PATIENT SATISFACTION TOWARDS SATELLITE DIABETIC MELLITUS AND HYPERTENSION CLINICS AT HEALTH PROMOTING HOSPITALS IN AMPHUR MUANG YASOTHON YASOTHON PROVINCE, THAILAND

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ABSTRACT

A cross-sectional descriptive study was conducted to examine associations between patient satisfaction levels and related factors. A total of 375 questionnaires were used during 27th April to 30th May 2014. Chi-square tests and multiple logistic regression were employed to identify significant predictors of patient satisfaction.

Approximately two-third of the patients (63.5%) were identified as having a high satisfaction with the satellite diabetic mellitus and hypertension clinic service delivery. When adjusting for other factors, significant predictors were: long time spent with a medical doctor (AOR = 2.72, 95% CI= 1.69-4.40), short total time use for service (AOR = 3.60, 95% CI= 1.69-7.67), and high expectation to continue with a same medical doctor (AOR = 1.77, 95% CI= 1.05-2.98). The findings suggested three significant key factors to gain high levels of NCD patient satisfaction: shortening total time spent for services, increasing time spent with a medical doctor and continuity of the same medical doctor to treat NCD patients at satellite diabetic mellitus and hypertension clinics.

KEY WORDS:SATELLITE DIABETIC MELLITUS AND HYPERTENTION CLINICS /PATIENT SATISFACTION / HEALTH PROMOTING HOSPITAL/ SUBDISTRICT LEVEL/ NCD

75 pages

ความพึงพอใจของผู้รับบริการต่อการจัดบริการคลินิกโรคเบาหวานและความดันโลหิตสูง แบบกระจายที่โรงพยาบาลส่งเสริมสุขภาพระดับตำบลอำเภอเมืองยโสธร จังหวัดยโสธร

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บทคัดย่อ

การศึกษาเพื่อประเมินปัจจัยต่างๆที่เกี่ยวข้องกับระดับความพึงพอใจของผู้รับบริการต่อการจัดระบบให้บริการคลินิกโรคเบาหวานและความดันโลหิตสูงแบบกระจายที่โรงพยาบาลส่งเสริมสุขภาพระดับตำบลอำเภอเมืองยโสธร จังหวัดยโสธรจากผู้ตอบแบบสอบถามจำนวน 375 ราย ระหว่างวันที่ 27 เมษายน ถึง 30 พฤษภาคม 2557 หลังจากใช้สถิติ Chi-square test และ multiple logistic regressionพบระดับความสัมพันธ์ของปัจจัยต่างๆต่อความพึงพอใจ

ผลระดับความพึงพอใจของผู้รับบริการที่อยู่ในเกณฑ์สูงมีจำนวนร้อยละ 63.5ของผู้ตอบแบบสอบถาม หลังจากการใช้สถิติ Chi-square test และ multiple logistic regression ปัจจัยที่มีความสำคัญทางสถิติได้แก่ 1) ความยาวนานของระยะเวลาที่แพทย์ให้การตรวจ(AOR = 2.72, 95% CI= 1.69-4.40) 2)ระยะเวลาทั้งหมดของการให้บริการ(AOR = 3.60, 95% CI= 1.69-7.67) 3) ความคาดหวังต่อแพทย์คนเดิมจะมาตรวจรักษาอย่างต่อเนื่อง(AOR = 1.77, 95% CI= 1.05-2.98)

จากการศึกษานี้มีข้อเสนอแนะได้แก่ 1)ควรให้แพทย์มีเวลาในการตรวจผู้ป่วยนานขึ้น 2)ควรลดระยะเวลาการให้บริการทั้งหมดให้สั้นลง 3) ควรจัดแพทย์ที่ตรวจให้เป็นคนเดิมและมีความต่อเนื่อง

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INTRODUCTION

1.1 Rationale and justification

Overview of non-communicable diseases

The growing population of non-communicable diseases including diabetic mellitus and hypertension called NCD, has been reported and continuously increasing through worldwide from many studies.(1-9) The rising burden of non-communicable diseases is shown by an increasing number of deaths and by the increasing proportion of disability-adjusted life years attributed to consequence disorders. In this decade the number of diabetic mellitus, hypertension patients and their consequence cardiovascular diseases are increasing nearly all over many countries. Mayosi BM and colleagues studied in South Africa, found that non-communicable diseases are emerging in both rural and urban areas, most prominently in poor people who living in urban settings, and are resulting in increasing pressure on acute and chronic health-care services.

Demographic change is one of the major factors of the increase in non-communicable diseases in low-income countries, largely owing to the increase in the number of older people who are at greatest risk of developing chronic diseases.(10) Many non-communicable diseases including diabetic mellitus share common risk factors such as tobacco use, physical inactivity, and unhealthy diet that translate into cardiovascular disease, and cancer. (10, 11)

The number of new case of diabetic mellitus patients in Thailand in the range of 501,299 to 553,941 people per year during the year 2011-2020.(12) New patients were estimated to be as high as 8.2 million people in the year 2020.(13) Over the past three decades, the public health landscape in Thailand has shifted remarkably. Although malnutrition is no longer considered to be a major health problem in Thailand,(14) but western dietary and life style have moreover worldwide not only in

Thai communities. Currently the chronic non-communicable diseases represent the largest cause of mortality in the Thai population. Many studies were focused to the patient care and their better health outcomes.(15-19) In the recent years in Thailand many researchers focused on diabetic mellitus patients near Yasothon province. (20) (21) (22) They also commented about policy of diabetic care in Thailand is needed to be seriously implemented.

Service delivery of diabetic mellitus and hypertension patients

Usual medical care often fails to meet the needs of chronically ill patients, even in managed, integrated delivery systems. The strategies to improve outcomes in these patients, effective interventions tend to fall into one of five areas: the use of evidence-based, planned care; reorganization of practice systems and provider roles; improved patient self-management support; increased access to expertise; and greater availability of clinical information. The challenge is to organize these components into an integrated system of chronic illness care. Whether this can be done most efficiently and effectively in primary care practice rather than requiring specialized systems of care remains unanswered.(23) Since the traditional health care systems are designed to provide symptom-driven responses to acute illnesses, they are poorly configured to meet the needs of the chronically ill.(24) The new policy of diabetic care at the district health care level in Thailand has implemented by the concept of chronic care model(CCM) and shown some valuable outcomes.(14) CCM has composed of parts of delivery system design and community linkage elements.

The public sector in Thailand has been the major player in Thailand's health service system (25) , same as in our area of Amphur Muang Yasothon , Yasothon province. Riewpaiboon A and colleages studied in the year 2007 , bigger hospitals in Thailand naturally have more specialists for diabetes mellitus, more types of drugs and more health-care teams caring for diabetic patients. (26) We have already accepted the crowded situation in many big hospitals in Thailand.

Establishment of Sattellite diabetic mellitus and hypertension clinics

Population of diabetic mellitus and hypertension patients in amphur Muang Yasothon district, Yasothon Province, has risen from 6,395 to 7,015 from the

year 2008 and 2009. Total time use of each patient visit at the NCDs clinics of Yasothon general hospital was average 192 minutes in the year 2009. In the year 2010, Yasothon general hospital service team had to reduce the boredom faced by their diabetic mellitus and hypertension patients while waiting at the NCDs clinics at their outpatient department. The leading team of amphur Muang Yasothon contracting unit for primary care (CUP) decided a service delivery system called "satellite diabetics mellitus and hypertension clinics". It was settled in aimed to decentralization, hospital autonomy to twenty one health promoting hospitals in sub-district level areas around the general hospital. This is an attempt to delivered medical doctors, investigating equipments, drugs and personnel to service at every health promoting hospitals with more continuity the same medical doctors to community than in the NCD clinic in center of our general hospital. In amphur Muang Yasothon district, Yasothon Province had twenty one sub-district health promoting hospitals in rural areas around the general hospital.

Before the year 2010, all of the twenty one sub-district health promoting hospitals had no any medical doctor worked as regularly officer for NCD patients services. The satellite diabetics mellitus and hypertension clinics were settled in aimed to increase consumer satisfaction of all diabetic mellitus and hypertension patients in amphur Muang Yasothon area by deliver more regularly of medical doctors and more close to patients' home to every sub-district health promoting hospitals in amphur Muang Yasothon district area.

Although some literature is available on pattern and characteristics nearly like of our satellite diabetics mellitus and hypertension clinics to reduce waiting time in healthcare organisations .(27, 28) There are not enough information on the value or any outcome of this model of service delivery.

Although many study have been done on values and outcomes of many models of service delivery.(27, 29-31) Some studies done on customer or patient satisfaction.(29, 32-35) Which is an important outcome measurement of healthcare service and has use in assessing consultations and patterns of communication healthcare providing. (36)

Although those studies had presented many methods to search customer or patient satisfaction.(34, 37, 38) But they could not extract the sufficient solution for our context. It has now becoming the gap area of this interesting study.

1.2 Research questions

1) What is the level of patient satisfaction with satellite diabetics mellitus and hypertension clinics at health promoting hospitals in Amphur Muang Yasothon ?

2) What are the related factors to the patient satisfaction?

1.3 Research objectives

1.3.1 General objectives

To assess the patient satisfaction with satellite diabetics mellitus and hypertension clinics at health promoting hospitals in Amphur Muang Yasothon area .

1.3.2 Specific objectives

1) To assess levels of the patient satisfaction with satellite diabetic mellitus and hypertension clinics at health promoting hospitals in Amphur Muang Yasothon .

2) To describe socio-demographic characteristic, characteristics of service, enabling factor, need factors of the patients and their satisfaction of satellite diabetics mellitus and hypertension clinics at health promoting hospitals in Amphur Muang Yasothon .

3) To study associations between socio-demographic characteristic, characteristics of service, enabling factor, need factors of patient and their satisfaction.

1.4 Conceptual framework

In this study, the conceptual framework is based on Aday LA (39) and Andersen R (40) of a framework for the study of access to medical care and Draper M and colleages (33) of a construction of overall care index monitoring. According to the framework, patient satisfaction is the health outcome which is composed of four keys components. These factors are considered as base in the formation of the modified conceptual framework for this study.

