

**INFLUENCE OF COMMUNICATION
BETWEEN NURSES AND PHYSICIANS
ON PATIENT OUTCOME IN HOSPITAL
SETTINGS: A LITERATURE REVIEW**

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ABSTRACT

Background

Today, patients and their families need to communicate with health teams to understand their health or disease. Communication as an important approach between nurses and physicians is associated with patient outcome. Communication between nurses and physicians has an effect on patient outcome and may be beneficial or harmful depending on the way of communication. Situation, Background, Assessment, and Recommendation (SBAR) is a model of communication and used among health professionals to assess patients' condition and figure out the best interventions for them.

Aim

The aim of this study is to describe the influence of communication between nurses and physicians on patient outcome in hospital settings; (A) common communication challenges between nurses and physicians (B) communication challenges between nurses and physicians affect patient outcome (C) a model of communication, like SBAR, affect nurses-physicians communication.

Method

MEDLINE/PubMed is electronic databases that were used for this literature review to provide scientific information. The authors have selected literature review for this project thesis. Moreover, the authors chose literature review to gain a deeper understanding about the influence of communication between nurses and physicians on patient outcome.

Result

Communication among healthcare providers faces various obstacles due to several factors such as policies, discipline's variety, work environment and physician's power than other professionals in health care. Positive communication between nurses and physicians may lead to improving job satisfaction, patient outcome and decrease in medical errors. SBAR played effective role in communication between professionals and their activities in the promotion of the health and safety of patients.

Conclusion

The authors concluded that there are association between communication and caregivers especially nurses and physicians on the quality of patient outcome. . Literature shows that nurses and physicians must strengthen the communication between them in order to decrease medication errors as well as achieve desirable patient outcome.

KEYWORDS: Nurses, Physicians, Patient outcome, Communication, SBAR.

INTRODUCTION

Throughout the world, working in the health care field is considered hard and difficult. Nurses and physicians as professionals in the health care field work to provide the best care for patients. Due to the work of the professionals as a team, communication is an important and essential component of care for patients with good quality (Morgan, 2013). From the authors' experience as nurses, it seems clear that communication plays a crucial role in the care of patients and among healthcare providers. Patients need to communicate with health professionals which may help them to understand of intervention of care. Healthcare providers must realize the importance of communication and take into account the impact communication on patient outcome. The motivation to choose this topic was to describe the influence of communication between nurses and physicians on the patient outcome.

BACKGROUND

Nursing

Nursing is a profession based on science, knowledge and skills which includes a set of principles derived from the health sciences. Nursing practice is performed by nurses to help individuals to better or restore their health in case of sickness (DeWit & O'Neill, 2013). From Nightingale's time up to this date, there are several definitions of nursing that all contribute to develop nursing theory. Meleis defined nursing as facilitating of health for patients' condition to sense of well-being. The goal of nursing is to develop and enhance the health of individuals in need of health care, including disease prevention and reducing patients' suffering. Nursing is a process that involves assessment, diagnosing, planning, intervention and evaluation of nursing care. Nursing focuses on providing optimal health care for individuals regardless color, race and sex (Meleis, 2012).

Development in nursing started early in the 20th century. The profession of nursing has existed for all ages, and Florence Nightingale is considered responsible for presenting nursing to the world in its modern form. In 1970, the emergence of philosophy and discipline of nursing started. Nursing philosophy contains the comprehensive and individual care; this may occur through decision making and research in nursing. In nursing, decision making includes ethical and professional practices represent the cornerstone of nursing. Furthermore, nursing care is provided by professional nurses through practices and interactions with other professionals (Meleis, 2012).

Nurses

Nurses are the professionals who have been educated and trained to care for the sick or disabled patients. Nurses are essential part of healthcare professionals who through education are competent to give care to people who need treatment of injury or illness (Naylor & Kurtzman, 2010). Professional nurses must be trained, oriented, have knowledge and skills to provide care for patients and their families. Competent nurses usually have knowledge and skills more specific to citrine area and setting such as; intensive care unit, operation room, emergency room or dialysis unit (Reeves, Lewin, Espin, & Zwarenstein, 2011).

