PERCEPTION OF NURSES AND PHYSICIANS TOWARDS BARRIERS TO NURSE-PHYSICIAN COMMUNICATION AND ITS IMPACT ON PATIENTS' OUTCOMES AT HAWASSA REFERRAL AND TEACHING HOSPITAL, SNNPRS, ETHIOPIA

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List of Abbreviations

AAU: Addis Ababa University

CCU: Cardiac Care Unit

GP: General Practitioner

ICU: Intensive Care Unit

ISMP: Institute for Safe Medication Practice

LTC: Long-term Care

NPs: Nurse Practitioners

SNNPRS: Southern Nations, Nationalities and Peoples Regional State

SPSS: Statistical Program for Social Sciences

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Abstract

Background: Effective communication between nurses and physicians is essential in providing safe and effective care. Even if high-quality patient care is the goal of medicine and nursing, patients are dying and experiencing preventable complications because of poor nurse physician relationship.

Objectives: The main objective of this study was to assess perception of nurses & physicians towards barriers to nurse-physician communication and its impact on patients' outcome at Hawassa referral and teaching hospital.

Methodology: An institution based cross sectional study was carried out. All nurses and physicians who were working at Hawassa referral and teaching hospital during the data collection time and willing to participate in the study were participated in the study. Data was collected using a self administered questionnaire while data analysis was done using SPSS version 15. To explain the study population in relation to relevant variables, frequencies, and percents were calculated. Pearson correlation tests were run to test degree and direction of relationship between factors that affect nurse-physician communication and patient outcomes. Ethical approval and clearances were obtained from department of nursing and midwifery institutional review board, College of Health Sciences, Addis Ababa University.

Results: All identified factors have been found to have effect on nurse-physician communication with different degrees of impact. The three leading factors with priority of effect as perceived by nurses were unfavorable management decision perceived by 88 (77.2%) nurses, information gap as perceived by 83 (72.8%) and uncooperativeness at work perceived by 83(72.8%) nurses where as poor

interpersonal communication skill perceived by 31(86.1%), information gap perceived by 29 (80.6%) physicians, and poor attitude to work perceived 28(77.8%) were priority for physicians. 98% of the total respondents; 111 (97.4%) nurses and all 36 (100.0%) physicians perceive that effective nurse-physician communication can improve patient care quality. In addition, 140 (93.3%) respondents; 104 (91.2%) nurses and all physicians (100.0%) perceive that effective nurse physician communication can reduce patient length of stay and 143 (95.3%) respondents; 109(95.6%) nurse and 34 (94.4%) physicians perceive that effective nurse-physician communication can increase patient satisfaction. Pearson correlations testes revealed that there is an inverse relationship between factors affecting nurse-physician communication and patient outcomes. Large proportion of nurses 44(38.6%) expressed their overall perception as “poor”; whereas the majority of physicians 16 (44.4%) expressed their overall perception as “good”.

Conclusion: The study showed that all identified factors have been found to have effect on nurse-physician communication with different degrees of impact. Both nurses and physicians have perceived that effective nurse-physician communication have positive impact on patient outcomes. Negative correlations were existed between factors affecting nurse physician communication and patient outcomes. Nurses were not satisfied with their relation with physicians where as physicians were relatively satisfied with their relation with nurses. Interventions suggested by nurses and physicians to improve nurse-physician communication include respect for other & others’ profession, trainings on interpersonal & professional communication, accountability and responsibility for ones professional duties and others.

Key words:

Barriers, Nurse-physician communication, Patient outcomes, Perception

1. INTRODUCTION

1.1. Background and Statement of the Problem

Health care practice depends to a substantial degree on a good relationship among professionals including nurses and physicians. Smooth working relationships between nurses and physicians are necessary for efficient health care delivery but it has often been seen as problematic and little is known about the intrinsic nature of such relationships(1). Previous studies have shown that smooth relationship is often absent and resulted in negative impact on the quality of health care delivery(2).

In today's complex healthcare organizations, conflicts between physicians and nurses occur daily putting the patient at risk(3). Even though nurses regularly receive and offered expert advice about patient care, they were expected to defer to physicians. By engaging in this characteristic behavior, nurses and physicians prevented open conflict but they also avoided direct communication with each other which contribute to high morbidity and mortality of patients(3). One American research association survey reported that communication failures among nurses and physicians caused 75% of patient's death(4). Negative physician-nurse relationship continues to be one of the sources for increased dissatisfaction amongst physicians, nurses and patients and hampers retention (5).

Effective communication between nurses and physicians is essential in providing safe and effective care, as poor communication represents a major etiology of preventable adverse events in hospitals. A Joint Commission study of 3548 sentinel events reported from 1995 to 2005 indicated communication

failures were the root causes for two-thirds of preventable adverse events in health care settings. Even if high-quality patient care is the goal of medicine and nursing, patients are dying and experiencing preventable complications because of poor nurse physician relationship(6). It was also found that communication failures of one kind or another contributed to 91% of the medical mishaps reported by residents(7).

High-quality nurse-physician relationships were 1 of the 3 cornerstones of excellent (magnetic) work environments. Quality of nurse-physician relationships is more of a concern to nurses than to physicians. Physicians consistently rate the quality of their relationships with nurses higher than do nurses(8). Nurse-physician collaboration is a key factor in nurse job satisfaction, retention, and job evaluation(9). A 2007 study of the nurse practitioners (NP) role in pain management in long-term care (LTC) homes found that poor collaboration between physicians and NPs was a barrier to effective pain management(10).

Effective communication is particularly important in health institutions where most activities are team-performed. It was identified that, effective working relationships between nurses and physicians are key to creating a productive, safe, and satisfying care environment. The patient and the patient's family benefit from care delivered by a team practicing within this environment (6).

Collaboration between nurses and physicians is linked to positive outcomes for patients, especially in the inpatient care unit, where patient stay longer away from their home and depend on care and guidance of the health professionals.

However, effective collaboration poses challenges because of traditional barriers such as sex and class differences, hierarchical organizational structures in healthcare, and physicians' belief that they are the final arbiter of clinical decisions(6). Hospitals with good inter-professional relations have high retention rates, show supportive management, professional autonomy, and improved quality of patient care, specifically reduced medication errors, reduced risk of inpatient mortality, improved patient satisfaction, and some support for efficiency measures such as shorter hospital length of stay(11).

Poor collaboration and communication between healthcare professionals have a negative impact on the provision of healthcare and on patient outcomes. The consequences reach far beyond stress and frustration levels experienced by professionals; they can result in adverse events such as medication errors and failure to rescue(12).

To improve quality of patient care and increase the satisfaction and retention of nurses and physicians there is a need to investigate the challenges of nurse-physician collaboration and communication as well as assessing its impact on quality of care delivered. In Ethiopia, investigations regarding this are scarce.

Therefore, the purpose of this study is to identify perception of nurses and physicians towards barriers to nurse-physician communication and assess its impact on patients' outcome.

1.2. Significance of the Study

This study will provide baseline information about factors affecting nurse-physician communication. It will also be a significant venture in promoting effective relationship between the health care team and thereby delivery better and more efficient health care which minimize mortality, morbidity and long hospital stay, while contributing to country's economic development.

The results of this study will help health care institutions to recognize factors that affect nurse-physician relationship and hence benefit them to win market of health care delivery when improving these factors for the reason patients choose hospitals that deliver higher quality care.

Moreover, this study will contribute to better understanding of the impact of the factors that affect nurse-physician communication on quality of patient care delivered as well as nurses' feeling of satisfaction with the professional duties. In this study information will be generated on the impact of health care team communication effectiveness on the quality of care patients receive and hence help health institutions to identify and act on areas where gaps are identified in communication between health care professionals and improve their care's quality which in turn attract clients to their institutions as well as increase retention of health care professionals within their institution both of which are contributing to minimization of const while delivering effective health care services.

2. LITERATURE REVIEW

Communication is the process of transmitting thoughts, feelings, facts, and other information, and includes verbal and nonverbal behavior. It is described as every aspect of behavior and, therefore, more than simply transmitting or imparting facts. Communication is the fundamental element of the nurse-client, nurse-physician, and nurse-other health care team relationship, client teaching, case management, staff development, and all the activities performed by nurses. There are five major components of communication process namely sender, message, channel, receiver, and feedback(13).

Communication barriers present real challenges to the nurse in caring process. A number of factors are found to be barriers of communication including language differences, cultural differences, gender, developmental level, knowledge differences, emotional distance, and health status(13)

The nurse-physician relationship has traditionally been a man–woman relationship (14). Gender related power issues still create problems, especially for female nurses in their working relationships with both male and female physicians. Some physicians, especially older ones, tend to see themselves as being in complete control, with nurses serving as subordinates present to do their command (15). Nurses report that male physicians continue to exercise control over the largely female nurse group. In this traditional model, being male physician automatically confers superior power(16).

There is evidence that communication and collaboration are central elements of good nurse-physician relationships. Boyle and Kochinda define collaboration as “nurses and physicians working together cooperatively to

achieve shared problem solving, conflict resolution, decision making, communication and coordination". The growing body of literature suggests nurses and physicians have different perceptions of collaborative interactions, which hinders future efforts to investigate their significance. This is backed up by an exploratory study carried out by Larson into nurse–physician relationships. Results from questionnaires and interviews showed that while nurses and physicians share a similar opinion of the importance of communication within the hospital, they have different views on their respective group's contributions to the process. Nurses perceived that they gave information to physicians more often than they received it, they made suggestions as often as physicians, and they provided information to physicians regarding nursing care as often as physicians provided information regarding medical care. Statistically the physicians did not agree with the nurses' perceptions(17).

In healthcare, effective communication involves arriving at a shared understanding of a situation and in some instances a shared course of action. This requires a wide range of generic communication skills, from negotiation and listening, to goal setting and assertiveness, and being able to apply these generic skills in a variety of contexts and situations. Effective communication also requires individuals and teams having access to adequate and timely information necessary to perform their role effectively and appropriately. The use of technical terms and jargon, acronyms and abbreviations and diagrams to communicate can influence how well information is shared and therefore the effectiveness of communication. To facilitate improvements in the exchange

of information between healthcare professionals, and information should be complete, concise, concrete, clear and accurate(18).

Breakdowns in communication in healthcare are reported to occur due to human factors; attitudes, behaviors, morale, memory failures, stress and fatigue of staff; Distractions and interruptions; Shift changes; Gender, social and cultural differences. Hierarchy or power distance relationships (for example, junior staff are reluctant to report or question senior staff); Difference in training of doctors, nurses and paraprofessionals; Time pressures and workload; Limited ability to multitask even when highly skilled; Lack of a shared mental model regarding what is to be achieved; Lack of organization policies and / or protocols; Organizational culture that discourages open communication; and Lack of defined roles and responsibilities among members of multidisciplinary teams(18).