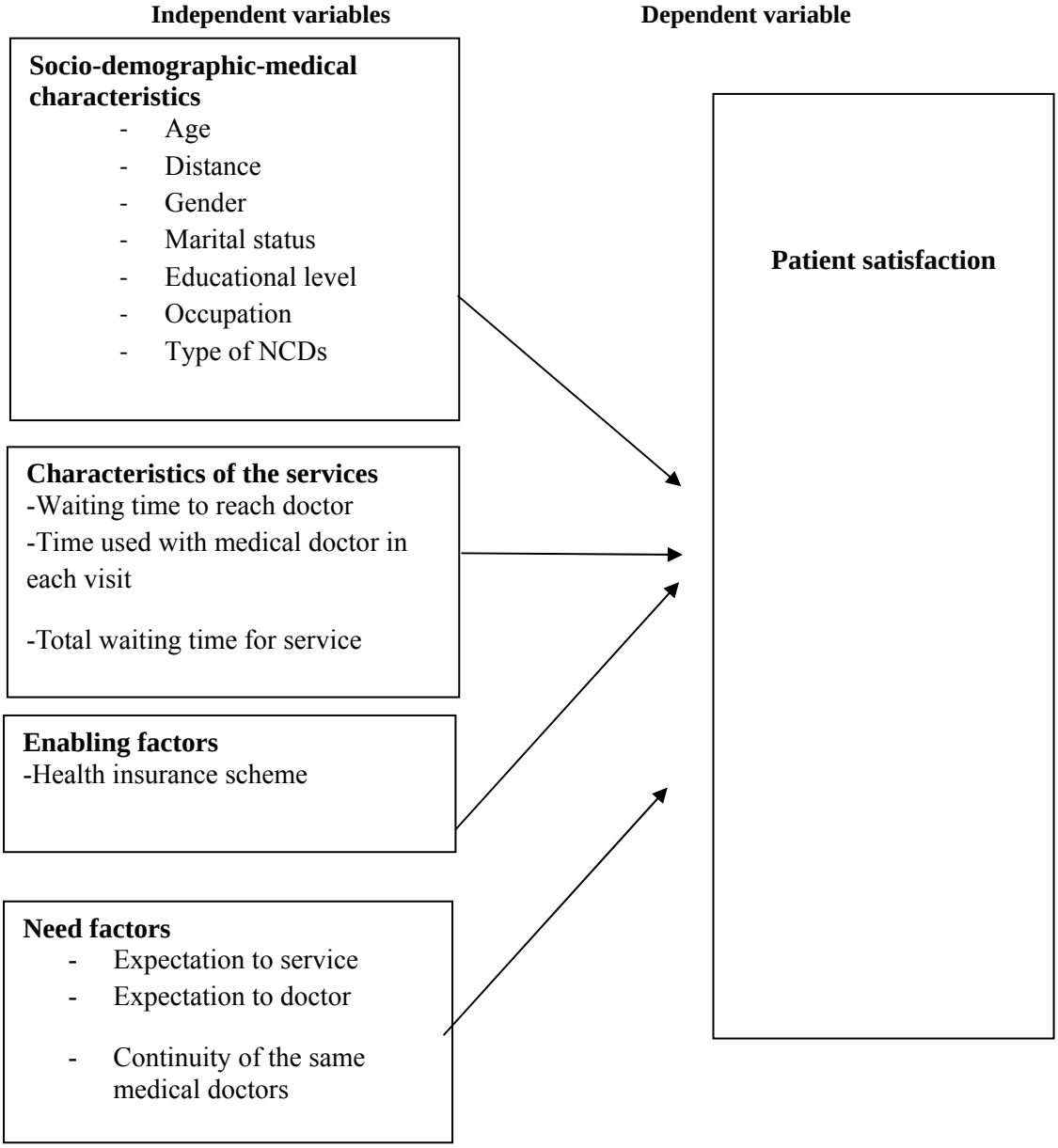

Figure 1.1 The conceptual framework

1.5 Operational definition of the study variables

1.5.1 Dependent variable

Patient satisfaction: Patient satisfaction is defined in this study as the feeling or attitude of a patient towards the service at satellite diabetics mellitus and hypertension clinics in Amphur Muang Yasothon. It refers to the respondents who received the health care services at satellite diabetics mellitus and hypertension clinics in Amphur Muang Yasothon during the time of conducting interviews. Patient satisfaction is the state of being satisfied with the received health care services.

The levels of satisfaction are ranked in five scales in this study as per Likert scale namely; strongly agree (5), agree (4), uncertain (3), disagree (2), and strongly disagree (1).

Patient whose average score of satisfaction is ≥ 4, or 80 percent are classified as high satisfied patient with services and the rest are low satisfied with the services.

1.5.2 Independent variables

1) Socio-demographic characteristics consist of age, distance, gender, marital status, educational level, occupation and type of NCD of respondents.

Age: It refers to the age of respondent at the time of data collection.

Gender: It refers to the sex characteristics of respondent as male and female.

Distance from home to health promoting hospital: It refers to distance from home of the respondent to satellite diabetic mellitus and hypertension clinics at health promoting hospitals.

Marital status: It refers to the respondent as married, and others.

Highest educational level: It refers to the respondent's highest academic qualification. In this study, education levels are categorized into three groups: primary school, secondary school and bachelor degree or above.

Occupation: It refers to the main job of respondent to earn for living. It is categorized into: Unemployed, government employed, non-government employed, agriculture, business, labor and others.

Type of NCDs: It refers to medical condition of each respondent that are diabetes mellitus with or without hypertension and hypertension only.

2) Characteristics of the services

Waiting time to meet the medical doctor: It refers to duration from starting point of clinics to the time point of meet the medical doctor.

Time spent with medical doctor: It refers to duration of doctor use with patient including history taking, physical examination and prescribing of medicine with medical doctor in each visit .

Total time spent for service: It refers to duration from starting point of clinics to the end of drug received point.

3) Enabling factors

Health insurance scheme: It implies to types of securities funding of each patient such as Universal coverage scheme(UCS),Civil servant medical benefit scheme (CSBMS),Social security scheme (SSS) and other.

4) Need factors

Patient expectation

Expectation to general services: It implies to expectation of each patient to the service in the parts of general service , to the part of medical doctor service and to the part of to have the same doctor to care .

Expectation to medical doctor services: It implies to expectation of each patient to the part of medical doctor service and to the part of to have the same doctor to care.

Expectation to continue with same medical doctor: It refers to expectation of each patient to the part continuity of the same doctors who treat patients at each satellite diabetics mellitus and hypertension clinics in Amphur Muang Yasothon .

1.6 Limitation of the study

This research was cross sectional study, it does not identify on cause and effort either past or future. And about the waiting time to meet the medical doctor , it refers to duration from starting point of clinics to the time point of meet the medical doctor, but in fact some respondents defined it as different from our strict criteria, some defined it include the time the left from the area of waiting went to do some of their work outside the sub-district health promoting hospitals and came back again later. That make the time more than we should concerned.

CHAPTER II
LITERATURE REVIEW

The literature review includes the following topics:

- Diabetic mellitus and hypertension situation in global, in Thailand and Yasothon province
- Diabetic mellitus and hypertension health care services in global, in Thailand and Yasothon province
- Health services in Amphur Muang Yasothon
- Definition and theory of patient satisfaction.
- Previous literature related to independent variables of patient satisfaction.
- Theoretical models

2.1 Diabetic mellitus and hypertension situation in global, in Thailand and Yasothon province

In the recent years, there has been a significant increase in the number of patients with diabetes among elderly population, and the number is estimated to increase further. Microangiopathy and macroangiopathy have a great impact on the QOL among elderly population. Thus, the prevention of such damages is crucial. Furthermore, diabetes has become more prevalent among elderly dementia patients, and self-management is difficult for them due to dementia although self-management is very important for the treatment of diabetes. With the growing population of elderly, cases where patients with diabetes face difficulty have increased. Therefore, for the future diabetes treatment, it is necessary to focus more on the elderly population, patients in needs of nursing care, and dementia patients.(41)

Hypertension is a leading risk factor for cardiovascular diseases. The overall prevalence of diagnosed hypertension in Canada from 1998 to 2008 was high and increasing, whereas the incidence declined during the same period. The findings highlight the need to continue monitoring the effectiveness of efforts for managing hypertension and to enhance public health programs aimed at preventing hypertension.(42)

The number of new case of diabetic mellitus patients in Thailand in the range of 501,299 to 553,941 people per year during the year 2011-2020.(12) New patients were estimated to be as high as 8.2 million people in the year 2020.(13)

From the report of Yasothon Health office ,population of diabetic mellitus and hypertension patients in amphur Muang Yasothon district, Yasothon Province, has risen from 5,922, and 6,395 to 7,015 from the year 2007, 2008 and 2009 consecutively.

2.2 Diabetic mellitus and hypertension health care services in global, in Thailand and Yasothon province

Since the traditional health care systems are designed to provide symptom-driven responses to acute illnesses, they are poorly configured to meet the needs of the chronically ill.(24)

In 2011, Bratcher CR described Specialized diabetes care (SDC) centers utilize a multidisciplinary diabetes team to provide patients with highly individualized care. Patients at SDC centers receive their integrated diabetes care in one place--the "one-stop" approach. The components of the SDC center model are: medical care; individualized diabetes education; nutrition; exercise and lifestyle coaching; counseling; monitoring of drug effects. This model results in improved patient outcomes and reduced overall costs. (43)

Dancer S, in 2010 described understanding the comprehensive elements needed for quality chronic disease care is essential to improving outcomes. As new interventions for improving T2DM outcomes become available, the nurse practitioner (NP) must be able to evaluate these as they relate to elements of care that comprise the CCM. Framing new research interventions into this model allows the NP to assume a

multifaceted leadership role in improving the care and outcomes of these patients. (44)

Rodriguez K, in 2011 described health care models for treatment and management of diabetes . No single model of care has been fully able to overcome the limitations that patients and health care providers encounter in trying to achieve quality diabetes care. The author also commented the Chronic Care Model (CCM) developed by Ed Wagner would achieve better process and patient outcomes by the 6 core elements composed of community , health system design , self-management support , delivery system design , decision support and clinical information systems. (45)

Vajen BM et al, in 2012 described The care received by nursing home residents with diabetes does not meet ADA standards for ambulatory adults, this study finds. Nor should it. The frail elderly need new standards that address their particular needs. (46)

In the recent year 2012 , Hawthorne G et al . described diabetes care provision in UK primary care practices . Primary care practices have organisational structures in place and are, as judged by routine quality indicators, delivering high quality care. There remain evidence-practice gaps in the care provided and in the self confidence that patients have for key aspects of self-management and further research is needed to address these issues. Future research should use robust designs and appropriately designed studies to investigate how best to improve this situation. (30)

Improved diabetic care processes and outcomes reported from 1999 to 2003 have not been sustained, and intermediate clinical measures have become more adverse over a 5 year period in this high risk remote community. Chronic care systems, including quality improvement, require renewed investment. (9)

Adequately trained and qualified travel health professionals and up-to-date guidelines for travelers with chronic diseases are of increasing importance. (47)

Riewpaiboon A and colleages studied in the year 2007 , bigger hospitals in Thailand naturally have more specialists for diabetes mellitus, more types of drugs and more health-care teams caring for diabetic patients. The results of the study were beneficial in forecasting the economic burden of diabetes mellitus in Thailand.

Furthermore, the results could be used as a financial tool for cost control and disease management at the community hospital level. (26)

2.3 Health services in Amphur Muang Yasothon

Since the year 2010 , Yasothon general hospital managers had to reduce the boredom faced by their diabetic mellitus and hypertension patients while waiting at the outpatient department . At Yasothon Province , Amphur Muang Yasothon district had twenty one health centers in rural areas around the general hospital. All of them there was not any medical doctor works as permanent officer. Satellite diabetics mellitus and hypertension clinics were settled in aimed to made maximize consumer satisfaction of all diabetic mellitus and hypertension patients in Amphur Muang Yasothon area .

In this study, the researcher focuses in consumer satisfaction of all diabetic mellitus and hypertension patients who had access this service delivery . In order to improve quality of care development , accompanying with customer orientation in quality of care that had delivered to the patients , liked a study of Bellou and colleages. (31) And may have changing in the pattern of service delivery or policy of our primary care sector according to some study has proposed. (20, 21)

Riewpaiboon A and colleages studied in the year 2007 , bigger hospitals in Thailand naturally have more specialists for diabetes mellitus, more types of drugs and more health-care teams caring for diabetic patients. (26) We have already accepted the crowded situation in many big hospitals in Thailand as same as Yasothon hospital.

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2.4 Definition and theory of patient satisfaction

Patient satisfaction

Fitzpatrick (48) in year 1991 defined patient satisfaction as an important and widely accepted measure of care efficiency. Satisfaction is achieved when the

patient or client's perception of the quality of care and services that they receive in healthcare setting has been positive, satisfying, and meets their expectations . The author proposed the way and some method to survey the patient satisfaction .(34)

In the past , 1983 Andersen and many authors proposed some theories about medical system to exploring dimensions of access to medical care. (49) In the year 1987 Like R and Stephen JZ proposed theories about psychological and social determinants were relating to patient satisfaction . (50)

Recently according to Atinga RA , Abekah-Nkrumah G and Domfeh KA studied in northern Ghana , the results revealed that of the five-factor model, support/care, environment of the facility and waiting time determine patients' satisfaction with quality of healthcare delivery. The explanatory power of the dependent variable was explained by 51 percent. They suggested that internal and external health sector stakeholders may possibly use this study as a precursor to improve service quality in the two hospitals in particular and others in general. (29)

In most recently , Misagh Faezipoura and Susan Ferreiraa (51) in year 2013 , they have proposed about healthcare systems facing challenges including diminishing resources and increasing demands. The challenges need to be balanced in this complex system of systems to ensure a sustainable quality of life. Sustainability considers the needs of future generations . The social component of sustainability is one of the important areas in healthcare sustainability. The social component focuses on considerations such as equity, empowerment, accessibility, participation, cultural identity, and institutional stability. Patient satisfaction is a key factor in the social element. Patient satisfaction represents patient fulfillment in regards to the cost, accessibility to services and resources, and patient wellbeing. Finally the paper explores important factors and factor relationships in healthcare social sustainability related to patient satisfaction using a system dynamics approach.