Role of Nurses

In the past, nurses were expected to follow the physicians' orders without interference, while nurses today are trained and empowered to take on a much larger role in patient care. Professional nurses have additional duties which include catheterization, nursing plan, education and daily evaluation of the patient (Wright, Sparks, & Dan O'Hair, 2012). The nurses have a roles and functions for society including; help individuals and families who are in need

of nursing care. For instance, improve patient's health through writing research and educate them (Naylor & Kurtzman, 2010; DeWit & O'Neill, 2013).

Professional nurses today require continuous communication with the physicians about patient assessment, how to give medications, quantity and management of doses (O'Leary et al., 2010). Nursing advice, participation with physicians about treatment plan and efficient communication are the most important parts of nurses' roles in health promotion and patient outcome (McCray, 2009).

Physicians

Physicians are medical practitioners who care and treat patients and have a responsibility in therapeutic interventions. Physicians, local surgeons in hospitals and doctors are different terms for professionals in medicine. Physicians are medical education degree holders and have a general or specific discipline in the medicine. Physicians are known as professionals who provide necessary medical care, diagnosis of illness and injury that help save the lives of patients (McCray, 2009; Schmalenberg & Kramer, 2009).

Physicians often have a specialization in a specific area of health care such as pediatric or surgery. In a treatment plan for patients, physicians are often considered team leaders and follow-up the patients' therapeutic condition. Medical practitioners are required to have knowledge through their study of medicine such as physiology, anatomy and pathology which helps prepare qualified medical practitioners for health care (Reeves et al., 2011).

Role of Physicians

Physicians are an essential component in the hospital settings, and they play an important and effective role in a patient's health care. Physicians work in hospitals as providers of care for individuals and families. A physicians' responsibility is to treat patients through diagnosis, intervention and follow-up of injuries or illnesses (McCray, 2009). Physicians' responsibilities with patients are not only focused on treatment, they can provide the consultation and education about diseases and illnesses. In addition, physicians offer appropriate decisions for patients through diagnosis their conditions with the rest of the care teams if they need. Physicians work with professional teams to improve health of patients and communicate with one another about patients' needs in order to seek better outcomes (Schmalenberg & Kramer, 2009).

Patients

Patients are a people who need treatment and care from healthcare providers. The original word of patient comes from the Latin word *patiens*, which means suffering. Inpatients and outpatients are terms that have different meaning in terms of what kind of care they receive. Inpatients are imply patients hospitalized for a period of time such as days, weeks or months and sometimes years; like unconscious patients. Outpatients are a term that describes patients who have been visiting a clinic or admitted to a hospital for 24 hours (DeWit & O'Neill, 2013). From the ethical considerations, involving patients and their families in the care plan is very important and it is one of patients rights. Healthcare providers have to deal with patients in autonomy, beneficence, non-maleficence and justice (Backer, 2010).

Patient outcome

Patient outcome is conditions, behaviors and attitudes of patients' wellbeing in the end or after a therapeutic stage. In relation to patient outcome in healthcare, it is important for health professionals to know that the outcomes are a result of their work of providing care for patients (Kirwan, Matthews, & Scott, 2013; Shuldham, Parkin, Firouzi, Roughton, & Lau-Walker,

2009). Performance and collaboration among health teams are essential components that affect on patient outcome (Meleis, 2012). Moreover, health interventions have a significant impact on the health outcomes of patients, which represent some of the health consequences such as psychological, physical, and safety of patients. Patient outcome is considered a result of care for patients that are affected through interventions of healthcare providers and their practices (Kirwan et al., 2013; Meleis, 2012).

Quality of care

Quality of care is closely linked to the patient outcome in provided care; it is difficult to measure quality of care because every person is unique. Quality of care is a degree of satisfaction of provided healthcare services for patients (Hughes, 2008). Outcomes reflect a quality of care to patients, for example, the influence of communication between nurses and physicians may have positive or negative effects in patients' care. Communication as an important approach between nurses and physicians and it is associated with patient outcome (Shuldham et al., 2009).

Communication

Communication is a means of sending, receiving and exchanging information between two or a group of health professionals and patients. Communication patterns can be an advantage or a disadvantage depending on the way of sending and receiving information. For that, communication may support health care services to patients and helps exchange information among health professionals (McCorry, & Mason, 2011; Flicek, 2012).

Today, patients and their families need to communicate with the health team to understand their health or disease. In the past, the focus on communication did not exist widely, but recently technological development and multiple means of communication which help health teams during daily work. Communication has more than one meaning or form; it might be through language, action, thought, body movement, word and writing (O'Leary et al., 2010; Krug, 2008).

