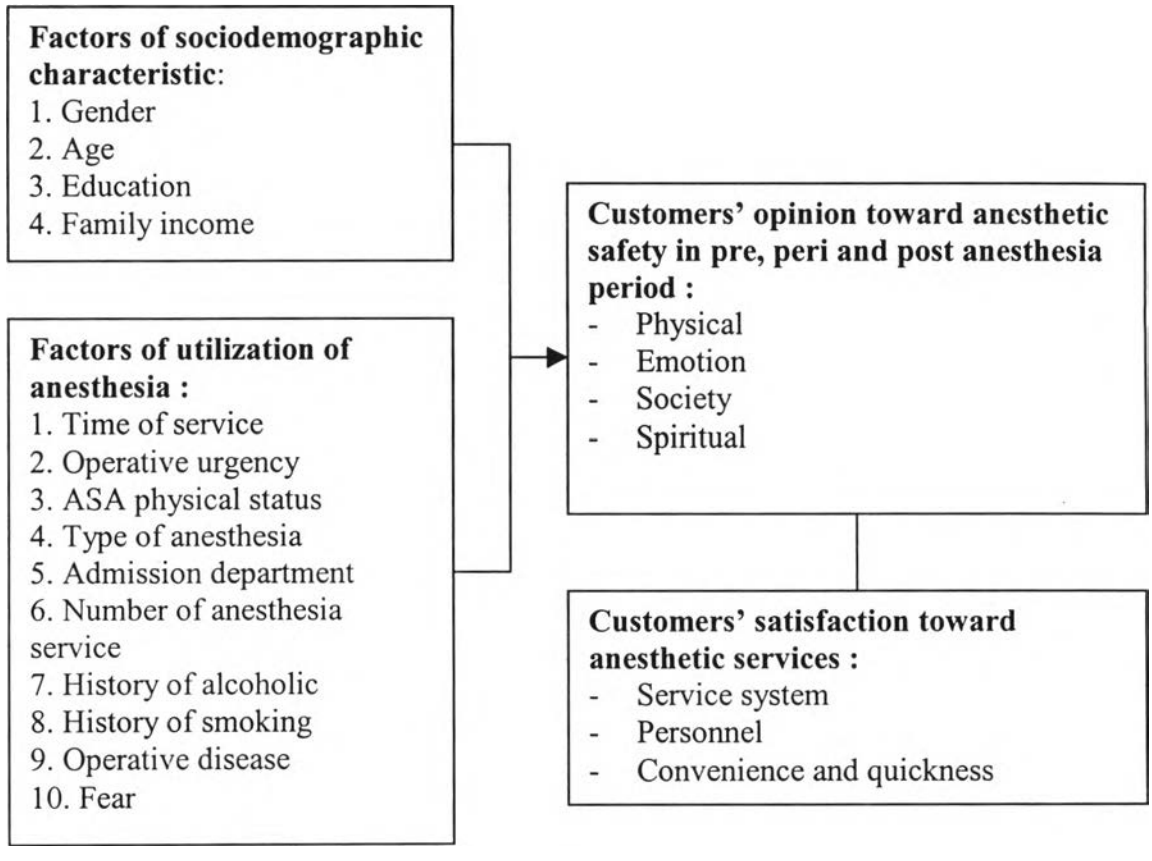
Petty WC, et al(2002) carried out a study concerning the true frequency of anesthetic mortality was unknown. If anesthesia mortality was as rare as 1 in 200,000 cases , the sample need to study this phenomenon would be enormous. Existing studies provide insights to the genesis of damaging events and adverse outcomes in anesthesia . The research design methodology, and finding to date in 3 studies of anesthesia risk. Limitations include self- report by providers in the Australian study and the retrospective nature of closed claims research in American studies. Respiratory events were the largest class of injury in all 3 studies ; substandard care frequently was

involved. Australian investigators noted a high rate of human error and equipment issues. American physician investigators found that death or brain occurred in 85% of respiratory cases, 72% of which were deemed preventable. Nurse anesthetist investigators had similar findings for respiratory claims. Patient acuity and procedure complexity may be less significant contributory factors to anesthesia risk than are provider vigilance and clinical decision making.

According to literature review could be mentioned that risk identification by using the reflections from both the customers and providers' opinions. Based on this method, the data obtained can cover every façade of risk incidences. For setting up a practical guide line to improve the quality of anesthetic services in structure, process, and outcome , which prevent and decrease the risks as well as to improve the quality continuously by the way of the hospital accreditation.

Research Conceptual Framework

Customer aspect



Provider aspect

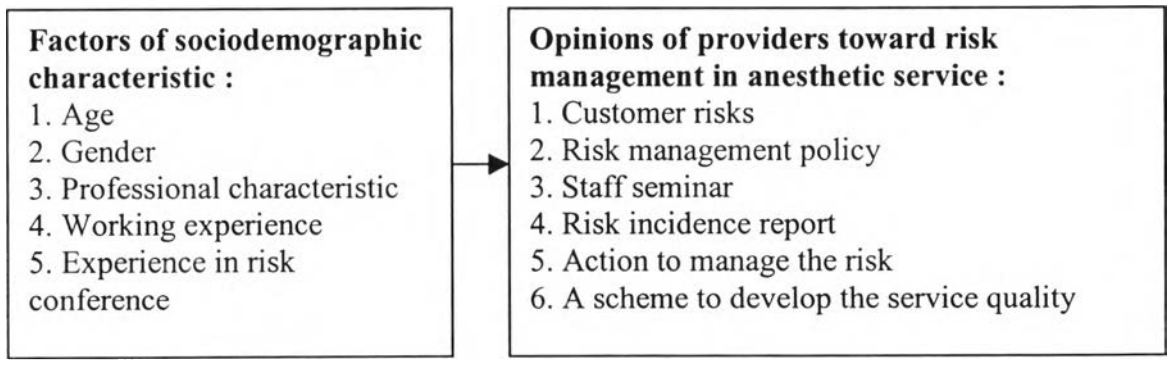


Figure 1: Research Conceptual Framework

Sources : Concept concerning Risk Management of Hospital Accreditation (Anuwat Supachutikul, 2000: 4).