There has been increasing emphasis on the use of patient satisfaction surveys in publicly funded health services to assess elements of quality of care. Draper M et al. showed two different surveys conducted in Victoria, Australia. The results of the surveys are publicly available and arc one means of obtaining consumer views, influencing health care quality and reporting to the public.(33)

Bellou V seeks to investigate the impact that learning orientation, internal and external customer orientation have on quality of care delivered to patients. Best management needs to create a strong and clear culture that emphasizes learning, as well as internal customer and patient orientation, and infuse them among all organizational members. Moreover, human resource management policies should be aligned to meeting or exceeding patients' requests and expectations. With regard to the antecedents of offering medical care of high quality. The study enhanced the existing useful knowledge. (31)

The concept of the accountable care organization (ACO) offers the opportunity to better integrate the health system into a value proposition aligned toward improved care, more efficient delivery, and higher patient satisfaction. Curnow RT Jr. and Doers JT (52) have had said as a significant component of health reform, the ACO has many implications for physicians. Physicians interested in joining ACOs have a variety of options, including forming their own, integrating (virtual or otherwise) with larger health systems, or joining multiple, existing ACOs.

As there is a wide array of options in the marketplace, providers must have a clear understanding of patient attribution, financial incentives, and quality metrics within any ACO agreement. Finally, the health-care system must acknowledge the difficulties associated with the pace of change itself and invest in resources to aid in the adaptive reserve of all components of the health-care system. To succeed, fundamental changes away from the past fee-for-service model will be necessary.

Clinical and financial data will become of paramount importance. The data will need to be more accessible, more accurate, and more appropriately used to align with the greater ACO value proposition. Physicians will also need to embrace the "era of persuasion" with its underlying assumption that engaging patients and other physicians are as necessary as a proper diagnosis and treatment plan. (52)

In the year 2007, Mandokhail AK, Keiwkarnka B and Ramasoota P suggested the staff working in the hospital should be motivated in terms of careful and enthusiastic services and more community participation should be encouraged by hospital administration and health workers must be provided with sufficient knowledge on how to understand psycho-social aspects of consumers.(25)

Strengthening health service delivery requires special attention to the experiences of patients as it is a key indicator of whether improvements in health care delivery have been made and where to focus future improvement efforts. Webster T. R. et al.(37) developed the questionnaires which brief and can be integrated into health systems strengthening. It have had some efforts to support leaders at the health facility and the country levels. Same as in the year 2010 Butt MM and de Run EC tried to assess private healthcare service quality by SERVQUAL model. (38)

Vukovic M et al have recently in year 2012, used Multidimensional scaling (MDS) employed to identify similarities and dissimilarities among items comprising the satisfaction questionnaire . (53) The study shows that the applied patient satisfaction questionnaire has high validity and reliability. It also has high sensitivity for longitudinal measurements, as well as good discriminatory power in measuring the different levels of patient satisfaction

Collins Karen and O Cathain Alicia in year 2003, The findings suggested that some patients distinguish between the states of being satisfied or very satisfied with healthcare, suggesting that the continuum of satisfaction displayed within five-point Likert scales is meaningful to some of the patients who complete satisfaction surveys. They observed of a ‘continuum of satisfaction’ has showed specific and important implications for the future analysis and presentation of patient satisfaction surveys. It is suggested that attention to the differences between the two constructs provides a useful means to highlighting areas of patient concern and that researchers reporting the results of patient satisfaction surveys should cease to collapse them. (54)

Sony Tad in 2006 , proposed patients in Vietnam recognize and prefer more customer-oriented care and amenities, regardless of physician ethnicity and perceive no significant differences in technical skill between the private delivery models. The study provided valuable insight into the patients’ perspective within the new market healthcare system in Vietnam. It suggested a shift in healthcare attitudes amongst Vietnamese. They prefer the amenities that Columbia clinic offers over the informality of after-hours clinics. Presumably, it was this same desire for amenities that brought patients from the crowded public hospitals to the afterhours clinics in the first place. The results of the study suggested that patients at the Columbia-Asia clinic generally have higher expectations for healthcare than do patients who go to a

traditional after-hours clinic. In addition, patients at Columbia have generally higher satisfaction levels with the care they receive than patients at after-hours clinics. These differences in perceptions are largely associated with the type of clinic that the patient goes to and generally are not attributable to demographic differences. (55)

Hekkert in 2009 Patient satisfaction surveys are increasingly used for benchmarking purposes. In the Netherlands, the results of these surveys are reported at the univariate level without taking case mix factors into account. The final conclusions are, first, that a substantial part of the variance is on the patient level, while only a minor part of the variance is at the hospital and department levels. Second, patient satisfaction outcomes in the Netherlands can be corrected by the case mix variables age, health status and education. (56)

Geberemichael S G and colleages reported in 2011 , (57) the first study of african's patient satisfaction of neurological services . That survey of the outpatient neurology services in Addis Ababa, Ethiopia and determinesd the overall patient satisfaction, provided an assessment of current services and form the foundation for improved expansion of neurological care.

Many studies were presented. A study recommended that consequent satisfaction surveys should be conducted systematically in each unit of services with the higher number of respondents in order to determine the satisfaction level of each unit in detail and confirm the results . (58)

As the recently study of Charalambous A have found variations in timing that effect to patient satisfaction in cases of breast, lung, head and neck and prostate cancers in different cancer care settings . That showed performance of multidimensional questionaires . (59)

As Perreault M (60) reported in the year 2012 of the study examined the relative contribution of three main factors (characteristics of services and service providers, characteristics of patients and caregivers, and impact of psychiatric illness) to caregiver satisfaction with services. Results of the study are based on the responses of 154 family caregivers of individuals with mental illnesses in Quebec, and indicate that these aspects play a predictive role in caregiver satisfaction with services. A multiple regression model explained 42% of the variance in satisfaction. They concluded Collaboration with professionals is the key determinant in the model, as it

contributes more than any other variable to satisfaction. Results demonstrate the importance of obtaining a better understanding of caregivers' satisfaction.

Robinson JD and Heritage J in year 2006 (61) concluded that Patients desire opportunities to present concerns in their own time and terms regardless of how extensively they act on this opportunity. That determined the association between the format of physicians' opening questions that solicit patients' presenting concerns and patients' post-visit evaluations of (i.e., satisfaction with) the affective-relational dimension of physicians' communication.

Mosadeghrad AM have a recent study that helps us to understand quality healthcare, highlighting its complex nature, which has direct implications for healthcare providers who are encouraged to regularly monitor healthcare quality using the attributes identified in this study. Accordingly, they can initiate continuous quality improvement programmes to maintain high patient-satisfaction levels. (62)

Boudreaux ED ,Cruz BL , Baumann BM had studied in 2006, (63) definitions of health care PI (synonymous with ''quality improvement'' and ''process redesign'') vary depending on the source, but most include the following stages: 1) creation of a multidisciplinary team that defines the desired performance level; 2) identification of discrepancies or performance gaps by measuring the actual performance level and comparing it with the desired performance level; 3) identification of causes for the gaps, often called a root cause analysis; 4) generation of a list of interventions targeting these root causes; 5) implementation of the intervention(s); and 6) measurement of the changes in performance.

Moreover they proposed modest evidence supports the application of the PI process toward improving ED patient satisfaction. Finally, increasing service delivery options, such as adding fast tracks and observation units, has been advocated as a strategy to improve the management and satisfaction of certain patient cohorts.

Health care users being informed regarding the treatment system and involved in decision-making, giving choices in their treatment; describes the courtesy of the health care providers. Courtesy of the care providers in respecting to patient privacy and dignity and responding to their needs in a holistic manner reflects patient satisfaction. (64)

Aday LA et al. (64) have has proposed current policy and practice in behavioral healthcare reveal the absence of a comprehensive, coordinated continuum of care then substantial variation in policy and financial incentives to encourage such development and poorly defined or articulated outcome goals and objectives. The era of behavioral healthcare focused not only on cost savings in managed care , the issues of equity and access to behavioral healthcare but should focused on quality and outcomes too.

It would seem that the continuation of the focus on patient satisfaction as a measure of service outcome and service quality. Patient satisfaction is an unpredictable construct, a focus entirely on perceived service quality, as the definitive construct, is justified; and given the extremely high intensity nature of the service delivery process in the health industry. Therefore interdisciplinary study and knowledge sharing may offer an excellent vehicle to derive a standardized and definitive tool for evaluating the patient's perception of health service quality.

Although the standard questionnaire "ServQual" emphasizing on measuring the gap between level of expected quality and current status but it could not disappear the really health sector context .(37)

In Thailand only around 1 percent of the individual unit cost of diabetic mellitus treatment had provided for home health care. (26)

2.5 Previous literature related to independent variables of patient satisfaction

2.4.1. Socio-demographic characteristics

Patients' socio-demographic characteristics are the variables most often studied in relation to satisfaction but they are, paradoxically, the least well understood. Patient's age, ethnicity, sex, social status, income, education, marital status, family size and occupation are easily collected and this no doubt explains their frequent appearance in studies of patient satisfaction. (40)

1)Age

Older respondents were more satisfied than younger respondents. A possible explanation for this is that younger people have higher expectations than older people. Younger people will therefore be more easily disappointed (65).

Older age and better self-reported health status were associated with higher satisfaction independent of the site in which care was received. Older patients may have experienced more serious health problems and appreciated more the care they received, they may have had lower expectations, or they may have received quicker access to care (66).

A study was published in the year 2007 In Thailand, at Lad Yao District hospital, Nakhonsawan Province showed older age were more satisfied than younger respondents. (58)

2)Gender

With respect to patients' demographics and perceptions of the physical environments of waiting areas, applying the summated indices of patient satisfaction with physical environments in the waiting areas, it was determined that women were less satisfied with the cleanliness of the physical environments, measured in terms of the holistic and restrooms' surroundings. It may be because, traditionally, women take more responsibility for environmental cleanliness at home, which might account for and translate into their having higher expectations of cleanliness than men (67).

In the recent year 2012 , International conference on Asia Pacific Business Innovation and Technology Management , Zalatar W F has published the useful in developing customer-related strategies that will increase clients' perceptions of bank service quality. The study concluded that gender differences affect the relative importance attributed to the five dimensions as well as customers' expectations and perceptions of service quality in banks. (68)

Female patients were found to be more satisfied than males about physician's explanation about the disease, physical examination, and time spent with the physician (69). As per this study, hundred percent of the female patients agreed that their questions have been adequately answered and information provided by the physician was helpful. Study also enumerated that the higher satisfaction levels were

associated with female gender, age below 40, rural residence, lower level education and single status of the patients.

Janssen S M ,Janssen L and Antoine L M. (70) reviewed of studies published in the last 10 years about women seeking gynecological- or obstetrical care and physician's gender in relation to patient preferences, differences in communication style and patient satisfaction. The systematic review conclude that Preference for a female gynecologist–obstetrician might be explained by a more patientcentered communication style used by female gynecologists–obstetricians. Using a patient-centered communication style increases patient satisfaction. Practice implications: To increase patient satisfaction, gynecologists–obstetricians should learn to integrate patient-centered communication style into the consultation.