Barriers to nurse-physician collaboration exist in a variety of different healthcare settings. The barriers are reported to occur due to: role misunderstanding; real and perceived differentials in power, position and respect; and varying perceptions of decision-making input and autonomy. Patients are also becoming more knowledgeable about their conditions and possible treatments, which has led to requests for more information from the healthcare professionals treating them. This greater involvement of consumers in their healthcare decisions demands increased inter-disciplinary communication in order to provide the necessary information(17).

Because communication is difficult to measure or quantify it is hard to single out as a specific contributory factor in health outcomes. Rather,

communication is more often noticed by its failure or absence. Not surprisingly, these absences, failures and possible remedies are the focus of the majority of what has been written about communication in nursing and related professions. It is known that in the workplace and in many professional relationships the use of language is important(19).

Relationships between nurses and physicians are important to study because how well nurses and physicians work together affects the quality of care that patients receive. In a study of all intensive care units (ICUs) in 13 large hospitals, reports showed that ICU patients cared for by nurses and physicians who worked collaboratively had lower “acuity adjusted” mortality rates than did patients cared for by less collaborative nurses and physicians. Fewer deaths and transfers back to the ICU are positive outcomes for patients that have been cited in other studies. Collaborative nurse-physician relationships also lead to better patient and organizational outcomes such as decreased length of stay and net reduction in treatment costs without reduction in functional levels or decrease in satisfaction among patients. In addition to patient outcomes, high-quality nurse-physician relations result in increased satisfaction among nurses and physicians and increased autonomy for nurses(8).

Nurse-physician collaboration is a key factor in nurse job satisfaction, retention, and job valuation. Decreased risk adjusted mortality and length of stay, fewer negative patient outcomes, and enhanced patient satisfaction have also been associated with better nurse-physician collaboration(9).

Findings of several other studies have suggested a relationship between workplace stress and nurses' morale, job satisfaction, commitment to the organization, and intention to quit(20). In his 1999 key note address to the annual meeting of the American Surgical Association, Lazar Greenfield discussed the troubled relationship between nurses and physicians, commenting on physicians‟ contributions to stressful work environments for nurses and their role as a major source of conflict. He asserted that as many as two-thirds of nurses say they've been abused by physicians at least once every two to three months, and these claims are supported by the nursing literature(20). Communication and collaboration between nursing and medicine can have a profound effect on workplace environment and patient care(17).

Another consideration is the difference in how nurses and physicians approach patient care. Nurses are educated to see the broader health care picture; they tend to focus on holistic issues and the more human aspects of care(21). Physicians have been educated to focus on "the case"; they're concerned more with strategies for medical cure or management and may not focus on emotional issues, discharge planning, social and cultural concerns, and helping patients live with their disease and treatment. Most physicians wish to avoid dealing with intense emotional states in their patients. Nurses report that physicians don't spend enough time discussing care options with patients and families. Many nurses still feel that physicians don't understand, respect, or care to listen to nursing perspectives on patient care(22).

Staff interaction and coordination are critical factors in preventing mortality. Unwanted or ineffective care can occur when the goals of care are not expressed effectively, increasing costs and the likelihood of medical errors. Communication among different members of health care team is essential because the entire team must clearly understand the daily goals of care. In one study when a physician and a clinical nurse specialist were assigned specifically to communication with patients' families, communication improved and goals of care were more likely to be achieved(21).

Traditionally, collaboration between nurses and physicians has meant interpersonal interaction. Collaboration "implies collective action toward a common goal in the spirit of trust and harmony."

In the context of healthcare, collaboration is understood as the way in which physicians and nurses interact with each other in relation to clinical decision making. Collaboration involves direct and open communication, respect for different perspectives, and mutual responsibility for problem solving(23).

In a recent review of the literature, San Martin- Rodriguez and others concluded that the interactional determinants of collaboration, which include interpersonal trust, respect, and open communication, have received the most attention. These authors asserted that interactional factors alone are not sufficient for a thorough understanding of collaboration. They claimed that other determinants, such as organizational structures and philosophy, including leadership and administrative support, and systemic factors such as professional power, culture, and socialization, have received less attention but also are necessary for successful collaboration. Other factors addressed in the

nursing literature focus on gender and social class as the basis of medical dominance(23).

A potential barrier to effective communication is discrepant views about teamwork among disciplines involved in patient care. A study of physicians and nurses in intensive care units found that whereas the majority of physicians gave high ratings to the quality of collaboration with nurses, the majority of nurses rated collaboration with physicians as poor. A similar study of surgeons, anesthesiologists and nurses found discrepant views about teamwork in operating rooms. Thus, whereas physicians may perceive teamwork and collaboration as adequate, nurses consistently are not so sanguine(7).

According to interviews with 20,000 nurses in USA, Nurses in Magnet hospitals (The hospitals maintained well qualified nurse executives in a decentralized environment) had a high level of collegial/collaborative (86%) compared with high collegial/collaborative (64%) and neutral (63%) relations in non-Magnet hospitals(8). At Magnet hospitals, about half as many nurses experienced hostile relationships as their peers did at other hospitals. And nurses working on specialized units, especially critical care, have better relationships with physicians than do nurses on other units. Keys to improving interactions include a conflict resolution policy with no tolerance for abuse; interactive, interdisciplinary patient rounds; and competent, self-confident nurses.

A review of reports from the Joint Commission reveals that communication failures were implicated at the root of over 70 percent of sentinel events(7).

When asked to select contributing factors to patient care errors, nurses cited communication issues with physicians as one of the two most highly contributing factors, according to the National Council of State Boards of Nursing reports. In a study of 2000 health care professionals, the Institute for Safe Medication Practices (ISMP) found intimidation as a root cause of medication error; half the respondents reported feeling pressured into giving a medication, for which they had questioned the safety but felt intimidated and unable to effectively communicate their concerns(24).

Examining the outcomes of communication, other researchers have found associations between better nurse-physician communication and collaboration and more positive patient outcomes, i.e., lower mortality, higher satisfaction, and lower readmission rates(24). In another research on nurse-physician communication during labor and birth, Kathleen Rice Simpson and others identified that nurses and physicians shared the common goal of a healthy mother and baby but did not always agree on methods to achieve that goal(25).

In a study conducted by Jenifer Tijia, Kathleen M. Mazor & others, combination of nurse and physician behaviors are identified as contributing to ineffective communication in the long term care (LTC) setting which have important implications for patient safety and support the development of structured communication interventions to improve quality of nurse-physician communication. Nurses identified several barriers to effective nurse-physician communication: lack of physician openness to communication, logistic challenges, lack of professionalism, and language barriers. Feeling hurried by

the physician was the most frequent barrier (28%), followed by finding a quiet place to call (25%) and difficulty reaching the physician (21%)(26).

The nursing health service research unit of Toronto University, Faculty of Nursing and McMaster University, School of Nursing has listed a variety of positive outcomes for patients, nurses, physicians, and healthcare organizations in association with inter-disciplinary collaboration.

Those outcomes include patient outcomes (improved satisfaction, improved care or outcomes, decreased risk-adjusted length of stay, and reduced medication errors); nursing outcomes (improved job satisfaction, decreased job associated stress, lower nurse turnover rates, improved communication amongst caregivers, and improved efficiency); physician outcomes (improved job satisfaction, improved communication amongst caregivers, decreased job associated stress, improved understanding of the nursing role, and improved efficiency); and organizational outcomes (decreased costs and improved efficiency of healthcare workers). Positive nurse-physician relationships set the standard for healthy workplaces within healthcare organizations and facilitate the attainment of these favorable outcomes(17, 27).

Despite all these positive outcomes related to effective nurse-physician collaboration and communication Barriers to nurse-physician collaboration still exist in a variety of different healthcare settings. The barriers are reported to occur due to: role misunderstanding; real and perceived differentials in power; position and respect; and varying perceptions of decision-making input and autonomy. Successful collaboration fosters quality, satisfaction, and enhanced productivity for those who provide and those who receive

healthcare. As a result, collaboration has the potential to significantly impact on healthcare organizations(17).

Studies indicated that research based findings can improve communication and collaboration between nurses and physicians and so far contributing to patient outcomes. Cardiac Care Unit (CCU) at St Joseph Health Center in Kansas City, Missouri under took a project to provide great service within a healing environment for patients, families, co-workers, physicians and intra-department staff which later come up with finding like increased patient satisfaction from 82% to 95%; appreciative letters from families and patients about the team work; peoples on other departments commented on the improved customer service of CCU; senior leadership sent flowers and cards to nurses thanking them for their work and effort on this endeavor and others(28).

Interventions to optimize nurse-physician collaboration reported in the literature include training workshops in collaboration and communication skills, joint interdisciplinary staff meetings, case scenarios, co-ordination of care, and patient centered care efforts. Interventions directed towards establishing professional practice environments are also linked to nurse-physician collaboration. Attributes of a professional practice environment include evidence-based practice, clinical competency, and systems and processes that facilitate practice and professional development. Matthews and Lankshear identified sixteen “essential elements of a professional practice environment”. These include formal communication lines that promote the involvement of all stakeholders in decision-making, structures and roles that

reflect the inter-professional nature of the staff, collaborative practice principles and strong physician linkages. The authors share strategies reported as having been successful in strengthening these elements. These include implementation of the principles of shared governance and continuous quality improvement, and the identification and articulation of expectations, systems, and processes that support consultation and collaboration. Ultimately, interventions that enhance nurse-physician relationships promote a quality work environment—one which positively influences nurses' job satisfaction, promotes retention of the nursing workforce and recruitment of new graduates, and decreases healthcare costs(17).

Therefore, addressing the issue of factors affecting nurse –physician relationship as well as its impact on patient outcome through research, education, and development of corrective action may help in retaining medical and nursing staff members, decrease negative patient care outcomes, minimize practice error, and control costs for an organization.

Conceptual frame Work: King's interacting systems framework and theory of goal attainment

Imogene King developed a conceptual model for nursing in the mid 1960's with the idea that human beings are open systems interacting with the environment. King's conceptual framework includes three interacting systems with each system having its own distinct group of concepts and characteristics. These systems include personal systems, interpersonal systems, and social systems. The three systems that constitute King's conceptual framework provided the basis for the development of her Theory of Goal Attainment.