History of communication in health

Communication in health is considered a newly emerged concept that has not been focused on in ancient times. The term health communication has been used since 1970 in the United States. In the 20th century health communication was in a transitional phase, health communication research started, and some organizations focused on health communication appeared, for example, International Communication Association (ICA) and National Communication Association (NCA). Development of communication in healthcare is continuing gradually until the present time (Wright et al., 2013).

Types of communication

Communication can be verbal and non-verbal. Verbal communication is a way of sending information to others face-to-face or calling. Verbal communication is a main and clear method to communicate with others. Non-verbal communication is a way of sending information to others without speaking; it can be written words, or body language such as facial expressions and hand gestures. Verbal and non-verbal communications are both used in the healthcare field among nurses, physicians and patients (McCorry & Mason, 2011).

Communication process

The communication process includes four important components that form the framework of communication: sender, message, receiver and feedback. The sender who sends a message may be verbal or non-verbal. The message includes information and it can be verbal, written text or facial – body expression. The receiver is the one who receives the message and translates or interprets the message to make a response to the sender. The feedback is a response or reaction to the message and returns it a response to the sender (Fernandez, Tran, Johnson, & Jones, 2010; McCorry & Mason, 2011; Naylor & Kurtzman, 2010). It is important that the communication process must be free of miscommunication between nurses and physicians. Miscommunication is unclear in one or more parts of the communication process (Morgan, 2013).

Communication between nurses and physicians

Health professionals are work together and require communication to provide care and treatment for patients. The goal of using communication between nurses and physicians is to meet the needs of patients. Collaboration and effectiveness between nurses and physicians are the most important aspects of communication in health care services for patients and their families (Beckett & Kipnis, 2009).

The relationships between patients and health professionals are built on respect, collaboration, and trust. Communication between nurses and physicians can have an effect on patient outcome and may be beneficial or harmful depending on the way of communication. Nurses and physicians need to improve and enhance their communication while providing care for patients (Beckett & Kipnis, 2009).

In communication, it is important to consider the differences between nurses and physicians which might cause conflicts between them. There are differences between nurses and physicians, for example, their level of education. Nurses have fewer years of studying nursing than physicians who study medicine. Physicians are focused on patients' diagnosis and setting a list of medical order while nurses are focused on caring for patients and carry out the medical order through the use of the nursing process (Fernandez et al., 2010)

SBAR as a model of communication

Situation, Background, Assessment, and Recommendation (SBAR) is a model of communication used among health professionals to assist a patient's condition and to provide the intervention. The goal of using SBAR is to share patients' information between nurses and physicians and also to facilitate the communication. SBAR process between nurses and physicians can be done through phone calls or face to face (De Meester, Verspuy, Monsieurs, & Van Bogaert, 2013; Beckett & Kipnis, 2009).

Situation; means nurse must identify her/himself and which department calling from as well as identify patient's name, age, sex and reason for admission. Background; the nurse will inform the physician about the patient's complaint and relevant medical history. Assessment; a nurse will assist and inform the physician about her/his clinical impression, patient's vital signs, and the severity of the patient's condition. Recommendation; means the nurse will give suggestions to the physician and clarify expected action to be taken for the patient (De Meester et al., 2013; Beckett & Kipnis, 2009).

Problem statement

Due to pressures of working and multiple roles of health professionals, communication is an important approach play a big role in their communication and to promote patient health. Communication between nurses and physicians has effect on patient outcome and may be beneficial or harmful depending on their communication. Ineffective communication may lead

medical errors and threaten patient's safety. On the other hand, effective communication enhances personal interaction between nurses and physicians and promote patient outcome. Therefore, it is of great importance to describe the influence of communication between nurses and physicians on patient outcome.

AIM

The aim of this study is to describe the influence of communication between nurses and physicians on patient outcome in hospital settings.

Research questions

- Which are common communication challenges between nurses and physicians?
- How do communication challenges between nurses and physicians affect patient outcome?
- How does a model of communication, like SBAR, affect nurses-physicians communication?

METHOD

As research method, the authors selected a literature review in their thesis. The method in literature review is important because it is multi-layered and more detailed than books review. The method of searching for information in literature review must be relevant to the aim of the study. The authors showed the method of searching data in detail which may help readers in the future to understand the search process.