3)Marital status:

A study done by the year 2002 entitled, "Unmet expectations for care and the patient-physician relationship" showed that unmet expectations were seen more frequently among unmarried patients who may lack an accompanying medical advocate, and patient who lack in their physician who may be less likely to communicate their desire clearly or more likely to perceive failing in the medical discussion. (71)

4)Education level

A study done by Bu Alayan et al. (2008) entitled "Patient Satisfaction with Primary Health Care Services in Kuwait" showed that the level of satisfaction with health care services was higher in the patients those who had university or higher degree of education than other level of education (28). In another study by Alzolibani (2011) showed that lower level of education was associated with higher satisfaction (69).As same as the previous study of Tangmankongworakoon T , Chompikul J and Isaranurag S. (58)

A study of Laura Bissonnette found Individual patient's characteristics including age, gender, ethnicity, socioeconomic status, beliefs about health and the actual need for care will also determine whether and where an individual seeks care . There is a need for ongoing research to examine how potential access translates to

realized access, and how it is moderated by individual characteristics to influence decision-making and overall health outcomes. (72)

5)Ethnics

The results of a research contribute on the health care needs of urban Aboriginal peoples and represent one of the few studies to examine the association between mobility and health care use amongst urban Aboriginal populations in Canada. As the Aboriginal population becomes increasingly urbanized, it is crucial that health care models respond to and represent the conventional and traditional health care needs and choices of urban movers. Continued research that explores this complex relationship is key to understanding urban Aboriginal movers' health care needs and to informing and shaping effective and appropriate health care delivery in Canada, and beyond. This has important implications for how health services are planned and delivered to urban Aboriginal movers on a local, and potentially global, scale. (73)

6)Distance

Kuhlthau, Karen A know that some patients are not able to obtain health care services because they are not available, that is particularly true for some services some geographic locations (eg, very rural areas). Having services available is a necessary but may not sufficient step . Toward "realized access" or the use of needed services potential use to the CHIPRA measurement initiative are objective measures of provider density and some existing parent survey questions about timeliness and ease of use. Other measures include more refined measures of density or distance, the timeliness and ease with which patients can get care. However, more work is needed on the validity and reliability of existing measures; more work is also needed to expand measures of availability beyond existing domains of providers and condition. (32)

DW Harrington have suggested that the relationship between potential and realized access may be modified by place-based factors. (74)

The finding of a strong association between distance to hospital and the frequency of hospitalization does not, by itself, reveal the mechanism of the effect.

One possible explanation is that proximity influences the likelihood of patients' contacting the health care system and the means they use or the rate at which physicians recommend (and patients accept) hospitalization for conditions where there is substantial uncertainty about the need for it. (75)

2.4.2 Characteristic of the service

1)Waiting time

Pillay DI et al. has finished a national study which aims to determine the average waiting time in Malaysian public hospitals and to gauge the level of patient satisfaction with the waiting time. They addressed there is a need for hospital managers to reduce the boredom faced by patients while waiting, and to address the waiting time problem in a more scientific manner, as has been carried out in other countries through simulation and modelling techniques. Healthcare organisations are keen to address the patients waiting time problem. However, not much research has been carried out in this area. (27)

Patient satisfaction is one important indicator of health outcomes and plays a key role in improving health service quality. The study in United states of America , multivariate analysis revealed that waiting time, spending time with patient, and age category all were statistically significantly associated with patient satisfaction scores. (58, 76, 77)

According to Aday LA (64) and Drapper M (33) Convenience meant the easy to consume health care services including service system, availability of personnel, and adequacy of time, as well as waiting time for physical examination and receiving medicines, distance travel together with money spent to reach to the hospital and the facilities available at the health center.

2)Medical Doctor services

Doctor-patient interaction is important aspect for satisfaction of patient and this interaction depends on several interrelated factors such as the physician’s ability to maintain the patient’s trust and physician’s ability to treat the patient with concern, empathy, honesty, tact and sensitivity (78). The more treatment outcomes

physicians discussed with their patients in advance of decision-making, the more satisfied patients reported being with their overall medical care**.** (79)

Developing good relationship with patient by providing expected information resulted more satisfied with the services satisfaction. (28)

Doctor's consultation and communication skills have positive effect on patient's satisfaction. Communication skills such as history taking, listening to patients attentively, and explaining to them about their health problems as these factors significantly influence the degree of satisfaction (28).

3)Health care team and service providing models

The Saudi patients show better satisfaction, perception and appreciation of the pharmacists' role in the health care team. To improve the patient satisfaction with the pharmacists'role as health care provider and to improve the professional image of the pharmacy we could recommend appointing of at least one pharmacist in each community pharmacies for only consultations. (80)

The patient-centered medical home (PCMH) model is a holistic multidisciplinary approach to providing care in the primary care setting. Provider-led teams engage the patient and family in their own health care plan. It is linked to improve continuity of care and enhance access. After 2 years of implementation, the PCMH was associated with improvement in access to care, reduction of emergency department (ED) visits, improvement in population health, Healthcare Effectiveness Data and Information Set (HEDIS) measures, and a high degree of staff satisfaction. (81)

Gardner, K et al in year 2011 has reviewed what is known about the challenges of implementing quality improvement programs and draws on data from a systematic continuous quality improvement (CQI) project in remote communities in Australia and Fiji, known as Audit and Best practice for Chronic Disease, to synthesise lessons and discuss the potential for broader application in low and middle income countries, including Pacific Island countries and territories.(82) They have identified key features of an innovative CQI model and factors related to implementation that support improvement in diabetes service delivery and intermediate outcomes.

Prentice JC, in 2012 has studied to measure the relationship between days spent waiting for primary care and health outcomes among patients diagnosed with diabetes, especially among the elderly population. They have founded longer wait times were predicted to decrease utilization between 2 and 4 percent. There was no significant relationship between wait times and health outcomes for the overall sample. In stratified analyses, longer waits were associated with undesirable outcomes for those over age 70 with one of the selected health conditions or in certain narrower 5-year age groups, but the overall pattern of results does not indicate a systematic and significant effect. There was a modest effect of long wait times on primary care utilization but no robust effect of longer wait times on health outcomes. Waiting for care did not significantly compromise long-term health outcomes for veterans with diabetes. (83)

Recent measures to improve quality of preventive care in Indigenous community settings, while apparently successful at increasing screening and routine check-up rates, have shown only modest or little improvements in appropriate care such as the introduction of insulin and other scaled-up drug regimens in line with evidence-based guidelines, together with support for risk factor reduction. A new strategy is required to ensure high quality integrated family-centered care is available locally, with continuity and cultural safety, by community-based care coordinators with appropriate system supports. (84) The pragmatic trial in the year 2012 by Schmidt B will test a culturally-sound family-centered model of care with supported case management by IHWs (Indigenous Health Workers) to improve outcomes for people with complex chronic care needs. The trial is now in the intervention phase.

Kaufman ND, et al (11) studied in the year 2011 concludes with an exploration of the potential for developing and implementing realistic public health responses to the growing burden of chronic non-communicable diseases in a Southeast Asian country context by utilizing existing capacities in research, policy, and health workforce development.

Many concepts of health care service delivery were proposed. Mills A , Rasheed F and Tollman S reviewed how health systems can be strengthened in differing country contexts to deliver interventions to maximize effectiveness and

equity. They have mainly concerned with strengthening health services , issues in managing core public health functions. (85)

Gauld R et al. addressed after the World Health Report 2008 , healthcare service delivery reforms is the one of four areas of concern to build a health policy for primary health care oriented system . (86) Umble K suggested public health development program should foster collaborative leadership by engaging leaders in systems thinking, team leadership, dialogue, conflict resolution, and negotiation, recommend using networks for sustained personal and system development, and link leaders to networks and associations. (87) Health policy focused for the diabetic mellitus patients has multidimensional and have has delivered for years in Thailand. Especially many patterns for service delivery towards the patients have has developed and adapted to many different contextual based and wide variation , while as Van Damme W proposed health care program very associated with financing to improve health outcomes.(88)

About health care deliveries , a study has pointed out several promising areas for future research by including environmental and provider-related variables and by using explanatory methods. Many critical health policy issues require an understanding of the context of utilization behavior and of interactions among individuals, providers, and the healthcare environment. By assessing whether and how contextual variables are used, we highlighted the contributions made by studies using these approaches, identified variables and methods that have been relatively underused, and suggested solutions to barriers in using contextual variables. A better understanding of the context of utlization behavior will require studies that are designed to examine contextual factors; the linking of databases with patient, provider, and environmental variables; the development of methods and software to allow more sophisticated analyses; and the incorporation of variables and methods from other disciplines such as economics. Our study suggests that the measurement and analysis of the context of utilization can improve the understanding of utilization behavior and thereby can contribute to more effective health programs and policies. (89)

Current policy and practice in behavioral healthcare reveal the absence of a comprehensive, coordinated continuum of care; substantial variation in policy and financial incentives to encourage such development; and poorly defined or articulated

outcome goals and objectives. They concluded the first era of behavioral healthcare focused on cost savings in managed care alternatives; the second is focusing on quality and outcomes; a third must consider the issues of equity and access to behavioral healthcare, especially for the most seriously ill and vulnerable, in an increasingly managed care-dominated public and private policy environment. (39)

Health care users being informed regarding the treatment system and involved in decision-making . The health informative technic of the health center might be settled in many styles . (33)

4)Mobile Clinics

Overall satisfaction was very high, although the mobile clinics were not viewed as substitutes for primary health care centres. Public awareness of the service needs to be improved and better access and quality of services are important for optimal service provision. It was from a descriptive cross-sectional study that was conducted to investigate the perceived quality of services provided to villages in the Al-Laith region, after mobile clinics have been established in Saudi Arabia to facilitate the equitable delivery of primary health care services in remote and rural areas. (80)

5)Health education

Pongmesa and colleages presented specific aspects of knowledge of diabetes that needed further strengthening and specific groups that are suitable for future targeted public education campaigns were identified. Such targeted public education programs would conceivably be more cost-effective than campaigns aimed at the masses. Knowledge of diabetes among the Thai respondents was fair. Areas of deficiency and factors associated with knowledge of diabetes were identified. Our findings would be useful in informing targeted health education programs. (90)

6) Health problems or medical status and patient expectation

An unmet expectation of the patients for care reported less satisfaction with their visits, less improvement and finally weaker intentions to follow. Patient, if their expectation could not be met even on subsequent visits become more dissatisfied.

Unmet expectations were typically reported by patient whose request for resource was not fulfilled (71).

2.6 Theoretical models

The behavior model, described by Andersen LA described three major categories: (a) Predisposing factors (demographic, social structural and attitudinal belief variables; (b) Enabling factors (family resource and characteristic of the community); and Need factors (perceived and evaluated illness) (40)

Predisposing, enabling and need factors refer primarily to attributes of individuals which ultimately influence their health care-seeking behavior. Predisposing variables include those factors which exist prior to the onset of illness and describe the propensity of individuals to use services. These include such things as age, sex, race and ethnicity, and educational levels. The enabling component describes the means individuals have available to them for the use of services. Both financial and organizational factors are relevant here. The need for care refers to the level of experienced illness, which may be reflected in perceived health, levels of symptoms or activity-limiting morbidity.

This model represents an adaptation of the Behavioral Model that includes factors to consider when studying the use of health services and health outcomes. As in the original Behavioral Model, the Predisposing, Enabling, and Need components of this model predict personal health practices, including the use of health services. A major addition is our look at the impact of utilization on health status outcomes. While most models of health services utilization stop at utilization, with this study we were able to examine the effect of realized access (i.e., utilization) on health outcomes. Health status is both an outcome as well as a determinant of use (in the latter case it is labeled need). Health outcomes also include patient satisfaction and compliance.