The personal system that King speaks of refers to the individual. The concepts within the personal system are perception, self, body image, growth and development, time, and space. King summarized the connections among the concepts in the following statement: "An individual's perceptions of self, of body image, of time and space influence the way he or she responds to persons, objects, and events in his or her life. As individuals grow and develop through the life span, experiences with changes in structure and function of their bodies over time influence their perceptions of self".

Interpersonal systems involve individuals interacting with one another. King refers to two individuals interacting as dyads, three individuals as triads, and four or more individuals as small or large groups. The concepts associated with interpersonal systems are *interaction*, transaction, *communication*, role and stress. The interactions and transactions that occur between the nurse and the physicians represent an example of an interpersonal system.

The third and final interacting system in King's model is the social system. Social systems are groups of people within a community or society that share common goals, interests, and values. Social systems provide a framework for social interaction and relationships, and establish rules of behavior and courses of action. Examples of social systems include the family, the school, and the church. The concepts that King identified as relating to social systems are organization, authority, *power*, *status*, and *decision-making*. The relationships between these three systems led to King's Theory of Goal Attainment. King stated, "Although personal systems and social systems influence quality of care, the major elements in a theory of goal attainment are discovered in the interpersonal systems in which two people, who are usually strangers, come together in a health care organization to help and to be helped to maintain a state of health that permits functioning in roles". King used ten major concepts from the personal and interpersonal systems to support the Theory of Goal Attainment. Those concepts include human interactions, perception, communication, role, stress, time, space, growth and development, and transactions. After careful analysis of King's Conceptual Framework and Theory of Goal Attainment, it is evident that this model can be implemented in assessment of communication between nurses and physicians(29).

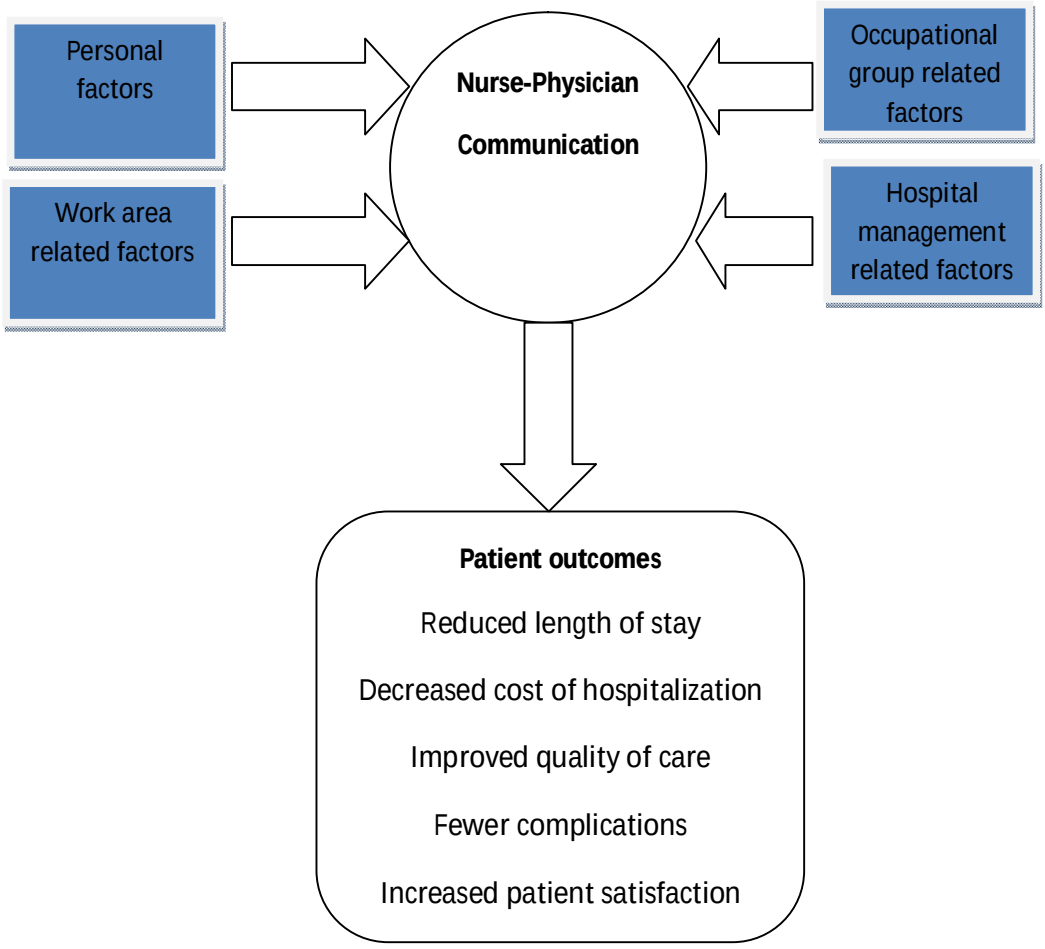

Figure 1: Conceptual frame work: Adapted from King's open system framework and theory of goal attainment.

3. OBJECTIVES OF THE STUDY

3.1. General objective

The main objective of this study is to assess perception of nurses & physicians towards barriers to nurse-physician communication and their impact on patients' outcome at Hawassa referral and teaching hospital.

3.2. Specific Objectives

To identify barriers to nurse-physician communication as perceived by nurses and physicians.

To assess the impact of barriers to nurse-physician communication on patients' outcome as perceived by nurses and physicians.

To identify factors that can improve nurse-physician communication as perceived by nurses and physicians.

4. METHODOLOGY

4.1 Study design

An institution based cross sectional study was conducted to describe perception of nurses and physicians towards barriers to nurse-physician communication and its impact on patients' outcome at Hawassa referral and teaching hospital.

4.2 Study area & period

The study was conducted in Hawassa referral and teaching hospital located in Hawassa which is 275km south of the capital city of Ethiopia, Addis Ababa, between the months of January 2011 and April 2011. Currently Hawassa referral and teaching hospital is running its activities with a total of 57 physicians consisting of 7 internists, 3 surgeons, 6 gynecologists, 3 ophthalmologists, 3 pediatricians, 28 general practitioners and others, and 136 nurses of which 19 are BSc, 98 diploma clinical nurses, 13 midwifes, 4 ophthalmic nurses and 2 psychiatry nurses.

The reason why Hawassa referral and teaching hospital is selected is that, this hospital is the highest level referral hospitals in Southern Nations Nationalities and People's Regional State (SNNPRS) which gives health care for patients from most parts of Southern Ethiopia. Since large number of Ethiopian population is served by this hospital it is appropriate to apply this study in order information from this study can be utilized to improve quality of service delivered to citizens visiting this public hospital.

4.3 Source population

The source population for this study was nurses and physicians who are working in Hawassa referral and teaching hospital during the study period.

4.3.1 Inclusion criteria

Nurses who are working in Hawassa referral and teaching hospital during the study period, working with physicians in patients care, and willing to participate in the study.

Physicians who are working in Hawassa referral and teaching hospital during the study period, working with nurses in patients care, and willing to participate in the study.

4.3.2 Exclusion criteria

Intern nurses and physicians were not included in the study.

4.4 Study population

The study population for this study was all nurses & physicians working in Hawassa referral and teaching hospital at the time of data collection and met the inclusion criteria.

4.5. Sample Size

All nurses and physicians working in the teaching hospitals and who fulfill the criteria were participated having a total number of 150.

4.6 Sampling procedures

Purposive sampling procedure was employed. All nurses and physicians at the institution who were fulfilling the inclusion criteria and willing to participate in the study were included.

4.7 Data collection procedures

The data was collected by 3 BSc holders who graduated in non-health related fields. The data for the study was collected using structured *self administered* questionnaire prepared to address perceptions of factors that affect nurse-physician communication and impact on patient care. The questionnaires were administered to all volunteer nurses and physicians who fulfill the inclusion criteria while they were at their workplaces (Hawassa referral and teaching hospital). The nurses and physicians were contacted by the assigned trained data collectors. Moreover non respondents were revisited at least two times or more depending on the time condition. The respondents were encouraged to answer the questions within the time they devoted as much as possible.

4.8 Data collection tools

To assess nurses & physicians characteristics the data collection instrument was prepared in English because the participants were nurses holding at least diploma and physicians. The questionnaires were pre-tested to check whether the questions are simple, clear and easily understandable. To assess nurses and physicians characteristics questionnaires were used to obtain demographic information relevant to the study. Participants were asked to provide information with regard to their age, gender (not asked, checked [observed]), marital status, educational level, title of work, area of work and years of service employed.

To asses perceptions of factors affecting nurse-physician communication standardized questionnaires were adopted from studies and categorized into personal factors, work activity factors, occupational group and hospital

management factors. Respondents were provided with options of "strongly agree" scored as 5; "agree" scored as 4; "undecided" scored as 3; "disagree" scored as 2 and "strongly disagree" scored as 1 on a five point Likert scale. Responses above median value were collapsed into binomial variables of factor "agree" and those responses at median or below were collapsed into a factor “disagree".

To assess perceptions of impact of ineffective nurse-physician communication on patient outcome questionnaires were prepared to which the respondents were responded dichotomously (saying Yes, No) followed by description of their perception based on their response.

And finally to assess overall perception of nurses and physicians toward nurse-physician communication one standard question was prepared with options of “excellent” scored as 5; “very good” scored as 4, and “good” scored as 3, “satisfactory” scored as 2 and “poor” scored as 1 on Likert scale. To identify what factors can improve nurse-physician communication, spaces were also provided for respondents to write their suggestions.

4.9 Study variables

4.9.1 Dependent variable

Perception of nurses and physicians towards barriers to nurse-physician communication and its impact on patients’ outcome

4.9.2 Independent variables

Factors that affect nurse-physician communication (personal factors, work activity factors, occupational group and hospital management factors)

Nurses & physicians characteristics (age, sex, marital-status, educational level, title of work, area of work and work experience)

4.10 Operational definitions

Barriers: things and conditions that hinder the exchange or sharing of any information between nurse and physician.

Impact: the overall effect, direct or indirect that result from nurse-physician communication.

Perception: attitude or opinion of nurses and physicians towards nurse-physician communication.

Patient outcome: expectations by nurses and physicians in terms of reduced length of stay, fewer complications, and decreased cost of hospitalization of patient.

Nurse*:* in this material the word nurse will refer to anyone who had training in nursing profession at Diploma level and/or higher.

Physician*:* in this material the word physician will refer to general practitioners and specialists only.

Nurse-physician communication*:* the exchange or sharing of any information regarding clients & health care resources by means of speaking (speech), or writing that takes place between nurse and physician.