LITERATURE REVIEW

Literature reviews are a gathering, analysis and critical summary of information to the study. In addition, it can be obtained from books, journals, databases such as PubMed and CINAHL because it is related to the medical and nursing field (Polit & Beck, 2012). Literature reviews were motivated in the project thesis because this type of research requires to present rational information from academic articles. In addition, literature reviews were used to achieve the study aim and research questions. Moreover, the authors chose literature reviews to gain a deeper understanding about the influence of communication between nurses and physicians on patient outcome.

Data collection

Medical Literature –Online, that was developed by United States National Library of Medicines. MEDLINE/PubMed is one of the largest databases that cover 5000 medical, nursing and health journals. In this study, the authors have accessed MEDLINE database through PubMed website (<http://www.ncbi.nlm.nih.gov/PubMed>) to provide bibliographic information (Polit & Beck, 2012). The key words used were nurses, physicians, patient outcome, communication and SBAR (Table 1).

Inclusion criteria

Inclusion criteria are sources which existed and selected in the project thesis (Heavey, 2011; Polit & Beck, 2012). The authors included the following in this project thesis; primary source articles that were written in English and published between 2007 and 2013. Moreover, the authors used the primary source articles on the result part. The primary source or original source is a document that is written by the one who conducts the study (Polit & Beck, 2012).

Exclusion criteria

Exclusion criteria are sources which not included or that did not qualify for the project thesis (Heavey, 2011; Polit & Beck, 2012). The authors excluded secondary source articles, languages other than English and meta-analysis. Moreover, the authors documented all steps of searching in a table called search process in databases. The authors during their searches in the databases avoided including articles that were not related to the study aim.

Table 1: Search process in PubMed

Search Words	Number of Hits	Read Obstruct	Read Articles	Chosen Articles	Date
communication AND nurses AND physicians	83	29	18	6	23-09-2013
communication AND patients AND outcomes	61	33	12	4	26-09-2013
nurses AND physicians AND cooperative behavior	39	12	9	3	03-10-2013
SBAR AND communication	62	18	11	5	14-10-2013
Communication AND physician-nurse relations	7	4	2	2	14-10-2013

Data analysis

All chosen articles were analyzed by the authors and read both individually and together. The authors focused on the objective of the research and if it met the criteria they focused on the result section. The authors analyzed the chosen articles by using different colors to highlight the relevant aspects that answered the aim of study. The authors tried to present articles with high or moderate quality. The quality of articles was determined by using a matrix to categorize, evaluate and assess the quality of academic study.

Quality of articles

The authors examined the quality of the chosen articles by using a matrix of categories, evaluation and quality assessment of academic study regarding quality in both quantitative and qualitative research, modified by Sophiahemmet University referred to (Berg et al., 1999 and Willman et al., 2006) attached in appendix I. The classification of articles was divided into three levels of grading the first which is, high quality contains and a well-planned and large number of participants. The second grade is moderate quality in which some of the criteria for the higher grade are not met, but the academic quality is deemed higher than low grade. Last grade called low quality means a small number of participants, and inadequate description methods. The articles that were used in this project thesis had high and moderate grade. The matrix is attached in appendix II.

ETHICAL CONSIDERATION

Ethical consideration refers to the principles of ethics that are used when addressing a particular topic. Ethical consideration requires a respect for rights, opinions and the dignity of others. In the research, ethical considerations are principles that morally test the issues of research and its method for human. There are some considerations for ethical behavior such as truthfulness and trustworthiness which describe of the search process honestly and accuracy. In addition, it

makes a validation of the research method such as purpose, benefits, and outcomes (Polit & Beck, 2012).

Ethical considerations in literature review involved protection of the public's trust as well as protection of the topic. Misconduct must be avoided when writing the study. Misconducts in the research can create changes and additions in the content of the main study. These changes and additions might occur as falsification, fabrication and plagiarism which means adding, deleting and copying information that is not related to the main findings (Polit & Beck, 2012). The authors pledged to not misconduct in their project thesis in the literature review. The authors examined the ethical considerations for each article in this study, including approval of participants and sponsors.

RESULT

Several studies were found that were related to communication and healthcare providers. In this study the literature was organized in the result part into three headings; communication challenges, impacts of communication and effect of SBAR on nurses-physicians communication. All information presented as results are related to the influence of communication between nurses and physicians on patient outcome.