Draper M and colleages (33) published in the year 2001 , The results of the surveys are publicly available and arc one means of obtaining consumer views, influencing health care quality and reporting to the public. Annually report from health service board could be change in system and professionally practice .

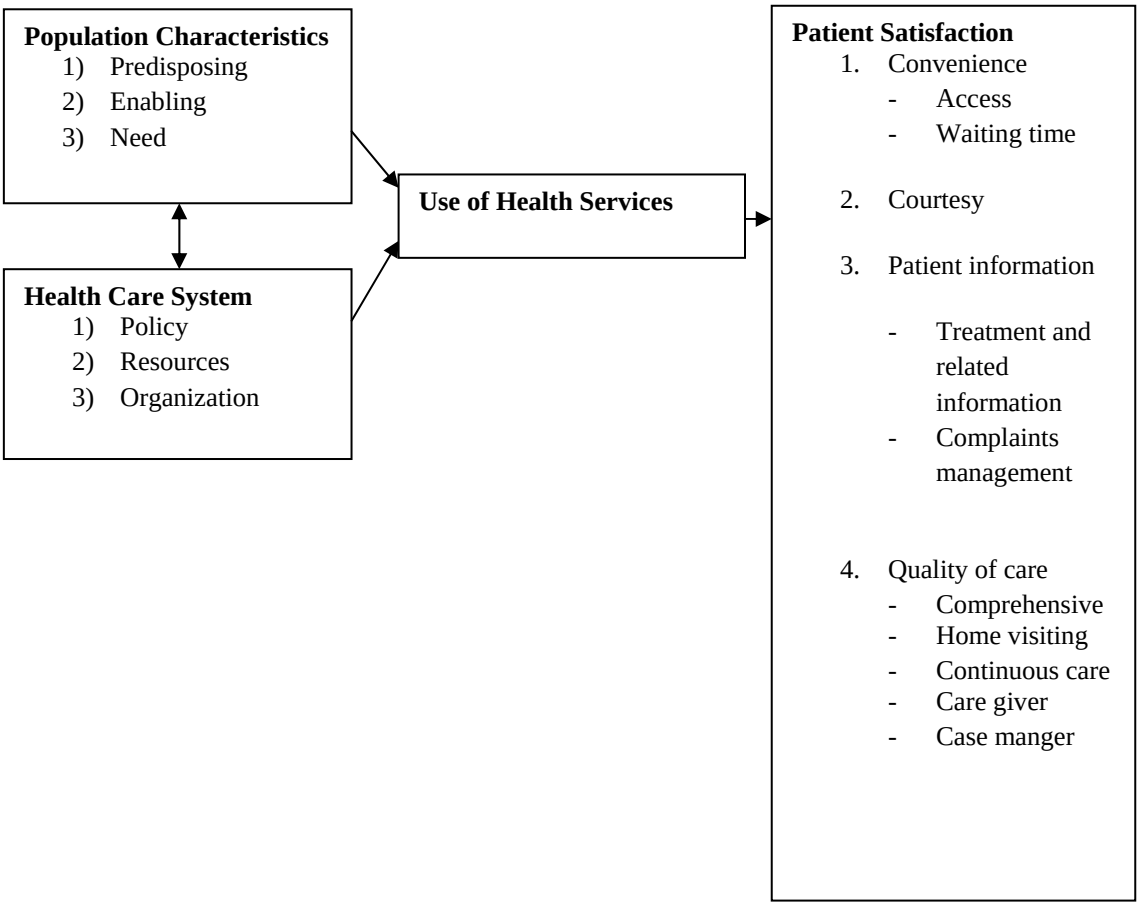

Figure 2.1 Adapted from Andersen's Model of Health Services Utilization (40) , LA Aday et al (39) and Draper M et al.'s Seeking consumer views(33)

CHAPTER III
RESEARCH METHODOLOGY

3.1. Research design

This was a cross-sectional descriptive study to describe the aspects of patient's satisfaction with satellite diabetics mellitus and hypertension clinics which service provided by twenty one health promoting hospitals in rural areas around the general hospital at Amphur Muang Yasothon district, Yasothon Province .

3.2. Study population

The study population was consisted the patient of aged over 20 years who visited at satellite diabetics mellitus and hypertension clinics by twenty one health promoting hospitals around the general hospital at Amphur Muang Yasothon district, Yasothon Province during the study time.

3.3. Study area

It had separated to five zones of satellite diabetics mellitus and hypertension clinics by twenty one health promoting hospitals around the general hospital at Amphur Muang Yasothon district, Yasothon Province were considered in this study.

3.4. Sample size calculation

The sample size was estimated by using the statistical formula:

$$n = \frac{z^2 Np(1-p)}{z^2 p(1-p) + (N-1)d^2}$$

Where,

n = estimated sample size

N = number of total diabetes mellitus and hypertension case of patients in area of interested in this study = 2,727 patients

Z = standard normal score at 95% of confidence interval which is 1.96.

p = proportion of patient's satisfaction with satellite diabetics mellitus clinics.

It was assumed that the proportion is equal to 0.5

1- p = 1-0.5 = 0.5

d^2 = Allowable error = 0.05*0.05 = 0.0025

$$n = \frac{1.96^2 (2727)(0.5)(1-0.5)}{1.96^2 (0.5)(1-0.5) + 2726(0.05)^2}$$

= 336.724

Since, there was no similar study done in previous time, proportion of sample (p) was put at 0.5 to obtain a maximum sample size. To allow for incomplete or missing data from the questionnaire, the sample size was increased by 10%, and then the required sample for this study was 372 numbers.

3.5. Sampling technique

Since, twenty one subdistrict health promoting hospitals around the general hospital at Amphur Muang Yasothon having divided to five zones for public health service management, cluster sampling method was used to obtained sample from the five zones, multi-stage stratified sampling was used to draw a sample of the study. A health promoting hospital was selected form each five different zone. Then, respondents were selected by using the systematic random sampling during the period of data collection. Equal number of respondents was selected from each diabetics mellitus and hypertension clinics .

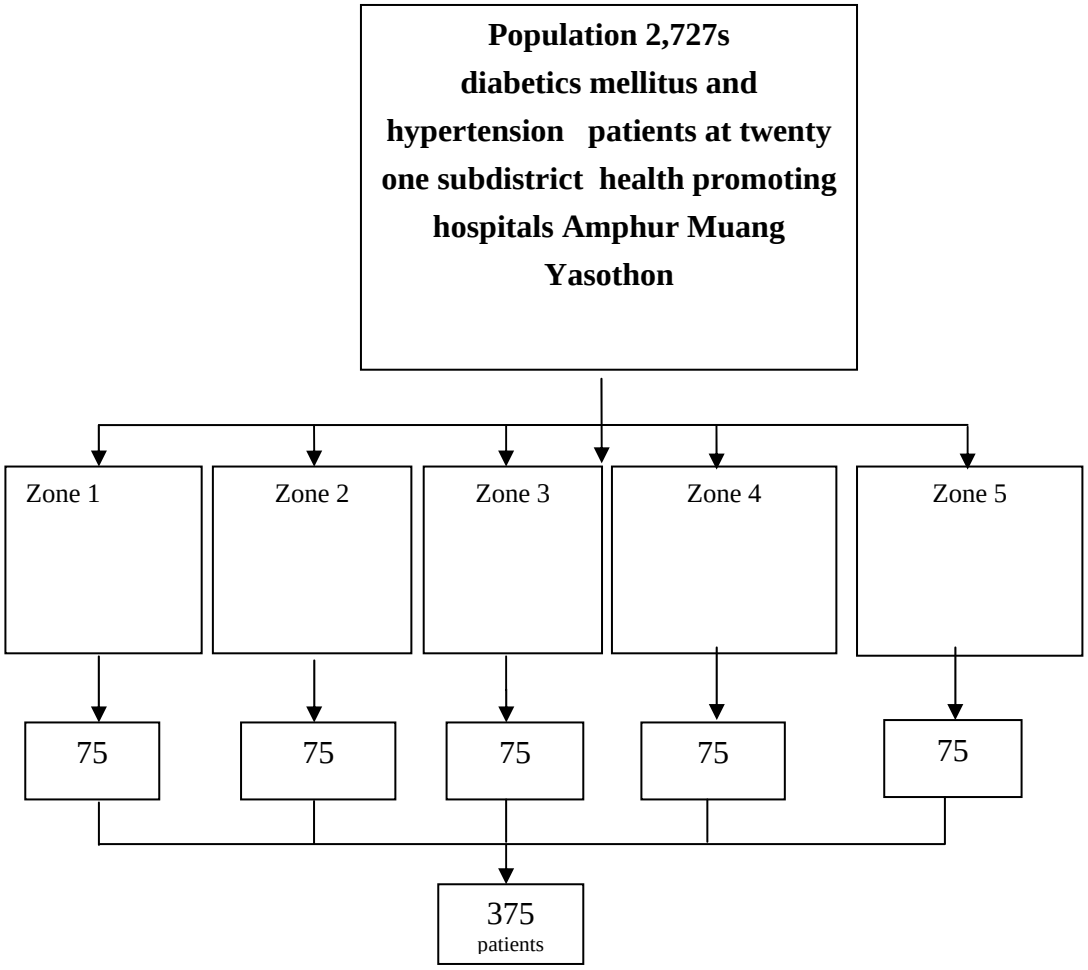

Figure 3.1 Sampling frame

3.6. Inclusion criteria

- Patients aged of over 20 years who received services from satellite diabetics mellitus and hypertension clinics which service provided by twenty one subdistrict health promoting hospitals . The respondents able to answer question themselves independently.

- Patients who were willing to participate in the study.

3.7. Exclusion criteria

- Patients below the age of 20 years during the study time.
- Patients with serious condition who was not able to answer.
- Patients with mental health problem.
- Patients who were not willing to participate.

3.8. Data collection tools

This study was based on primary data, which was collected through a multiple-choice structured questionnaire that contain some open-ended questions too. Questionnaire was framed for patients. Questionnaire was filled through personal contact with the respondents. The questionnaire contains 54 questions and was divided into four parts:

I - Socio-demographic characteristics.

II – Waiting time and health insurance scheme.

III - Patient expectation to the service .

IV - Patient satisfaction to the services.

Part I: This part comprised questions about basic information of respondents. This includes age, gender, marital status, educational level, occupation, medical status .

Part II: This part comprised questions about the characteristics of waiting time , time use of the services and health scheme of insurance .

Part III: This part contained questions about patient expectation to the service.

Part IV: This part contained questions about patient satisfaction to our services.

Likert scale was used to measure different aspects of patient expectation to the service and patient satisfaction. For positive statements, answers were scored as follows:

Strongly agree	: 5
Agree	: 4
Uncertain	: 3
Disagree	: 2
Strongly disagree	: 1

In this study , view of patient expectation as same as a previous study (77), cut off point was determined using 50 percentile and expectation was classified as follows:

- Low expectation- respondents who were those who got less than 50 percentile of the total possible score for the expectation questions.

- High expectation – respondents who got 50 percentile or higher than the total possible score for the expectation questions.

In this study, view of patient satisfaction as same as a previous study(58) ,cut off point was determined using 80 percent and satisfaction was classified as follows:

- Low satisfaction- respondents who were those who got less than 80 percent of the total possible score for the satisfaction questions.

- High Satisfaction – respondents who got 80 percent or higher than the total possible score for the satisfaction questions.

3.9. Methods of data collection

3.9.1. Pre-testing the questionnaire

Test of content validity

The developed questionnaire was tested for validity by experts who working in related field.

Test of reliability

For reliability of the questionnaire, a pre-test on the questionnaire was undertaken between 18th April 2014 and 25th April 2014 with 30 respondents who were socio-demographically and culturally similar to the study population at tumbon Non Sawang Amphur Muang Roi Et , Roi Et Province . Reliability using Cronbach's Alpha coefficient for the overall questionnaire was 0.964 , patient expectation to general service questionnaires was 0.916 , patient expectation to medical doctor service questionnaires was 0.849, and the questionnaire of patient expectation to continuity of the same medical doctor was 0.964. For the overall patient satisfaction questionnaires, Cronbach's Alpha coefficient was 0.926.