4.11 Data Analysis procedures

Data was cleaned, coded and entered into Epi Info version 3.5.1 software package and analyzed using SPSS version 15 soft ware package. To explain

the study population in relation to relevant variables, frequencies, percentages were calculated. Correlations between factors affecting nurse-physician communication and patient outcomes were computed.

4.12 Data Quality Control

Half day training was given for three data collectors (BSc holders in non-health related fields) about the objectives and process of the data collection by the principal investigator.

Questionnaires were pre-tested at Yirgalem hospital. Based on the pretest, the instruments were assessed for clarity, understandability, flow and construction, and those questions found to be unclear or confusing were modified. The principal investigator was collected the completed questionnaires every day and checked each part of the instrument for inconsistencies and missed values. The principal investigator was also responsible for the co-ordination and on spot supervision of overall data collection process. Data cleaning and editing were took place by removing the missed values and using SPSS 15 statistical package. Pearson correlation tests were run to check degree and direction of relationships between factors that affect nurse-physician communication and patient outcomes.

4.13 Ethical consideration

Ethical approval and clearance were granted from department of Nursing and Midwifery institutional review board, College of Health Sciences, Addis Ababa University. The study did not cost additional expenses on the study subjects. There were no potential risks that may cause any harm in any form. Letters of cooperation were given & secured at all levels to the respective

administrative officials. After obtaining permission from Hawassa referral and teaching hospital director, ward heads, and department officials, informed (verbal) consents were obtained from the study subjects and participants were provided with information about the objectives and expected outcomes of the study at every stage. All information which was communicated with individual subjects was kept private and confidential. Coding and aggregate reporting were used to eliminate names and other personal identification of respondents throughout the study process to ensure anonymity.

4.14 Dissemination of results

The thesis will be presented to Addis Ababa University, department of Nursing and Midwifery as partial fulfillment of master's degree in Adult Health Nursing. The results of the study will be communicated to Hawassa referral and teaching hospital. The findings will also be presented in different seminars, meetings and workshops and published in a scientific journal. Hard and soft copies will be made available in the library of AAU, for graduate students as well as for other researchers and readers.

5: RESULTS

5.1 Description of the study participants

A total of 150 respondents out of which 114(76%) nurses and 36 (24%) physicians were participated in the study at Hawassa University referral and teaching hospital, making 100% response rate.

Majority of the respondents were females 82 (54.7%) of which 76 (66.7%) were nurses. A larger proportion of the respondents 90(60%) were in the age group 26-35 followed by 41 (21.3%) from 18-25 years of age. More than half of the respondents 89(59.3%) were single and 59 (39.3%) were married of which only 6 (4%) were physicians. Concerning service year of the respondents, nearly one-third 46 (30.7%) of respondents have served for two or less years, half of which represents physicians. Significant number of respondents 13 (8.7%) served for greater than 15 years.

The majority 94(62.7%) of respondents were staff nurses, 36 (24%) are medical doctors, 12 (8.0%) advanced practice nurses and 8(5.3%) nurse managers. Regarding educational status, 59 (39.3%) of respondents were BSc nurses, 55 (36.7%) Diploma nurses, 28 (18.7%) general practitioner (GP) medical doctors and 8 (5.3%) specialist medical doctors. As to area of work 27 (18.0%), 26 (17.3%), 24 (16.0%) and 21 (14.0%) of total respondents have been working in pediatrics unit, obstetrics/gynecology unit, surgical unit and medical unit respectively. (See Table 1)

Table 1: Sociodemographic characteristics of nurses (n=114) and physicians (n=36), Hawassa University Teaching and Referral Hospital, Hawassa, Ethiopia, March, 2011

Sociodemographic factors	Nurses		Physicians		Total	
	No.	%	No.	%	No.	%
Sex						
Male	38	33.3	30	83.3	68	45.3
Female	76	66.7	6	16.7	82	54.7
Age						
18-25	29	25.4	12	33.3	41	27.3
26-35	70	61.4	20	55.6	90	60.0
36-45	11	9.6	4	11.1	15	10.0
46-55	2	1.8	0	0.0	2	1.3
56-65	2	1.8	0	0.0	2	1.3
Marital status						
Married	53	46.5	6	16.7	59	39.3
Single	59	51.8	30	83.3	89	59.3
Widowed	2	1.8	0	0.0	2	1.3
Service year						
< or = 2Years	23	20.2	23	63.9	46	30.7
3-5years	33	28.9	6	16.7	39	26.0
6-10years	38	33.3	5	13.9	43	28.7
11-15years	8	7.0	1	2.8	9	6.0
> 15years	12	10.5	1	2.8	13	8.7
Educational level						
Diploma nurse	55	48.2	0	0.0	55	36.7
BSc nurse	59	51.8	0	0.0	59	39.3
Medicine (GP)	0	0.0	28	77.8	28	18.7
Medicine(specialist)	0	0.0	8	22.2	8	5.3

Title of work						
Staff nurse	94	82.5	0	0.0	94	62.7
Advanced practice nurse	12	10.5	0	0.0	12	8.0
Head nurse	8	7.0	0	0.0	8	5.3
Medical doctor	0	0.0	36	100.0	36	24.0
Area of work						
Medical unit	12	10.5	9	25.0	21	14.0
Surgical unit	14	12.3	10	27.8	24	16.0
Emergency unit	14	12.3	3	8.3	17	11.3
Operation room	17	14.9	1	2.8	18	12.0
Obstetrics/gynecology unit	20	17.5	6	16.7	26	17.3
Pediatrics unit	20	17.5	7	19.4	27	18.0
Ophthalmology unit	8	7.0	0	0.0	8	5.3
Others	9	7.9	0	0.0	9	6.0

5.2 Factors affecting nurse-physician communication

All factors namely personal factors, work area related factors and profession & hospital management related factors were perceived to have effect on nurse-physician communication with different degree of agreement by the respondents.

5.2.1 Personal factors

Regarding personal factors that affect nurse-physician communication, poor interpersonal communication skill is perceived as the most important factor having negative effect on nurse-physician communication by both nurses and physicians. Over all 79 (69.3%) nurses and 31 (86.1%) physicians agreed that poor interpersonal communication skill has negative impact on professional communication. Poor social interaction outside work area is the second

personal factor that affects nurses and physicians communication as perceived by 74 (64.9%) nurses and 24 (66.7%) physicians. The third factor reported by 72 (63.2%) nurses was personality traits (disruptive behavior) and noncompliance with advice by 23 (63.9%) physicians. On the contrary, 59 (51.8%) nurses disagree with the idea that noncompliance with advice is a barrier to nurse-physician communication and 18 (50%) physicians agree that perception of not being respected has nothing to do with nurse-physician communication.

Furthermore 64 (56.1%) nurses and 26 (72.2%) physicians reported that gender difference has no effect on nurse-physicians communication (table 2).

Table 2: Personal factors affecting nurse-physician communication as perceived by nurses (n=114) and physicians (n=36), Hawassa University Teaching and Referral Hospital, Hawassa, Ethiopia, March, 2011.

Personal factors	**Nurses**		**Physicians**		**Total**	
	No	**%**	**No**	**%**	**No**	**%**
Poor interpersonal communication skill						
Agree	79	69.3	31	86.1	110	73.3
Disagree	35	30.7	5	13.9	40	26.7
Poor social interaction outside work area						
Agree	74	64.9	24	66.7	98	65.3
Disagree	40	35.1	12	33.3	52	34.7
None compliance with advice						
Agree	55	48.2	23	63.9	78	52.0
Disagree	59	51.8	13	36.1	72	48.0
Gender difference						
Agree	50	43.9	10	27.8	60	40.0
Disagree	64	56.1	26	72.2	90	60.0
Perception of being not respected						
Agree	70	61.4	18	50.0	88	58.7
Disagree	44	38.6	18	50.0	62	41.3

Personality traits(disruptive behavior)						
Agree	72	63.2	22	61.1	94	62.7
Disagree	42	36.8	14	38.9	56	37.3

5.2.2 Work area factors

A total of 112 (74.7%) respondents 83 (72.8%) nurses and 29 (80.6%) physicians reported that information gap is the foremost barrier between nurses and physicians.

The second factor perceived by 80 (70.2%) nurses was negligence of duty and that of physicians was poor attitude to work 28 (77.8%). The third barrier for effective nurse-physician communication stated by 52(45.6%) nurses was abuse (verbal, physical and sexual) and 27 (75%) physicians' shortage of staff (see table 3).

Table 3: Work area related factors affecting nurse-physician communication as perceived by nurses (n=114) and physicians (n=36), Hawassa University Teaching and Referral Hospital, Hawassa, Ethiopia, March, 2011.

Work area related factors affecting Nurse-physician communication	**Nurses**		**Physicians**		**Total**	
	No	**%**	**No**	**%**	**No**	**%**
Staff shortage						
Agree	67	58.8	27	75.0	94	62.7
Disagree	47	41.2	9	25.0	56	37.3
Abuse (verbal, physical, sexual)						
Agree	52	45.6	20	55.6	72	48.0
Disagree	62	54.4	16	44.4	78	52.0
Poor attitude to work						
Agree	68	59.6	28	77.8	96	64.0
Disagree	46	40.4	8	22.2	54	36.0
Conflict						
Agree	73	64.0	27	75.0	100	66.7
Disagree	41	36.0	9	25.0	50	33.3
Information gap						
Agree	83	72.8	29	80.6	112	74.7
Disagree	31	27.2	7	19.4	38	25.3
Unresponsiveness to call for duty						
Agree	79	69.3	19	52.8	98	65.3
Disagree	35	30.7	17	47.2	52	34.7
Uncooperativeness at work						
Agree	83	72.8	23	63.9	106	70.7
Disagree	31	27.2	13	36.1	44	29.3
Negligence of duty						
Agree	80	70.2	24	66.7	104	69.3
Disagree	34	29.8	12	33.3	46	30.7

5.2.3: Profession and Hospital Management Factors

Concerning profession related factors that affect nurses-physician communication, 77(67.5%) nurses and 15(41.7%) physicians perceive disregard for a profession as a major barrier to effective nurse-physician communication.

In addition, 70 (61.4%) nurses and 17(47.2%) physicians perceive power differences as one of the barriers for effective nurse-physician communication. The other reported factor by 76 (66.7%) nurses and 24 (66.7%) physicians was the type of professional training received

Furthermore, 88 (77.2%) nurses and 17(47.2%) physicians said unfavorable management decision is the leading factor affecting nurse-physician communication (see table 4).