Communication challenges

Nowadays, communication among healthcare providers faces various obstacles due to several factors such; as policies, different levels of discipline, work environment and physician's status over other professionals in health care. Furthermore, other difficulties include variances of communication style due to level of knowledge and training among health professionals (Robinson, Gorman, Slimmer, & Yudkowsky, 2010; Tjia et al., 2010).

Relationship between nurses and physicians in communication

The nurses-physicians' relationship depends on communication in the hospital settings. Communication between nurses and physicians requires skills to work together or with others such as patients. Skills such as listening to others without interrupting, use facial expressions (smiling), and body movement (tone of voice). Practice, communication style and respect are components that have an effect on the relationship between nurses and physicians. Working effectively as a team to provide care for patients, proves the ability of communication between nurses and physicians. A good relationship in health caregivers' practices may support the health team and better patient outcome (Manojlovich, Antonakos, & Ronis, 2009; Tabak & Koprak, 2007).

Work environment

Work environment is one aspect that helps to enhance cooperation and communication between nurses and physicians. There are some departments like intensive care unit where it is difficult for nurses and physicians to communicate as a result of pressure of work and multiple responsibilities. Lack of time for communication is one of the challenges between nurses and physicians (Manojlovich & DeCicco, 2007). Another study showed that due to a heavy workload and high level of activity in the hospital settings, nurses and physicians do not have time to practice communication between them. Therefore, the non-verbal communication is the most used between nurses and physicians in hospital settings due to time constraints (Rothberg et al., 2011). While Klarare et al., reported that the most common communication among teams of palliative care was verbal (Klarare, Hagelin, Fu`rst, & Fossum, 2013).

Job satisfaction

One of the studies shows that physicians have more satisfaction than nurses; this satisfaction was linked to their higher yearly income. Moreover, the study showed that physicians cooperate less with other health professionals because they make the decisions and can give orders to others for instance the nurse. In addition, the study stated that many professionals did not feel satisfaction in their job as a result of the difficulty of dealing and communicating with physicians. Enhancing job satisfaction and improving patients' care depend on good communication between nurses and physicians (Chang, Ma, Chiu, Lin, & Lee, 2009; Wanzer, Wojtaszczyk, & Kelly, 2009).

Level of knowledge

Level of knowledge differs between nurses and physicians, which has an influence on their power balance because physicians have a higher education than nurses. Physicians and nurses are important providers in patient care, but have many differences in knowledge; education, roles and functions still have confused attitudes between them. Some attitudes cause conflicts in communication and make nurses avoid interacting with the physicians directly. Moreover, the existence of educational and cultural differences are creating challenges in communication among health professionals (Kalisch, Lee, & Rochman, 2010; Chang et al., 2009).

Language barriers

One of the studies in the United States stated that the difference in language is one major communication challenge. Some caregivers cannot deliver a clear message because the language of communication is not their first language. Patient outcome is based on the communication between nurses and physicians through their work. In the past, most cases of outcomes that were bad were because of these barriers. Exchange of clear messages between nurses and physicians is difficult if the language of communication is not their first language. This language barrier has a clear impact on communication between nurses and physicians and also on patient outcome (Robinson et al., 2010; Tabak & Koprak, 2007).

Impacts of communication

Positive effect of communication

Good relationships between nurses and physicians can help improving the patient outcome. Therefore, understanding between nurses and physicians leads to more efficiently handling the patient's condition during intervention and treatment. Relationships that were based on respect between health professionals have had a positive effect on the patient outcome. Verbal and nonverbal communication between nurses and physicians lead to sharing suggestions and opinions about patients' condition. In addition, it is helpful to develop a therapeutic relationship for the patients and increase the corporation of professionals (Manojlovich et al., 2009; Robinson et al., 2010).

During interdisciplinary rounds to see patients it is important to be accompanied by nurses because nurses are considered first caregiver members who spend the most time observing and following the care of patients as well as documenting patient's status. Then, exchange patients' information with physicians to follow the cases. Nurses and physicians can communicate with the patient together that has a positive effect on the patient (Manojlovich et al., 2009; Rothberg et al., 2011). Positive communication between nurses and physicians may lead to improving job satisfaction, patient outcome and decrease in medical errors. Furthermore, having equal job satisfaction between nurses and physicians may lead to a good impact on their work and the patient outcome (Chang et al., 2009; Wanzer et al., 2009).