3.9.2. Data collection

Data would collect after getting the permission from the Committee for Research Ethics (Social Sciences) COA., Mahidol University. Following steps was used to collect data.

1) Permission was requested from the chief director of division of Yasothon prvince office by letter from the AIHD office.

2) The questionnaire was constructed in Thai language and translating to English later for presenting to academic centers.

3) Three interviewers were selected from the students as required and one day training was organize to introduce questionnaire and ethical issues, and about how to select patients, how to interview patients.

4) It was informed to the respondents about the purpose of the study and was asked for willingness to participate, and then consent was taken from each participant.

3.10 Data analysis

1. The data were coded by using and analyzed by software.

2. Frequency and percentage were be calculated for socio-demographic characteristics (age, gender, marital status, educational level, occupation and distance from hospital), for characteristic of services and need factors (health problems and expectations). For the level of expectations and patient satisfaction in each class of age, gender, marital status, educational level, occupation, health problem; mean, median, standard deviation, maximum and minimum were calculated for quantitative data.

3. Median and quartile deviation would be calculated for patient expectations and satisfaction as the data rating scale.

4. Means and standard deviation were be calculated for age. In addition, to classify patient expectation into two groups, high group were consisted of respondents who had score of expectation equal and above median , and another were classified the low group, same criteria as a previous study.(77)

5.To classify patient satisfaction into two groups, high satisfied group were consisted of respondents who had score of satisfaction equal and above 80 percent, and another were classified the low satisfied group, same criteria as a previous study.(58)

6. Chi-square test would be used to evaluate associations between socio-demographic, characteristics of service, enabling factor, need factors and their level of satisfaction to our satellite diabetes mellitus and hypertension clinics services.

7. Multiple logistic regressions were performed to determine significant factors affecting patient satisfaction when adjusting for other factors

CHAPTER IV
RESULTS

This cross sectional study was conducted in amphur Muang Yasothon ,Yasothon province,Thailand. The data were collected during 27th April to 30th May 2014 excluding public holidays by using structured questionnaires which was filled by three trained interviewers. A total of 375 respondents were interviewed from 10 diabetic mellitus and hypertension clinics at health promoting hospital in Amphur Muang Yasothon , Yasothon province Thailand. The results are presented in descriptive and tabular forms. The results are presented as follows.

1. Socio-demographic-medical characteristics
2. Characteristics of the services
3. Enabling factors
4. Need factors
5. Patient satisfaction
6. Association between study factors and patient satisfaction

4.1 Socio-demographic-medical characteristics

Age, gender, marital status, level of education, main occupation and income were included in the respondents' socio-demographic characteristics.

The results in Table 4.1 showed that the patients' age ranged from 27 to 91 years and the median of age was 60.00 years. Based on the age range, the respondents were categorized into four groups, 27-42 years, 43-58 years, 59-75 years , 76-91 years. Gender group was divided into male and female. More than half (66.40%) respondents were male while females were 33.60%. Majority of them 81.60% belonged to the married group, 5.30% were unmarried and the remainders (13.10%) were others including widowed or divorced or separated.

Concerning education level which was categorized into three groups, most of the respondents 90.7% had primary level of education, the second most (7.5%) had secondary level and 1.9% had bachelor degree or above level.

Regarding to the main occupation, the respondents were divided into government employed, non-government employed, agriculture and others groups. Most of the respondents were Agriculture 87.5 %. The second most were others group (8.3%) which included business owners , artists , housewife and enable to work and labour. And the least were Non-Government employee (1.3%).

Medical status of the respondents were divided to three groups , mostly was Diabetic mellitus only was 35.1% , Hypertension only was 33.6% and the least group both Diabetic mellitus and hypertension 28.3%.

Table 4.1 Socio-demographic-medical characteristics

Characteristics	Frequency	percent
Age (years)		
27-42	19	5.1
43-58	159	42.4
59-75	165	44.0
76-91	32	8.5
Min= 27 , Max= 91 , median= 60.00 ,QD = 8		
Distance from home to the sub-district health promoting hospital (km)		
Far (>,= median)	190	50.7
Near (<,= median)	185	49.3
Min = 2.00km, Max = 39km, QD=5.0 ,median = 16 km		
Gender		
male	126	33.6
female	249	66.4
Marital status		
single	20	5.3
married	306	81.6
Widow ,divorce , separated	49	13.1

Table 4.1 Socio-demographic-medical characteristics (cont.)

Characteristics	Frequency	percent
Highest education		
Primary	340	90.7
Secondary	28	7.5
Bachelor and above	7	1.9
Occupation		
Government employee	11	2.9
Non-Government employee	5	1.3
Agriculture	328	87.5
Other	31	8.3
Medical status		
Diabetic mellitus only	143	38.1
Hypertension only	126	33.6
Diabetic mellitus and hypertension	106	28.3

4.2 Characteristics of time for the services

Regarding to the characteristic of time for the services, waiting time to meet the medical doctor ranging from 3 to 240 minutes, median was 30.00 minutes,QD was 8 , the respondents were divided into lower and upper groups. The below median group were 211s (56.3 %) , the upper group were 164s (43.7%).

The second characteristic of the services , time spent with medical doctor ranging from 1 to 20 minutes , mean was 4.85 minutes , SD was 3.15 minutes, median was 5.00 , the respondents were divided into lower and upper groups. The below median group were 305s (81.3 %) , the upper group were 70s (18.7%)

The third characteristic of the services , total time spent for service, it start from point of first visiting to the ending time point of the service , ranging from 10 to 420 minutes, median was 60.00 minutes , the respondents were divided into lower and upper groups. The below median group were 232s (61.9 %) , the upper group were 143s (38.1%)

Those three characteristics of time for the services were tested and found not in normal distribution pattern.

Table 4.2 Characteristics of the services

Characteristics	Frequency	percent
Waiting time to meet the medical doctor		
Low (Below median)	141	37.6
High (Equal and above median)	234	62.4
Time spent with the medical doctor (min)		
Long (Below median)	230	61.3
Short(Equal and above median)	145	38.7
Total time spent for service (min)		
Short (Below median)	182	48.5
Long (Equal and above median)	193	51.5

4.3 Enabling factors

According to health insurance scheme of the respondents ,three groups of all were described as showed

Table 4.3 Health insurance scheme

Health insurance scheme	Frequency	percent
Civil servant medical benefit scheme (CSBMS)	18	4.8
Social security scheme (SSS)	11	2.9
UCS (Universal coverage scheme)	344	91.7
Private sector	2	0.5

4.4 Need factors

According to expectation percentage of the respondents to overall of our the service, , were ranged from 33 to 100 mean was 87.5 SD was 0.5 median was 90 IQR was 15.

Patient expectation level by questionnaire items , n(number) of the respondents , (percent) and comments

(SA= Strongly agree, A= Agree , **U**= Undecided, , D= Disagree, SD= Strongly disagree)

Table 4.4 Number and percentage of the respondents classified by levels of expectation to general services

Expectation to general service	**Level of expectation n (%)**							
Statements	**SA**	**A**	**U**	**D**	**SD**	**Mean**	**SD**	**Comment**
The provided place is good.	213 (56.8)	119 (31.7)	42 (11.2)	1 (0.3)	0 (0)	4.45	0.70	high
Our staffs are concurrently.	220 (58.7)	122 (32.5)	29 (7.7)	4 (1.1)	0 (0)	4.49	0.69	high
Our drugs are concurrently.	214 (57.1)	111 (29.6)	48 (12.8)	1 (0.3)	1 (0.3)	4.43	0.74	high
Our instruments are concurrently.	189 (50.4)	134 (35.7)	30 (8.0)	19 (5.1)	3 (0.8)	4.30	0.88	high
Our staffs do regularly empathized.	206 (54.9)	136 (36.3)	31 (8.3)	1 (0.3)	1 (0.3)	4.45	0.68	high
Our staffs do flexibility.	182 (48.5)	143 (38.1)	46 (12.3)	3 (0.8)	1 (0.3)	4.34	0.74	high
Our staffs do willingness to help.	202 (53.9)	145 (38.7)	24 (6.4)	3 (0.8)	1 (0.3)	4.45	0.67	high
Our staffs do well in responsibility.	191 (50.9)	138 (36.8)	42 (11.2)	2 (0.5)	2 (0.5)	4.37	0.74	high

Table 4.4 Number and percentage of the respondents classified by levels of expectation to general services(cont.)

Expectation to general service (cont.)	**Level of expectation n (%)**							
Statements	**SA**	**A**	**U**	**D**	**SD**	**Mean**	**SD**	**Comment**
Our staffs care patients well in equity.	208 (55.5)	137 (36.5)	28 (7.5)	2 (0.5)	0 (0)	4.46	0.68	high
Our staffs attend you simultaneously.	198 (52.8)	144 (38.4)	29 (7.7)	3 (0.8)	1 (0.3)	4.43	0.69	high
Our blood and laboratory are good quality.	192 (51.2)	150 (40.0)	29 (7.7)	4 (1.1)	0 (0)	4.41	0.68	high
Our drugs are good quality.	196 (52.3)	149 (39.7)	28 (7.5)	1 (0.3)	1 (0.3)	4.43	0.67	high

Table 4.4 Number and percentage of the respondents classified by levels of expectation to medical doctor services (cont.)

Expectation to medical doctor service	**Level of expectation n (%)**							
Statements	**SA**	**A**	**U**	**D**	**SD**	**Mean**	**SD**	**Comment**
Our doctors are concurrently	205 (54.7)	121 (32.3)	44 (11.7)	4 (1.1)	1 (0.3)	4.40	0.76	high
Our Doctor do work with a willingness.	202 (53.9)	152 (40.5)	19 (5.1)	1 (0.3)	1 (0.3)	4.47	0.63	high
Our Doctor do work with cortesy.	190 (50.7)	160 (42.7)	22 (5.9)	2 (0.5)	1 (0.3)	4.43	0.65	high
Our Doctor do with high competent.	197 (52.5)	147 (39.2)	30 (8.0)	1 (0.3)	0 (0)	4.44	0.66	high
Our Doctor do with punctuality.	194 (51.7)	136 (36.3)	36 (9.6)	7 (1.9)	2 (0.5)	4.37	0.77	high
Our Doctor inform patient well about the disease and treatment.	200 (53.3)	148 (39.5)	23 (6.1)	2 (0.5)	2 (0.5)	4.45	0.68	high
Home visiting from the doctor if possible.	144 (38.4)	117 (31.2)	56 (14.9)	44 (11.7)	14 (3.7)	3.89	1.15	high

Table 4.5 Expectation to continue with same medical doctor

Expectation to continue with same medical doctor	**Level of expectation n (%)**							
Statements	**SA**	**A**	**U**	**D**	**SD**	**Mean**	**SD**	**Comment**
Wish to be treated by the same doctor in every visit.	165 (44.0)	113 (30.1)	59 (15.7)	35 (9.3)	3 (0.8)	4.07	1.02	high

Table 4.6 Number of the respondents classified by percentage of expectation

Expectation	**Frequency n=375**	**Percent**
Expectation to general service		
Low expect to general service (<median)	176	46.9
High expect to general service (>,=median)	199	53.1
Expectation to medical doctor service		
High expect to medical doctor (>,=median)	203	54.1
Low expect to medical doctor (<median)	172	45.9
Expectation to continue with same medical doctor		
High expect to medical doctor continuity(>,=median)	278	74.1
Low expect to medical doctor continuity (<median)	97	25.9

4.5 Patient satisfaction

Table 4.7 Patient satisfaction level by questionnaire items the respondents N=375 , n ,(percent) and comment