Table 4: Profession & hospital management related Factors that affect nurse-physician communication as perceived by nurses (n=114) and physicians (n=36), Hawassa University Teaching and Referral Hospital, Hawassa, Ethiopia, March, 2011.

Profession & management related factors	**Nurses**		**Physicians**		**Total**	
	No	**%**	**No**	**%**	**No**	**%**
Disregard for profession						
Agree	77	67.5	15	41.7	92	61.3
Disagree	37	32.5	21	58.3	58	38.7
Unfavorable management decision						
Agree	88	77.2	17	47.2	105	70.0
Disagree	26	22.8	19	52.8	45	30.0
Type of professional training received						
Agree	76	66.7	24	66.7	100	66.7
Disagree	38	33.3	12	33.3	50	33.3
Government policy						
Agree	60	52.6	18	50.0	78	52.0
Disagree	54	47.4	18	50.0	72	48.0
Power difference						
Agree	70	61.4	17	47.2	87	58.0
Disagree	44	38.6	19	52.8	63	42.0

5.3 Impact of Effective nurse-physician communication on patient outcome

Overall 147(98.0%) of the total respondents, 111 (97.4%) nurses and all 36 (100.0%) physicians perceive that effective nurse-physician communication can improve patient care quality.

In addition, 140 (93.3%) respondents, 104 (91.2%) nurses and all physicians (100.0%) perceive that effective nurse physician communication can reduce patient length of stay. Moreover, 143 (95.3%) respondents, 109(95.6%) nurse and 34 (94.4%) physicians had a perception that effective nurse- physician communication can increase patient satisfaction.

On the contrary, fourteen percent of total respondents, 18(15.8%) nurses and 3(8.3%) physicians perceived that effective nurse-physician communication has no effect on nosocomial infections. Similarly, 20 (13.3%) of respondents, 18(15.8) nurses and 2(5.6%) physicians perceived that effective nurse-physician communication cannot decrease patient cost of hospitalization (see table 5).

Table 5: Nurses (n=114) and physicians(n=36) Perception towards the effect of effective nurse-physician communication on patient outcome, Hawassa University Teaching and Referral Hospital, Hawassa, Ethiopia, March, 2011.

Patient Outcome	**Nurses**		**Physicians**		**Total**	
	No.	**%**	**No.**	**%**	**No.**	**%**
Reduce patient length of stay						
Yes	104	91.2	36	100.0	140	93.3
No	10	8.8	0	0.0	10	6.7
Decrease patient cost of hospitalization						
Yes	96	84.2	34	94.4	130	86.7
No	18	15.8	2	5.6	20	13.3
Improve patient care quality						
Yes	111	97.4	36	100.0	147	98.0
No	3	2.6	0	0.0	3	2.0
Reduce complications related to diseases						
Yes	100	87.7	32	88.9	132	88.0
No	14	12.3	4	11.1	18	12.0
Reduce nosocomial infections						
Yes	96	84.2	33	91.7	129	86.0
No	18	15.8	3	8.3	21	14.0
Increase patient satisfaction						
Yes	109	95.6	34	94.4	143	95.3
No	5	4.4	2	5.6	7	4.7

5.4 correlation between factors that affect nurse-physician communication and patient outcomes

Correlation coefficients were computed to test strength and direction of the relationships between factors that act as barriers to nurse-physician communication; personal factors, work area related factors and profession and hospital management related factors, and patient outcomes; reduced patient length of stay, decreased patient cost of hospitalization, increased patient care quality, reduced complications related to disease, reduced nosocomial infection and increased patient satisfaction.

Personal factors: most of the personal factors that affect nurse-physician communication had statistically significant correlation with at least one patient outcome. Poor interpersonal communication skill has negative correlations with all listed patient outcomes of which four correlations were statistically significant. Significant, negative relationships were observed between poor interpersonal communication skill, and reduced complications related to disease ($r=-.24$, $p<.01$), decreased patient cost of hospitalization ($r=-.21$, $p<.05$), reduced patient length of stay ($r=-.20$, $p<.05$), and increased patient satisfaction ($r=-.18$, $p<.05$). As interpersonal communication fails (decreases) in hospital set up among health care professionals, complications related to disease, patient cost of hospitalization, patient length of stay and patient dissatisfaction increases and the reverse is also true.

Similarly, a significant negative correlation was observed between poor social interaction outside work area and increased patient satisfaction ($r=-2.1$, $p<.01$). This means patients are more satisfied with care given by those professionals

who have good social interaction in the community (outside hospital environment).

Perception of being not respected had also an inverse relation with patient level of satisfaction (r=-.17, p<.05) and similarly, personality trait (i.e. disruptive behavior) with decreased patient cost of hospitalization (r=-.18, p<.05). When health professions show disruptive behavior while caring for patients, patient satisfaction decreases and vice versa (see table 6).

Table 6: Correlations for personal factors that affect nurse-physician communication as determinants of patient outcomes, Hawassa University Teaching and Referral Hospital, Hawassa, Ethiopia, March, 2011

Personal* factors[1]	**Patient outcomes***[2]					
	n501rplos	n502dpcoh	n503ipcq	n504rcrtd	n505rni	n506ips
n201pipcs	-.201(*)[3]	-.207(*)	-.129	-.241(**)[4]	-.148	-.184(*)
n202psiowa	.026	-.003	-.096	-.119	-.029	-.212(**)
n203ncwa	.096	-.133	-.053	-.138	-.035	-.144
n204gd	-.055	-.200(*)	-.019	-.092	-.094	-.099
n205ponbr	.062	.050	-.073	.018	.105	-.173(*)
n206pt	-.070	-.184(*)	-.087	-.139	-.086	-.053

[1] Personal factors; n201pipcs: poor interpersonal communication skill, n202psiowa: poor social interaction outside work area, n203ncwa: noncompliance with advice, n204gd: gender difference, n205ponbr: perception of being not respected n206pt: personality trait.

[2] Patient outcomes; *n501rplos*: reduced patient length of stay, *n502dpcoh*: decreased patient cost of hospitalization, n503ipcq: increased patient care quality, n504rcrtd: reduced complications related to disease, n505rni: reduced nosocomial infection, n506ips: increased patient satisfaction

[3] (*) Correlation is significant at the 0.05 level (2-tailed)

[4] (**) Correlation is significant at the 0.01 level (2-tailed)

Work area related factors: all work area related factors had statistically significant inverse relationships with patient outcomes. Staff shortage had significant negative relationships with all patient outcomes; that is with decreased patient cost of hospitalization (r=-.22, p<.01), reduced complications related to disease (r=-.22, p<.01), reduced nosocomial infection (r=-.21, p<.05), increased patient satisfaction (r=-.19, p<.05) and increased patient length of stay (r=-.18, p<.05) except increased patient care quality. When there is staff shortage patient cost of hospitalization, complications related to disease, nosocomial infection, patient dissatisfaction and patient length of stay increase and vice versa.

A similar negative relationships were also observed between abuse (verbal, physical, & sexual) and three patient outcomes; reduced nosocomial infection (r=-.35, p<01), reduced complications related to disease (r=-.32, p<.01) and decreased patient cost of hospitalization (r=-.30, p<.01). As abuse among health care professionals decrease reduction in nosocomial infection, reduction in complications related to disease and decrement in patient cost of hospitalization increase and vice versa.

Poor attitude to work was also inversely related to increased patient satisfaction (r=-.27, p<.01). When professionals' attitude to work becomes poor, patient satisfaction decreases and vice versa. Conflict has also had inverse relationships with reduced complications related to disease (r=-.26, p<.01) and increased patient satisfaction. As conflict between health care professionals decrease, reduction in complications related to disease and patient dissatisfaction increase.

Uncooperativeness at work (r=-.32, p<.01), information gap (r=-.28, p<.01),

negligence of duty (r=-.23, p<.01) and unresponsiveness to call for duty (r=-.28, p<.01) had negative correlations with increased patient satisfaction. Increase in uncooperativeness at work, information gap, negligence of duty, and unresponsiveness to call for duty decreases patient satisfaction vice versa (see table 7).

Table 7: Correlations for work area related factors that affect nurse-physician communication as determinants of patient outcomes, Hawassa University Teaching and Referral Hospital, Hawassa, Ethiopia, March, 2011.

Work area Factors [5]	**Patient outcome**					
	n501rplos	n502dpcoh	n503ipcq	n504rcrtd	n505rni	n506ips
n301ssh	-.180(*)	-.224(**)	.012	-.224(**)	-.205(*)	-.193(*)
n302ab	-.100	-.303(**)	-.139	-.319(**)	-.354(**)	-.201(*)
n303patw	-.134	-.074	-.091	-.108	-.058	-.272(**)
n304con	-.151	-.139	-.202(*)	-.261(**)	-.204(*)	-.220(**)
n305infog	.033	-.042	-.136	-.068	-.118	-.277(**)
n306urtcfd	.026	-.085	-.196(*)	-.119	-.029	-.280(**)
n307ucaw	-.004	-.092	-.222(**)	-.213(**)	-.120	-.316(**)
n308nod	.004	-.164(*)	-.112	-.110	-.023	-.233(**)

Professional and hospital management related factors: from profession and hospital management related factors, type of professional training received (r=-.32, p<.01), power difference (r=-.22, p<.05) and government policy had inverse relations with decreased patient cost of hospitalization. It implies presence of competent professionals and supportive government policy decreases patient cost of hospitalization and vice versa. In addition, government policy had similar relationship with patient satisfaction (r=-.22,

[5] Work area related factors; n301ssh: staff shortage, n302ab: abuse, n303patw: poor attitude to work, n304con: conflict, n305infog: information gap, n306urtcfd: unresponsiveness to call for duty, n307ucaw: uncooperativeness at work, n308nod: negligence of duty

p<.01). Unsupportive (poor) government policy increases patient dissatisfaction care given and vice versa.

No correlation was observed between unfavorable management decision and decreased patient cost of hospitalization (r=.00, p<.05), and similarly between type of professional training and increased patient care quality (r=.00, p<.05) (see table 8).

Table 8: Correlations for professional & hospital management related factors that affect nurse-physician communication as determinants of patient outcomes, Hawassa University Teaching and Referral Hospital, Hawassa, Ethiopia, March, 2011.