	Level of satisfaction n (%)							
Statements	**SA**	**A**	**U**	**D**	**SD**	**Mean**	**SD**	**Comment**
The place we provided for service is good.	173 (46.1)	191 (50.9)	6 (1.6)	5 (1.3)	0 (0)	4.42	0.60	high
Our staffs are concurrently.	154 (41.1)	208 (55.5)	10 (2.7)	3 (0.8)	0 (0)	4.37	0.58	high
Our Doctor are concurrently.	155 (41.3)	203 (54.1)	14 (3.7)	3 (0.8)	0 (0)	4.36	0.60	high
Our Drugs are appropriate.	123 (32.8)	236 (62.9)	14 (3.7)	2 (0.5)	0 (0)	4.28	0.56	high
Our instruments are appropriate.	122 (32.5)	211 (56.3)	32 (8.5)	9 (2.4)	1 (0.3)	4.18	0.71	high
Our staffs care patient regulary with willingful.	139 (37.1)	217 (57.9)	15 (4.0)	2 (0.5)	2 (0.5)	4.30	0.62	high
Our staffs care patient with flexibility.	127 (33.9)	212 (56.5)	29 (7.7)	5 (1.3)	2 (0.5)	4.22	0.69	high
Our staffs care patient with willingful.	143 (38.1)	215 (57.3)	14 (3.7)	2 (0.5)	1 (0.3)	4.43	0.60	high
Our staffs respond simultaneously.	121 (32.3)	221 (58.9)	24 (6.4)	8 (2.1)	1 (0.3)	4.21	0.67	high
Our staffs care patients with equity.	129 (34.4)	224 (59.7)	18 (4.8)	3 (0.8)	1 (0.3)	4.27	0.61	high

Table 4.7 Patient satisfaction level by questionnaire items the respondents N=375 , n and (percent) (cont.)

	Level of satisfaction n (%)							
Statements (cont.)	**SA**	**A**	**U**	**D**	**SD**	**Mean**	**SD**	**Comment**
Our Doctor be the same every visit.	88 (23.5)	118 (31.5)	38 (10.1)	91 (24.3)	40 (10.7)	3.33	1.35	medium
Home visiting from the doctor if possible.	73 (19.5)	122 (32.5)	52 (13.9)	67 (17.9)	61 (16.3)	3.21	1.37	medium
Patients have got good blood examination	113 (30.1)	230 (61.3)	20 (5.3)	8 (2.1)	4 (1.1)	4.17	0.71	high
Patients have got best drugs.	112 (29.9)	238 (63.5)	17 (4.5)	8 (2.1)	0 (0)	4.21	0.62	high
Our staffs are concurrently all time.	133 (35.5)	226 (60.3)	13 (3.5)	2 (0.5)	1 (0.3)	4.30	0.59	high
Our doctors treat patient with willingful.	139 (37.1)	202 (53.9)	33 (8.8)	1 (0.3)	0 (0)	4.28	0.62	high
Our doctors treat patient with courtesy.	134 (35.7)	194 (51.7)	43 (11.5)	4 (1.1)	0 (0)	4.22	0.69	high
Our Doctor do with high competent.	135 (36.0)	200 (53.3)	33 (8.8)	7 (1.9)	0 (0)	4.23	0.69	high

Table 4.7 Patient satisfaction level by questionnaire items the respondents N=375 , n and (percent) (cont.)

	Level of satisfaction n (%)							
Statements (cont.)	**SA**	**A**	**U**	**D**	**SD**	**Mean**	**SD**	**Comment**
Our Doctor do with punctuality.	106 (28.3)	145 (38.7)	75 (20.0)	43 (11.5)	6 (1.6)	3.81	1.06	high
Our Doctor inform patient well about the disease and treatment.	129 (34.4)	167 (44.5)	58 (15.5)	17 (4.5)	4 (1.1)	4.07	0.88	high

According to patient satisfaction percentage to overall of our the service, from all of the respondents , were ranged from 37 to 100 mean was 82.8 SD was 9.9

Table 4.8 Number of the respondents classified by percentage of satisfaction

Satisfaction to overall of our service	**Frequency**	**Percentage**
High (>,=80 %)	238	63.5
Low (<80%)	137	36.5

4.6 Association between study factors and patient satisfaction

Table 4.9 Association between factors with patient satisfaction

Associated factors	patient satisfaction				
	n	%high	%low	Crude OR(95% C.I.)	P value
Socio-demographic-medical characteristics	375				
Age (years)					
27-58	178	60.7	39.3	0.80 (0.52-1.21)	0.286
59-91	197	66.0	34.0	1	
Gender					
Male	126	68.3	31.7	1.37(0.87-2.16)	0.172
Female	249	61.0	39.0	1	
Distance from home to subdistrict health promoting hospital					
Far(=,>1km)	308	62.6	33.8	1.90(1.12-3.35)	0.018*
Near(<1km	67	50.7	49.3	1	
Marital status					
others	355	64.5	35.5	2.22(0.90-5.50)	0.085
single	20	45.0	55.0	1	
Educational level					
bachelor	7	57.1	42.9	0.82(0.36-1.86)	0.626
secondary	28	67.9	32.1	1.29(0.28-5.86)	0.742
primary	340	63.2	36.8	1	
Occupation					
others	47	74.5	25.5	1.80(0.90-3.59)	0.097
Agriculture	328	61.9	38.1	1	
Medical status					
Diabetic mellitus involved	249	65.9	34.1	1.36(0.87-2.11)	0.176
Hypertension only	126	58.7	41.3	1	
Characteristics of the services					
Waiting time to meet the medical doctor					
Low	141	81.6	18.4	3.99(2.43-6.56)	<.001*
High	234	52.6	47.4	1	

Table 4.9 Association between factors with patient satisfaction (cont.)

Associated factors	patient satisfaction				
	n	%high	%low	Crude OR(95% C.I.)	P value
Time spent with medical doctor					
Long	230	73.5	26.5	3.05(1.97-4.73)	<.001*
Short	145	47.6	52.4	1	
Total time spent for service					
Short	182	80.8	19.2	4.71(2.96-7.49)	<.001*
Long	193	47.2	52.8	1	
Enabling factors					
Health insurance scheme					
Non universal coverage	30	66.7	33.3	1.17(0.53-2.57)	0.705
Universal coverage	345	63.2	36.8	1	
Need factors					
Expectation to general service					
Low	176	64.2	35.8	1.06(0.70-1.62)	0.780
High	199	62.8	37.2	1	
Expectation to medical doctor service					
High	203	64.0	36.0	1.06(0.69-1.61)	0.802
Low	172	62.8	37.2	1	
Expectation to continue with same medical doctor					
High	278	68.3	31.7	2.20(1.38-3.53)	0.001 *
Low	97	49.5	50.5	1	

Distance from home to subdistrict health promoting hospital, waiting time to meet the medical doctor, time spent with medical doctor, total time spent for service and expectation to continue with same doctor are the significance factors in association between factors with patient satisfaction.

Table 4.10 Multiple logistic regression analysis for patient satisfaction

Associated factors	**Patient satisfaction**	
	Adjusted OR (95% CI)	**P value**
Socio-demographic-medical characteristics		
Age (year)		
27-58	1	
59-91	1.17(0.72-1.88)	0.530
Gender		
Female	1	
Male	1.49(0.88-2.50)	0.136
Marital status		
Single	1	
Others	2.67(0.99-7.21)	0.054
Distance from home to sub-district health promoting hospital		
Near <1km	1	
Far >,=1km	1.40(0.76-2.55)	0.278
Characteristics of the services		
Waiting time to meet the medical doctor		
High	1	
Low	1.30(0.57-2.95)	0.534
Time spent with medical doctor		
Short	1	
Long	2.72(1.69-4.40)	<.001*
Total time spent for service		
Long	1	
Short	3.60(1.69-7.67)	0.001*
Expectation to continue with same medical doctor		
Low	1	
high	1.77(1.05-2.98)	0.031*

Time spent with medical doctor, total time spent for service and expectation to continue with same doctor are the only significance factors in the final model of multiple logistic regression analysis.

CHAPTER V
DISCUSSION

5.1 General result

For the general objective 1.3.1, approximately near two-third of the patients (63.5%) from this study classified into high satisfaction. Comparably higher than to the nearly like service units at 52.0% in Lad Yao Hospital, Lad Yao District, Nakhonsawan Province, Thailand(58) and at 23.3% in Wangmamyen Community Hospital, Sakeao Province, Thailand.(35) The mean score of overall patient satisfaction of this study was ranged from 37 to 100 mean was 82.8 percent SD was 9.9 , Analyzed by items of the questionnaire of this study , the lowest mean score was 3.21 in satisfaction to “home visiting from the doctor if possible”. “Our staffs care patient with willingful” was the item that had the highest mean score of satisfaction at 4.43.

5.2 Socio-demographic factors

In this study, there was no significant relationship between patient satisfaction and socio-demographic factors (age, gender, marital status,education, occupation, type of NCDs), which place variable define as distance from Yasothon general hospital was significance different as follows.

1)Age

The result from the previous study, younger people be more easily disappointed(58, 65), and older age was higher satisfaction in which care was received. (66). But in this study was in the same way but the result was not reach the statistically significant difference.

2)Distance from home to the sub-district health promoting hospital

Place has affecting to accessibility and consequence to patient satisfaction (75) In this study, there was statistically significant relationship between distance from general hospital and patient satisfaction . Far group (equal and above 1 km from sub-district health promoting hospital) was about two times satisfied than the near group . Even though in final model of the multiple logistic regression this factor was not significant difference, if there is another study or larger sample size it might be reach statistically significant.

3)Gender

In this study, was alike to a previous study that female patients were found to be lower satisfied than males(76) . Male was more satisfied than female ,although it was not reach the statistically significant difference. But Alzolibani and colleages found the different that female patients were more easily to satisfied than male patients. (69)

4)Marital status

In this study, was differed from previous study .(71) Single group of patients were found to be more satisfied than another group about nearly two times ,although it was not reach the statistically significant difference.

5)Educational level

Although previous study showed lower level of education was associated with higher satisfaction (58, 69). But this study was not the same way the secondary level showed the high satisfaction ,although it was not reach the statistically significant difference.

6)Occupation

Nearly two times more satisfied was founded in agriculture group, although it was not reach the statistically significant difference.

7)Medical status

The group of diabetic mellitus involved showed more satisfied than the group of hypertension only , although it was not reach the statistically significant difference.

5.3 Characteristics of the services factors

5.3.1 Waiting time to meet the medical doctor

The lower group had more satisfied nearly four times compared with the higher group. But in the final model of multiple logistic regression was appeared not reach the statistically significant difference. So this factor was be a factor that not important to adapt service pattern of our clinics.

5.3.2 Time spent with medical doctor and total time spent for service

These factors were statistically significant relationship to patient satisfaction , the same way as the previous study. (58, 76)

In year 2007, Tangmankongworakoon T, Chompikul J, and Isaranurug S suggested for majority of comments from clients were based on inadequacy of staff and long waiting times.(58)

5.4 Enabling factors

Health insurance scheme

This factor was no statistically significant relationship to patient satisfaction, so it was not important factor enough to concern. This scenario might be from recent policy move in Thailand (the so-called 30 baht for all diseases) emerged in 2001. Inequality in health between rich and poor in Thailand was well documented, millions of informal workers and their families lacked health insurance, and the poor

paid more proportionately in income for health care. The universal coverage is conceived as one of the means to redress the situation.(91)

5.5 Need Factors

5.5.1 Expectation to general service

This factor was no statistically significant relationship to patient satisfaction.

5.5.2 Expectation to medical doctor service

This factor was no statistically significant relationship to patient satisfaction.

5.5.3 Expectation to continue with the same medical doctor

Around two times more satisfied was founded in higher expected group, and it was reach the statistically significant difference both crude odds ratio and adjusted odds ratio in final model of calculation. It implies this potent variable showed the interesting result.