Professional &Mgt factors[6]	**Patient outcome**					
	n501rplos	n502dpcoh	n503ipcq	n504rcrtd	n505rni	n506ips
n401drfp	.102	-.011	-.180(*)	-.044	.044	-.187(*)
n402ufmd	.117	.000	-.010	-.027	.055	-.163(*)
n403toptr	-.151	-.347(**)	.000	-.174(*)	-.204(*)	-.144
n404govp	-.118	-.212(**)	-.053	-.179(*)	-.189(*)	-.215(**)
n405powd	-.152	-.223(**)	-.071	-.185(*)	-.202(*)	-.104

5.5 Overall perception of nurses and physicians towards nurse-physician communication

Concerning overall perception of nurse-physician communication, nearly one-third of total respondents 48(32.0%) out which the majority were nurses, expressed their overall perception as poor. Large proportion of nurses 44(38.6%) expressed their overall perception as "poor", the lowest value on the scale used, where as the majority of physicians 16 (44.4%) expressed their

[6] Profession and hospital management related factors; n401drfp: disregard for profession, n402ufmd: unfavorable management decision, n403toptr: type of professional training received, n404govp: government policy, n405powd: power difference

overall perception as “good”, a value which is three times better than perception of the nurses (see table 9).

Table 9: Over all perception of nurses (n=114) and physicians (n=36) towards nurse-physician communication, Hawassa University Teaching and Referral Hospital, Hawassa, Ethiopia, March, 2011.

Over all perception towards nurse-physician communication	**Nurses**		**Physicians**		**Total**	
	No.	**%**	**No.**	**%**	**No.**	**%**
Poor	44	38.6	4	11.1	48	32.0
Satisfactory	28	24.6	11	30.6	39	26.0
Good	27	23.7	16	44.4	43	28.7
Very good	9	7.9	4	11.1	13	8.7
Excellent	6	5.3	1	2.8	7	4.7

Few nurses and physicians expressed their overall perception as excellent which accounts for 4.7% of total respondents. Only six nurses and one physician expressed their overall perception as “excellent” which is the highest point on the scale used to assess the respondents overall perception. Again only 8.7% of total respondents out of which 9(7.9%) were nurses and 4(11.1%) physicians, perceived overall nurse-physician communication as “very good”, the next highest value on the scale used.

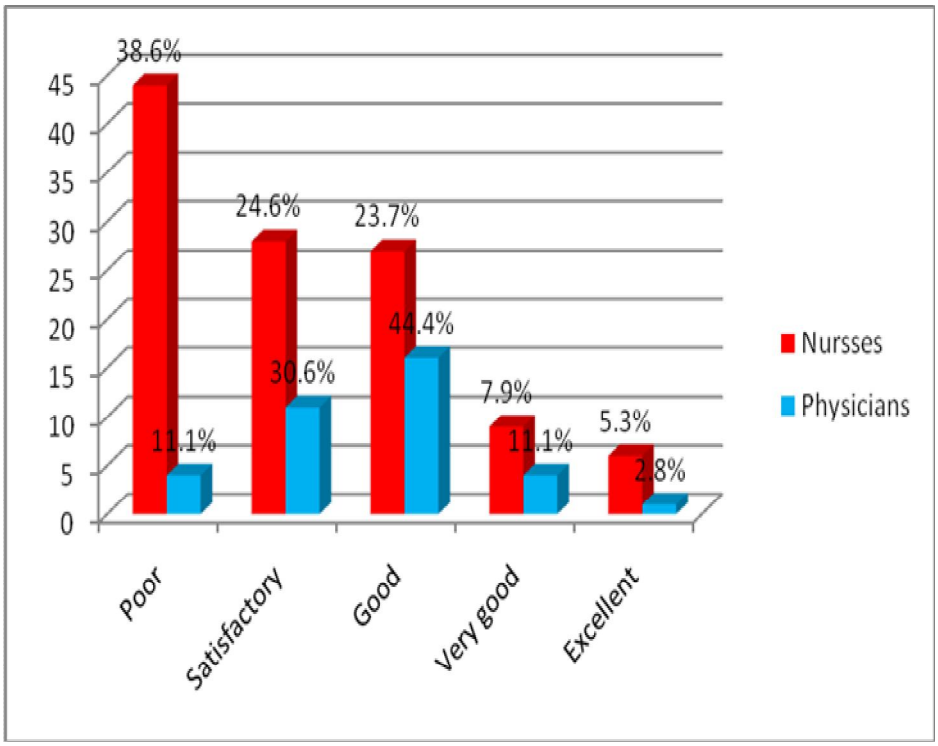

Figure 2: Overall perception of nurses and physicians towards nurse-physician communication, Hawassa University Referral and Teaching Hospital, March, 2011.

5.5 Factors that can improve nurse-physician communication

Regarding factors that can improve nurse-physician communication, only 46 respondents have suggested responsibilities that can be carried out. 26 (56.5) of respondents suggested that respect for others and others' profession can improve communication among health care professionals. Secondly, 14 (30.4) of respondents suggested training on professional and interpersonal communication skills for both nurses and physicians. The third suggestion was accountability and responsibility for one's own professional duties as suggested by 13 (28.3%) respondents. The other suggestions include focusing on common goal (i.e. patient care), open information sharing among health care team, regular health care team meeting on patient conditions (care), mutual understanding, availing job description and others (see table 10).

Table 10: Factors that can improve nurse-physician communication (n=46) as suggested by nurses and physicians, Hawassa University Teaching and Referral Hospital, Hawassa, Ethiopia, March, 2011

Suggestion	**No.**	**%**
Focus on common goal (i.e. patient care)	11	23.9
Training on communication skills	14	30.4
Mutual understanding	8	17.4
Respect for others & others' profession	26	56.5
Accountability for one's own professional duty	13	28.3
Equal treatment by administrative body	7	15.2
Open information sharing among health care team	9	19.6
Competence in one's profession	7	15.2
Regular health care team meeting on patient conditions	9	19.6
Availing job description	8	17.4
Representing both nurses & physicians in decision making body	7	15.2
Get together programs outside hospital to encourage communication	7	15.2
Government policy should encourage communication	6	13.0

6. DISCUSSION

Effective nurse-physician communication holds the first place in acute health care institutions like hospitals. It offers solutions for patient care related problems like medication error and risk introduction during conducting procedures while caring for patients.

This study assessed factors affecting nurse-physician communication, perception of nurses and physicians about the factors and their impact on patient outcome, and factors that can improve nurse-physician communication to a satisfactory level from both nurses and physicians perspective.

6.1 Factors affecting nurse-physician communication

All factors assessed in this study had had effect on nurse-physician communication even though the magnitude was different. Profession and hospital management related factors were found to have greater effect on nurse-physician communication from both personal factors and work-activity factors as perceived by nurses while work area related factors were of greater impact for physicians.

It is observed that poor interpersonal communication skill was having higher influence from personal factors as perceived by both nurses and physician. There is consistent data in reviewed literature. Effective communication in health care setups requires generic communication skills, from negotiation and listening, to goal setting and assertiveness, and being able to apply these generic skills in a variety of contexts and situations, supported by scientific investigations (18). Without doubt, lack of interpersonal communication skills

influences communication between health care team, especially nurses and physicians which in turn affects patient outcomes.

From work area related factors, information gap was perceived as the factor with greater impact on nurse-physician communication. This finding has similarity with other literature. Nurses perceived that they gave information to physicians more often than they received it, they made suggestions as often as physicians, and they provided information to physicians regarding nursing care as often as physicians provided information regarding medical care. Statistically the physicians did not agree with the nurses' perceptions as reported by Linda, Julie and others (17). It is obvious that information is base for all kinds of patient care regardless of settings or institutions at which the care is delivered. Information gap between nurses and physicians in one way or another can directly impact patient out come. Without adequate information physicians and nurses cannot adequately care for their patients for medical management and nursing care plans are based on adequacy information.

Unfavorable management decision was also perceived as a leading factor to have relatively greater effect on nurse-physician communication from profession & hospital management related factors. This finding is consistent with previous studies that leadership and administrative support has its own contribution to collaboration and communication between health care professionals (23). Resources which are used for patient care are provided by management body. Scarcity in resources can introduce mal-communication among nurses and physicians.

For majority of physicians it was type of professional training received that was perceived as the single most factor that have greater impact on nurse-physician communication from all profession and hospital management related factors. A study conducted by Jenifer Tijia, Kathleen M. Mazor & others has also come up with similar finding that is, lack of professionalism (the skill and competence expected of a professional) which can be related to type of training received is among the listed factors that affect nurse-physician communication (26). In addition, it is also reported in other researches that type professional training received has effect on interdisciplinary communication (18). Competence in one's professional activities is a result of type of training received. Patient care that is given by incompetent professional risks patient, which can then become point of conflict one of the indications of ineffective communication.

6.2 Impact of Effective nurse-physician communication on patient outcome

It is identified in this study that majority respondents had perception that effective nurse-physician communication can improve over all patient outcomes including, increased patient care quality, increase patient satisfaction, reduce patient length of stay, reduction in patient cost of hospitalization, disease related complications, and reduced prevalence of nosocomial infection.

These perceptions are very consistent with list of positive outcomes of nurse-physician communication as listed in other literature; improved satisfaction, improved care or outcomes, decreased risk-adjusted length of stay, and

reduced medication errors (17, 27). Whenever there is effective communication, it is clear that there will information sharing in every aspect of care. Patient care plans will be based on adequate information which lead to positive patient outcomes.

6.3 Correlations between factors that affect nurse-physician communication and patient outcome

Correlations that are statistically significant were observed between different variables of the three categories of factors that affect nurse-physician communication and patient outcomes that are negatively directed.

In this study, increased patient satisfaction as patient outcome had had negative correlations with uncooperativeness at work, information gap, negligence of duty and unresponsiveness to call for duty. Cooperation, information sharing, commitment to duty and responsiveness to calls can be considered foundations upon which on can build collaborative team work like caring. So, all factors that affect foundation can obviously affect the output of team work that is patient outcomes which include increased patient satisfaction. As collaborative behaviors such as cooperation and responsiveness increase patient outcomes like satisfaction level is likely to increase. Similarly, type of professional training received has statistically significant negative correlations with patient outcomes like patient cost of hospitalization, complications related to disease, and nosocomial infections. Competent professional training will lead to decreased patient cost of hospitalization, complications related to disease and nosocomial infections. Interpersonal communication skill had also a significant negative relation with patient outcomes patient length of stay, patient cost of

hospitalization, complications related to disease and patient satisfaction. When there is good interpersonal communication between nurses and physicians, patient cost of hospitalization, complications related to disease and patient dissatisfaction decreases.

There is data from literature that strengthen this correlation. In a study that included intensive care units (ICUs) in 13 large hospitals, it is reported that collaborative nurse-physician relationships lead to better patient outcomes such as decreased length of stay and net reduction in treatment costs without reduction in functional levels or decrease in satisfaction among patients (8).

Decreased risk adjusted mortality and length of stay, fewer negative patient outcomes, and enhanced patient satisfaction have also been associated with better nurse-physician collaboration (9).

6.4 Overall perception of nurses and physicians towards nurse-physician communication

It is observed that nearly one-third of total respondents expressed their overall perception as poor and alone large proportion of nurses expressed their overall perception as “poor”. In the contrary to the perception of majority nurses’ large proportion of physicians expressed their overall perception as “good”. These findings are compliant with results of other studied reviewed in this study. A study on physicians and nurses in intensive care units found that whereas the majority of physicians gave high ratings to the quality of collaboration with nurses, the majority of nurses rated collaboration with physicians as poor. A similar study of surgeons, anesthesiologists and nurses found discrepant views about teamwork in operating rooms. Thus, whereas physicians may perceive

teamwork and collaboration as adequate, nurses consistently are not so sanguine (7). Perception differences indicate that there is no close enough relation and collaboration between nurses and physician where one can understand the feelings of the other.

6.4 Factors that can improve nurse-physician communication

Both nurses and physicians have suggested measures that can be taken in order to improve nurse-physician communication.

Priority interventions suggested include respect for others and others' profession, training on interpersonal and professional communication, being responsible and accountable for one's own professional duties, focusing on patient care, regular meetings between health care team on patient conditions and openly sharing information among health care team. Most of the interventions suggested by nurses and physicians to improve nurse-physician communication were consistent with what was found in reviewed literature. Interventions to optimize nurse-physician collaboration reported in the literature include training workshops in collaboration and communication skills, joint interdisciplinary staff meetings, case scenarios, co-ordination of care, and patient centered care efforts (17). Respecting the autonomy of other professionals improve sense of worth and hence facilitate open communication and information sharing among health care team which is base for every aspect of patient care.

7: STRENGTH OF THE STUDY

- ✓ The study has compared perception of two professional groups, nurses and physicians.
- ✓ The study has used open ended questions in addition to structured questionnaire to yield more information.
- ✓ The questionnaires were pretested and modified before data collection.

8: LIMITATIONS OF THE STUDY

- ✓ Scarcity of literature for review during project proposal writing.
- ✓ Study participants were not selected by random sampling procedures and generalization is not possible.
- ✓ Responses were voluntary and may have been drawn largely from respondents interested in this issue.
- ✓ Number of physicians participated in the study is minimal compared to that of nurses which might have impact on the results.

9: CONCLUSIONS

The following conclusions can be drawn based on the finding of this study:

1. This study showed that all identified factors have been found to have effect on nurse-physician communication with different degrees of impact. The three leading factors with priority of effect as perceived by nurses were unfavorable management decision, negligence of duty and information gap. For physicians, poor interpersonal communication skill, information gap, and poor attitude to work were priorities.
2. Both nurses and physicians have perceived that effective nurse-physician communication have positive impact on patient outcomes.
3. Statistically significant negative correlations were observed between factors acting as barriers to nurse-physician communication and patient outcomes.
4. Nurses were not satisfied with their relation with physicians in work place where as physicians were relatively satisfied with their relation with nurses.
5. Interventions suggested by nurses and physicians to improve nurse-physician communication were respect for others and others' profession, training on interpersonal and professional communication, being responsible and accountable for one's own professional duties, focusing on patient care, regular meetings between health care team on patient conditions, openly sharing information among health care team and others.

10: RECOMMENDATIONS

Based on the results of this study the following recommendations are forwarded:

1. Hospital management should pay attention to the emotional needs of their staff and create an environment of mutual respect and understanding between nurses and physicians.

2. Hospital management should conduct on-job workshops and seminars on interpersonal and professional communication skills participating both nurses and physicians and promote interaction between them. Creating awareness through participatory trainings can improve social and professional interaction between nurses and physicians.

3. Hospital management should establish a strict policy where both nurses and physicians are held accountable for their actions. Code-of-conduct policies and procedures must be developed, disseminated, and enforced consistently, that will govern and treat nurses and physicians in a non-discriminatory manner.

4. Nurses and physicians are recommended to assume responsibility for the quality of their relationships with one another. Taking responsibility from both sides can improve approaching one another in a collegial, respectful, and problem-solving-based manner, no matter how badly any individual may behave.

5. Finally, further study is proposed to identify more additional factors which affect physician-nurse relationship at large scale.

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12: ANNEX

Annex 1: Information sheet

Addis Ababa University, Faculty of Medicine, Centralized School of Nursing

Study prepared to collect data on nurse-physician communication at Hawassa referral and teaching hospital, questionnaires.

Good morning/good afternoon

Hello! My name is_____. I am here today to collect data on nurse-physician communication at Hawassa referral and teaching hospital. The study is being conducted by Ato Yavello Nataye Yatasa from Addis Ababa university Centralized school of Nursing, post graduate program. The objective of this study is to examine nurse-physician communication at Hawassa referral and teaching hospital.

You are being asked to take part in this study and to respond genuinely. This interview focuses on how you perceive factors that affect nurse-physician communication and the effect of nurse-physician communication on patient outcome. Your cooperation and willingness is greatly helpful in identifying problems related to nurse-physician communication. Your name will not be written in this form and will never be used in connection with any information you tell us & this interview may take a maximum of 15 to 20 minutes to complete.

There is no possible risk associated with participating in this study except the time spent for completing the questionnaire. All information given by you will be kept strictly confidential. Your participation is voluntary and you are not obligated to answer any question you do not wish to answer. If you feel discomfort with the question, it is your right to drop it any time you want. If you have questions regarding this study or would like to be informed of the results after its completion, please feel free to contact the principal investigator.

Address of the principal investigator:

Yavello Nataye Yatasa

Cell phone: +251 911 56 81 90/921 02 88 92,

E-mail: namakonso@yahoo.com

Address of Addis Ababa University, Faculty of Medicine, Institutional Review Board:

Telephone number: 0115538734,

E-mail: aaumfirb@yahoo.com

Are you willing to respond to the questionnaire?

Yes! No, thank you!

Interviewer Name_____

Signature_____Date_____

Annex 2. Consent form

In signing this document, I am giving my consent to participate in the study titled "*Perceptions of nurses and physicians towards nurse-physician communication and its impact on patient outcome in Hawassa referral and teaching hospital"*.

I have been informed that the purpose of this study is to assess nurses and physicians perception towards factors that affect nurse-physician communication and the effect of nurse-physician communication on patient outcome in Hawassa referral and teaching hospital. I have understood that participation in this study is entirely voluntarily. I have been told that my answers to the questions will not be given to anyone else and no reports of this study ever identify me in any way. I have also been informed that my participation or non-participation or my refusal to answer questions will have no effect on me. I understood that participation in this study does not involve risks.

I understood that Yavello Nataye is the contact person if I have questions about the study or about my rights as a study participant.

Address of the principal investigator:

Yavello Nataye

Mobile number: +251 911 56 81 90/921 02 88 92

E-mail: namakonso@yahoo.com

Address of Addis Ababa University, Faculty of Medicine, Institutional Review Board:

Telephone number: 0115538734

E-mail: aaumfirb@yahoo.com

Respondent's signature_____
Date_____

Start your interview. Date: _____ Time started: _____ Time finished: _____

1. If no, skip to the next participant by writing reasons for his/her refusal.

_____

Results of questionnaire

1. Completed

2. Respondent not available

3. Refused

4. Partially completed

Identification

Questionnaire No. _____

Supervisor's name _____ signature _____

Annex 3. Questionnaire for Nurses

Addis Ababa University, Faculty of Medicine, School of Nursing.

A study to asses Perceptions of nurses and physicians towards nurse-physician communication and its impact on patient outcome.

This questionnaire has 4 parts: Part 1 nurses' personal information; part 2 nurses' perception of factors affecting nurse-physician communication; part 3 nurses' perception toward the impact of effective nurse physician communication on patient out come and part 4 overall nurses' perception toward nurse-physician communication.

Each part has its own instruction. Please read each item carefully and give your honest response to each item. If you overlook any item without response, it will affect the study. So, please check that you have given response to all items.

I thank you for your genuine responses and cooperation.

Part 1: Nurses' characteristics (personal information)

Instruction: Please circle the number in front of the option you choose on the right side of the table.

No.	Questions	Coding categories
101	Sex	Male ----------1 Female ----------2
102	Age in years	18-25 ----------1 26-35 ----------2 36-45----------3 46-55----------4 56-65 ----------5 >65 ----------6
103	What is your current marital status?	Married ----------1 Single ----------2 Divorced ----------3 Widowed ----------4
104	Length of service in nursing profession (in years)	2 or less ----------1 3-5 ----------2 6-10 ----------3 11-15 ----------4 >15 ----------5
105	What is your title?	Staff nurse ----------1 Advanced practice nurse -----2 Head nurse----------3

106	Level of education	Diploma ----------1
		BSc ----------2
107	Area of work	Medical unit ----------1
		Surgical unit ----------2
		Critical care unit ----------3
		Emergency unit ----------4
		Operation room ----------5
		Obstetrics/gynecology unit---6
		Pediatrics unit ----------7
		Ophthalmology unit ----------8
		Other----------9

Part 2: Nurses' perception of factors affecting nurse-physician communication

Instruction: There are statements about overall factors affecting nurse-physician communication, and each statement has five alternatives with five point scale. Read each item carefully and circle:

1= If you strongly disagrees about the factor.

2= If you disagree about the factor.

3= If you neither agree nor disagree (undecided) about the factor.

4= If you agree about the factor

5= If you strongly agree about the factor.