5.6 Patient satisfaction

By item of patient satisfaction, “Our Doctor be the same every visit” mean score was 3.33. “Home visiting from the doctor if possible” mean score was 3.21. The two least mean score showed the weakening gap point for improving quality. The continuity of the same medical doctor might be a key locked joint to communities participation and push knowledge and self-efficacy to empowerment to NCDs patients. (18)

“Our staffs care patient with willingful” was the item that had the highest mean score of satisfaction at 4.43. This would be continue pushing to collaborative teamwork to do hard work in the future.

CHAPTER VI
CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

In relation to incoming NCDs in Thailand, patient satisfaction of our satellite NCDs clinics service at amphur Muang Yasothon was analyzed. The overall patient satisfaction of this study was 63.5 percent, classified in high level of satisfaction. The significant associated factors were distance from home to the sub-district health promoting hospital , waiting time to meet the medical doctor, time spent with medical doctor and total time spent for service and expectation to continue with same medical doctor .

6.1.1 Socio-demographic factors

In the strong relation between distance from home to the sub-district health promoting hospital, the statistically significance confirm our service providing of the satellite NCDs clinics. The policy should continue to this strategy of satellite NCD clinics to primary level of health care system.

6.1.2 Characteristics of the services factors

According to three factors, waiting time to meet the medical doctor, time spent with medical doctor and total time spent for service, the statistically significance pointing our weakening of our service character of our satellite NCDs clinics. We should change the time spent with medical doctor to be more and reduce total time use for service, finally the patient satisfaction would be improved.

6.1.3 Expectation to continue with the same medical doctor

According to this factor of the need to continuity of the same doctor, the statistically significance pointing our strengthening aspect of our service character. Our satellite NCDs clinics should go on with continuation medical doctor to be more

than usual, finally the patient satisfaction would be sustain. This useful result should widely distributed and should be confirmed at another area.

6.2 Recommendations

6.2.1 Recommendation for the policy maker

The result of this study showed the need of improvement of the service of the satellite NCDs clinics at health promoting hospital such as

- Increasing the time spent with medical doctor ,
- There should be medical doctor of each satellite NCDs clinics,
- reduce total time use for service

6.2.2 Recommendation for further research

For future research, this useful result should widely distributed and should be confirmed at another area.

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APPENDICES

APPENDIX A
QUESTIONNAIRES

PATIENT SATISFACTION TOWARDS
SATELLITE DIABETIC MELLITUS AND HYPERTENSION CLINICS
AT HEALTH PROMOTING HOSPITALS
IN AMPHUR MUANG YASOTHON
YASOTHON PROVINCE, THAILAND

The questionnaire is prepared for collecting data to achieve better understanding about patient satisfaction of satellite NCDs clinics in amphur Mueang Yasothon , Yasothon province in Thailand.

You are invited to participate in this research project as you are patient who engaged our care service. Please listen and make sure all questions are answered. All information will be kept confidential and use for research purpose only. Your data will be destroyed after the completion of the research. This project was approved by the ethic committee of Mahidol University.

After completing the questionnaire, please kindly submit to research assistants. Thank you very much for your cooperation.

Name of the researcher: Wittaya Wattanaruangkowit
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Name of PUC:_____

No. ……..

Tel……

Date…….

Name of interviewer. ……..

Part1: Socio-Demographic factors

1. Age:_____ years old.
2. Gender: □1. Male □2. Female
3. Marital Status:

   □1.Single □2.Married □3.Divorced □4.Widow □5.Separated

4. Highest education attainment

   □1. Primary school □2. Secondary school □3. Vocational

   □4. Bachelor □5. Other (specify) _____

5. What is your main occupation?

   □1. Farmer □2. Retail trader □3. Civil servant □4. Employee (specify) _____ □5. Other (specify) _____ □6. None

6. Distance from your home to this PCU……..kms.
7. Distance from your home to Yasothon general hospital ……..kms.
8. How long have you been the NCDs disease …….. years.
9. If you are DM patient ,the last of your Hb A1c is ….. mg percent.
10. Now you are

    □1. DM only □2. HT only

    □3. Both DM and HT □4. Other(specify) …….

Part2: Characteristics of service and Health insurance scheme

Waiting time

11. Time from starting to reach medical doctor ……..mins

12. Duration you have use with medical doctor……..mins

13. Time from starting to end of service (after received drugs) ……..mins

Health insurance scheme

14. Health insurance scheme of yours

□1. SSS Social security scheme □2. UC (Universal coverage)

□3. Civil service CSBMS □4. Private sector □5. Other (specify)…

Part3: Patient expectation

Please read each statement fill in (/) the most reflects your opinion

(SA= Strongly agree, A= Agree , **U**= Undecided, , D= Disagree, SD= Strongly disagree)

Expectation to general service 12 items

statement	S	A	U	D	SD
The provided place is good.					
Our staffs are concurrently.					
Our drugs are concurrently.					
Our instruments are concurrently.					
Our staffs do regularly empathized.					
Our staffs do flexibility.					
Our staffs do willingness to help.					
Our staffs do well in responsibility.					
Our staffs care patients well in equity.					
Our staffs attend you simultaneously.					
Our blood and laboratory are good quality.					
Our drugs are good quality.					

Patient expectation(cont.)

Expectation to medical doctor service 7 items

statement	SA	A	U	D	SD
Our doctors are concurrently					
Our Doctor do work with a willingness.					
Our Doctor do work with cortesy.					
Our Doctor do with high competent.					
Our Doctor do with punctuality.					
Our Doctor inform patient well about the disease and treatment.					
Home visiting from the doctor if possible.					

Expectation to doctor continuity 1 item

statement	SA	A	U	D	SD
Wish to be treated by the same doctor in every visit					

Part4: Patient satisfaction

Please read each statement fill in (/) the most reflects your opinion

(SA= Strongly agree, A= Agree , **U**= Undecided, , D= Disagree, SD= Strongly disagree)

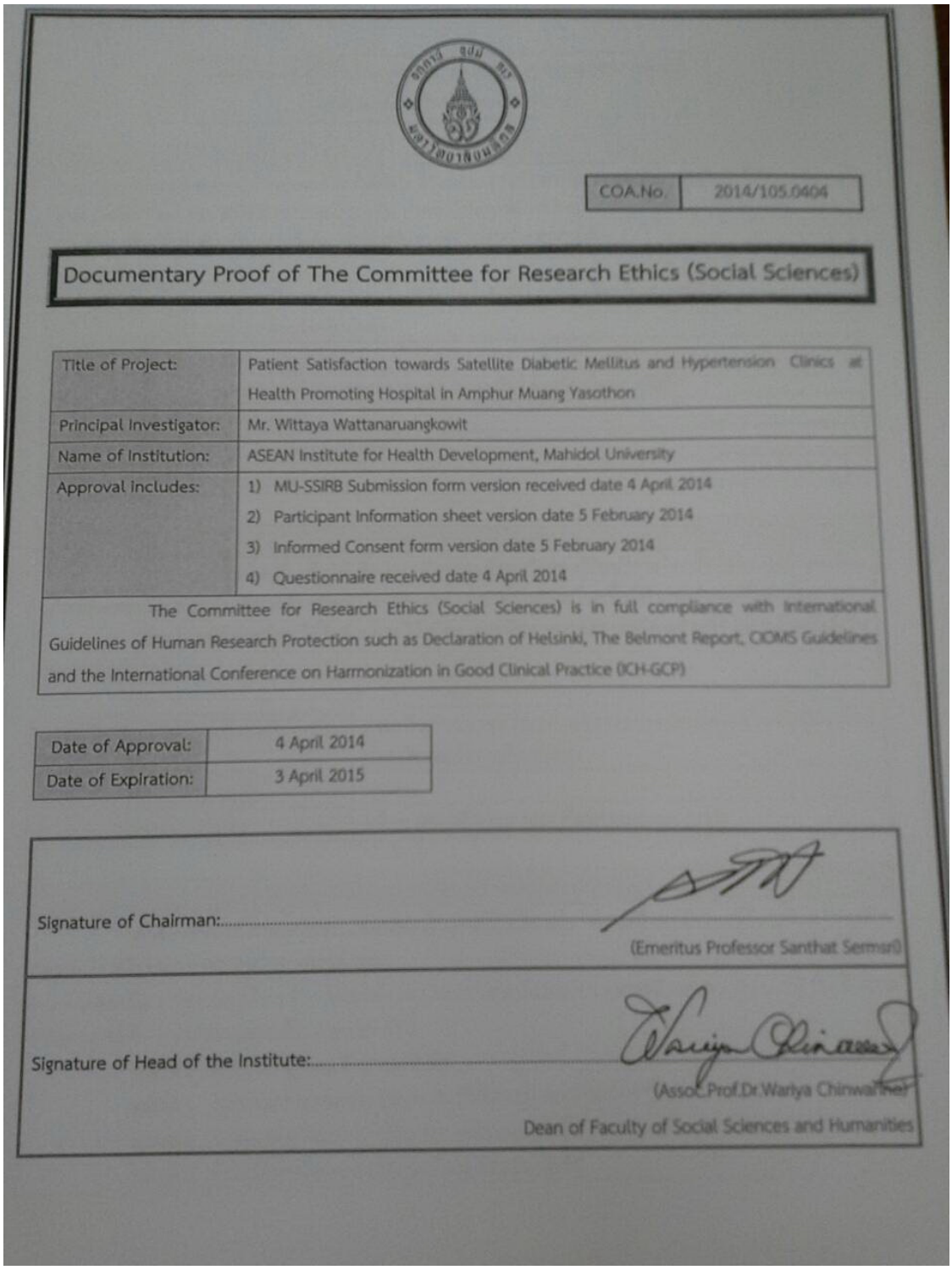
Patient satisfaction 20 items

statement	SA	A	U	D	SD
The place we provided for service is good.					
Our staffs are concurrently.					
Our Doctor are concurrently.					
Our Drugs are appropriate.					
Our instruments are appropriate.					
Our staffs care patient regulary with willingful.					
Our staffs care patient with flexibility.					
Our staffs care patient with willingful.					
Our staffs respond simultaneously.					
Our staffs care patients with equity.					
Home visiting from the doctor if possible.					
Our Doctor be the same every visit.					
Patients have got good blood examination					

Patient satisfaction (cont.)

statement	SA	A	U	D	SD
Patients have got best drugs.					
Our staffs are concurrently all time.					
Our doctors treat patient with willingful.					
Our doctors treat patient with courtesy.					
Our Doctor do with high competent.					
Our Doctor do with punctuality.					
Our Doctor inform patient well about the disease and treatment.					

APPENDIX B



COA.No. 2014/105.0404

Documentary Proof of The Committee for Research Ethics (Social Sciences)

Title of Project:	Patient Satisfaction towards Satellite Diabetic Mellitus and Hypertension Clinics at Health Promoting Hospital in Amphur Muang Yasothon
Principal Investigator:	Mr. Wittaya Wattanaruangkowit
Name of Institution:	ASEAN Institute for Health Development, Mahidol University
Approval Includes:	1) MU-SSIRB Submission form version received date 4 April 2014 2) Participant Information sheet version date 5 February 2014 3) Informed Consent form version date 5 February 2014 4) Questionnaire received date 4 April 2014

The Committee for Research Ethics (Social Sciences) is in full compliance with International Guidelines of Human Research Protection such as Declaration of Helsinki, The Belmont Report, CIOMS Guidelines and the International Conference on Harmonization in Good Clinical Practice (ICH-GCP)

Date of Approval:	4 April 2014
Date of Expiration:	3 April 2015

Signature of Chairman:.....
(Emeritus Professor Santhat Sermsri)

Signature of Head of the Institute:.....
(Assoc.Prof.Dr.Wariya Chinwaniyo)
Dean of Faculty of Social Sciences and Humanities

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