No.	**What are the personal factors affecting nurse-physician communication?**	**Strongly disagree**	**Disagree**	**Undecided**	**Agree**	**Strongly agree**
201	Poor interpersonal communication	**1**	**2**	**3**	**4**	**5**

	skill.					
202	Poor Social interaction outside work.	**1**	**2**	**3**	**4**	**5**
203	Non compliance with advice.	**1**	**2**	**3**	**4**	**5**
204	Gender difference.	**1**	**2**	**3**	**4**	**5**
205	Perception of being not respected.	**1**	**2**	**3**	**4**	**5**
206	Personality traits (Inappropriate or disruptive behavior).	**1**	**2**	**3**	**4**	**5**

No.	**What are the work-related factors affecting nurse-physician communication?**	**Strongly disagree**	**Disagree**	**Undecided**	**Agree**	**Strongly agree**
301	Staff shortage.	**1**	**2**	**3**	**4**	**5**
302	Abuse (verbal, physical and sexual).	**1**	**2**	**3**	**4**	**5**
303	Poor attitude to work.	**1**	**2**	**3**	**4**	**5**
304	Conflict.	**1**	**2**	**3**	**4**	**5**
305	Information gap.	**1**	**2**	**3**	**4**	**5**
306	Un responsiveness to call for duty.	**1**	**2**	**3**	**4**	**5**
307	Uncooperativeness at work.	**1**	**2**	**3**	**4**	**5**
308	Negligence of duty.	**1**	**2**	**3**	**4**	**5**

No.	What are the occupational group and hospital management related factors that affect nurse-physician communication?	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
401	Disregard for profession.	1	2	3	4	5
402	Unfavorable management decision.	1	2	3	4	5
403	Type of professional training received.	1	2	3	4	5
404	Government policy.	1	2	3	4	5
405	Power difference.	1	2	3	4	5

Part 3: Nurses perception toward the impact of effective nurse- physician communication on patient out come

Instruction: please circle the number in front of the option you choose, and then briefly write your perception on the space provided on right side column of the table if you responded "yes" for the question. (*Please feel free to use Amharic if you feel that English cannot adequately express your feeling*)

No.	Questions	Coding categories
501	Do you think effective nurse-physician communication can reduce patient length of stay?	Yes ----------**1** No ----------**2**
	If yes, how do you think it can reduce length of stay?	_____ _____ _____
502	Do you think effective nurse-physician communication can decrease patient cost of hospitalization?	Yes ----------**1** No ----------**2**
	If yes, how do you think it can decrease cost of hospitalization?	_____ _____ _____ _____
503	Do you think effective nurse-physician communication can improve patient care quality?	Yes ----------**1** No ----------**2**
	If yes, how do you think it can improve patient care quality?	_____ _____ _____
504	Do you think effective nurse-physician communication can reduce complications related to the disease?	Yes ----------**1** No ----------**2**
	If yes, how do you think it can reduce complications related to	_____ _____ _____

	the disease?	_____
505	Do you think effective nurse-physician communication can reduce nosocomial infections?	Yes ----------**1** No ----------**2**
	If yes, how do you think it can reduce nosocomial infections?	_____ _____ _____
506	Do you think effective nurse-physician communication can increase patient satisfaction?	Yes ----------**1** No ----------**2**
	If yes, in what way do you think it can increase patient satisfaction?	_____ _____ _____
507	Do you think effective nurse-physician communication can increase satisfaction of care givers (health professionals)?	Yes ----------**1** No ----------**2**
	If yes, in what way do you think it can increase satisfaction of care givers?	_____ _____ _____ _____
508	Do you think effective nurse-physician communication can promote evidence based practice?	Yes ----------**1** No ----------**2**
	If yes, how do you think it can promote evidence based practice?	_____ _____ _____ _____

Part 4: over all perception of the nurse towards nurse-physician communication

Instruction: There is one final statement about overall nurses' perception towards nurse-physician communication, with five alternatives with five point scale. Please read it carefully and circle:

1= If you express your perception as "poor".

2= If you express your perception as "satisfactory".

3= If you express your perception as "good".

4= If you express your perception as "very good".

5= If you express your perception as "excellent".

And then briefly write your suggestions on the space provided on the right side of the table or question.

(*Please feel free to use Amharic if you feel that English cannot adequately express your feeling*)

No.	**Overall rating**	**poor**	**Satis-factory**	**Good**	**Very good**	**Excellent**
601	How do you rate overall nurse-physician communication?	**1**	**2**	**3**	**4**	**5**
	What do you suggest that can be done, to improve nurse-physician communication even better than this?	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____				

Annex 4. Questionnaire for Physicians

Addis Ababa University, Faculty of Medicine, School of Nursing.

A study to asses Perceptions of nurses and physicians towards nurse-physician communication and its impact on patient outcome.

This questionnaire has 4 parts: Part 1 physicians' personal information; part 2 physicians' perception of factors affecting nurse-physician communication; part 3 physicians' perception toward the impact of effective nurse-physician communication on patient out come and part 4 overall physicians' perception toward nurse-physician communication.

Each part has its own instruction. Please read each item carefully and give your honest response to each item. If you overlook any item without response, it will affect the study. So, please check that you have given response to all items.

I thank you for genuine responses and cooperation.

Part 1: Physicians' characteristics (personal information)

Instruction: Please circle the number in front of the option you choose on the right side of the table.

No.	Questions	Coding categories
101	Sex	Male ----------1
		Female ----------2
102	Age in years	18-25 ----------1
		26-35 ----------2
		36-45----------3
		46-55----------4
		56-65 ----------5
		>65 ----------6
103	What is your current marital status?	Married ----------1
		Single ----------2
		Divorced ----------3
		Widowed ----------4
104	Length of service in nursing profession (in years)	2 or less ----------1
		3-5 ----------2
		6-10 ----------3
		11-15 ----------4
		>15 ----------5
105	Level of education	General practitioner ----------1
		Specialist ----------2
		Masters Degree ----------3
		Medical unit ----------1

106	Area of work	Surgical unit ----------2
		Critical care unit ----------3
		Emergency unit ----------4
		Operation room ----------5
		Obstetrics/gynecology unit---6
		Pediatrics unit ----------7
		Ophthalmology unit ----------8
		Other----------9

Part 2: Physicians' perception of factors affecting nurse-physician communication

Instruction: There are statements about overall factors affecting nurse-physician communication, and each statement has five alternatives with five point scale. Read each item carefully and circle:

1= If your strongly disagrees about the factor.

2= If you disagree about the factor.

3= If you neither agree nor disagree (undecided) about the factor.

4= If you agree about the factor

5= If you strongly agree about the factor.

No.	**What are the personal factors affecting nurse-physician communication?**	**Strongly disagree**	**Disagree**	**Undecided**	**Agree**	**Strongly agree**
201	Poor interpersonal communication skill.	**1**	**2**	**3**	**4**	**5**
202	Poor Social interaction outside work.	**1**	**2**	**3**	**4**	**5**

203	Non compliance with advice.	**1**	**2**	**3**	**4**	**5**
204	Gender difference.	**1**	**2**	**3**	**4**	**5**
205	Perception of being not respected.	**1**	**2**	**3**	**4**	**5**
206	Personality traits (disruptive behavior).	**1**	**2**	**3**	**4**	**5**

No.	**What are the work-related factors affecting nurse-physician communication?**	**Strongly disagree**	**Disagree**	**Undecided**	**Agree**	**Strongly agree**
301	Staff shortage.	**1**	**2**	**3**	**4**	**5**
302	Abuse (verbal, physical and sexual).	**1**	**2**	**3**	**4**	**5**
303	Poor attitude to work.	**1**	**2**	**3**	**4**	**5**
304	Conflict.	**1**	**2**	**3**	**4**	**5**
305	Information gap.	**1**	**2**	**3**	**4**	**5**
306	Un responsiveness to call for duty.	**1**	**2**	**3**	**4**	**5**
307	Uncooperativeness at work.	**1**	**2**	**3**	**4**	**5**
308	Negligence of duty.	**1**	**2**	**3**	**4**	**5**

No.	What are the occupational group and hospital management related factors affecting nurse-physician communication?	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
401	Disregard for profession.	**1**	**2**	**3**	**4**	**5**
402	Unfavorable management decision.	**1**	**2**	**3**	**4**	**5**
403	Type of professional training received.	**1**	**2**	**3**	**4**	**5**
404	Government policy.	**1**	**2**	**3**	**4**	**5**
405	Power difference.	**1**	**2**	**3**	**4**	**5**

Part 3: Physicians' perception toward the impact of effective nurse-physician communication on patient out come

Instruction: please circle the number in front of the option you choose, and then briefly write your perception on the space provided on right side column of the table if you responded "yes" for the question.

No.	Questions	Coding categories
501	Do you think effective nurse-physician communication can reduce patient length of stay?	Yes ----------**1** No ----------**2**
	If yes, how do you think it can reduce length of stay?	_____ _____ _____

502	Do you think effective nurse-physician communication can decrease patient cost of hospitalization?	Yes ----------**1** No ----------**2**
	If yes, how do you think it can decrease cost of hospitalization?	_____ _____ _____ _____
503	Do you think effective nurse-physician communication can improve patient care quality?	Yes ----------**1** No ----------**2**
	If yes, how do you think it can improve patient care quality?	_____ _____ _____
504	Do you think effective nurse-physician communication can reduce complications related to the disease?	Yes ----------**1** No ----------**2**
	If yes, how do you think it can reduce complications related to the disease?	_____ _____ _____ _____
505	Do you think effective nurse-physician communication can reduce nosocomial infections?	Yes ----------**1** No ----------**2**
	If yes, how do you think it can reduce nosocomial infections?	_____ _____ _____
506	Do you think effective nurse-physician communication can	Yes ----------**1**

	increase patient satisfaction?	No ----------**2**
	If yes, in what way do you think it can increase patient satisfaction?	_____ _____ _____
507	Do you think effective nurse-physician communication can increase satisfaction of care givers (health professionals)?	Yes ----------**1** No ----------**2**
	If yes, in what way do you think it can increase satisfaction of care givers?	_____ _____ _____ _____
508	Do you think effective nurse-physician communication can promote evidence based practice?	Yes ----------**1** No ----------**2**
	If yes, how do you think it can promote evidence based practice?	_____ _____ _____ _____

Part 4: over all perception of the Physician towards nurse-physician communication

Instruction: There is one final statement about overall Physicians' perception towards nurse-physician communication, with five alternatives with five point scale. Read it carefully and circle:

1= If you express your perception as "poor".

2= If you express your perception as "satisfactory".

3= If you express your perception as "good".

4= If you express your perception as "very good".

5= If you express your perception as "excellent".

And then briefly write your suggestions on the space provided on the right side of the table or question.

No.	Overall rating	poor	Satisfactory	Good	Very good	Excellent
601	How do you rate overall nurse-physician communication?	**1**	**2**	**3**	**4**	**5**
	What do you suggest that can be done, to improve nurse-physician communication even better than this?	_____ _____ _____ _____ _____ _____ _____ _____ _____				

DECLARATION

I, the undersigned, declared that this thesis is my original work and has not been presented for a degree in this or any other university, and all source materials used for the thesis have been fully acknowledged.

Name of the student: Yavello Nataye Yatasa

Signature: _____

Place: Addis Ababa

Date of submission: _____