Negative effect of communication

Negative communication between nurses and physicians sometimes leads to catastrophic mistakes against the patient such as medical errors. It is important that communication occurs in most of the health care areas between professionals especially in the complex areas such as emergency department (ED) due to constraints of time and rapid turnover. Most of communication between nurses and physicians in ED are verbal. In ED which is a crowded area, a lot of concentration is needed because communication among health professionals may be lacking due to miss patients' information and time constraints (Fairbanks, Bisantz, & Sunm, 2007; Redfern, Brown, & Vincent, 2008).

Patient report form is one of nonverbal ways of communication between nurses and physicians and is often written form. Patient's report is handed in by paramedics to caregivers in the emergency department. The report if not handed in by the ambulance crew to the health team may leads to loss of clinical information that the caregivers need to know. For example, what medications that were given to the patient while being transported to the hospital? Therefore, due to overcrowding in emergency department, loss of communication may occur which has a negative impact on patient outcome and may threaten patients' life (Fairbanks et al., 2007; Redfern, et al., 2008).

Work environment has an influence on a multi-disciplinary work that may be reflected on quality of care and patient outcome. One interview research used the Jefferson Nurse-Physician Relationship Scale in perioperative area which showed that nurses and physicians need to collaborate. It indicated a lack of understanding between nurses and physicians which led to influence the patient outcome negatively and also to medical errors (Sterchi, 2007). Socialization and professional education are considered environmental aspects that have a role in communication of the health professionals. For instance, if a health care provider suffers from anxiety or stress it can be difficult to act professionally and communicate properly with their colleagues (Manojlovich & DeCicco, 2007; Robinson et al., 2010).

One study conducted about nurses-physicians' perceptions of effective and ineffective communication between them reported that the nurses' perception is that there was not enough communication and it was not effective with physicians because they differ in their ideas about effective communication. Moreover, the physicians' perception was that in order to communicate better they need to spend more time with nurses, which may delay their work with patients (Manojlovich & Antonakos, 2008).

Effect of SBAR on nurses-physicians communication

SBAR is the most widely used communication standard used in the health field to document professionals' communication. Implementation and evaluation of SBAR were focused through literature for healthcare professionals to improve their communication and patient safety. SBAR is a tool used to improve professionals' communication and patient care. One study was done in a rehabilitation setting used SBAR as a tool and it showed improvements in communication within staff and increased safety reporting for patients (Velji et al., 2008).

SBAR is a result of evidence-based research of communication among healthcare professionals in various units (Tjia et al., 2010). Marshall et al., stated that SBAR helps the speaker to organize ideas, prepare critical information and helps the receiver to get an important point. It improved professionals' environment and has an effect on their practice and on patient outcome (Marshall, Harrison, & Flanagan, 2009).

Robinson and colleagues reported that SBAR might be useful structure for inter-professionals to improve their communication. SBAR was designed in order to be contacted fast among cross-disciplinary for information through a consistent structure. SBAR has additional benefits for

healthcare providers in making decisions and exchanging patients' information. SBAR played an effective role in communication between professionals and their activities in the promotion of the health and safety of patients (Robinson et al., 2010; Velji et al., 2008).

One study found that implementation of SBAR as a standardized tool of communication to facilitate timely communication between health providers and helps decrease time spent in provided care for patients. This study observed a decrease in resolution time and decrease communication issues in Acute Intensive Care (ACU) and in Medical Intensive Care Unit (MICU). In addition, findings of this study also showed that the implementation of SBAR among professionals decreased treatment time, nurses' satisfaction increased and a higher rate of solution of patients' issues (Dingley, Daugherty, Derieg, & Persing, 2008).

Donahue et al., through their study about improving communication and enhancing safety on project of prepared professionals staff (PPS), reported that SBAR as a structure of communication is useful to positive communication between caregivers (Donahue, Miller, Smith, Dykes, & Fitzpatrick, 2011). In addition, SBAR can be used to reduce interdisciplinary barriers of communication among them and it is useful for professionals to improve communication (Donahue et al., 2011; Street et al., 2011).

Street et al., said that communication between nurses and physicians must improve and they must increase their collaboration in practices. Therefore, improved communication needs to structure technique as SBAR, which may helps in the exchanging of information, and promote patient's safety (Street et al., 2011). In addition, other study stated that SBAR increases physicians' openness to nurses' views and helps in clarity information content and timing (Tjia et al., 2010).

DISCUSSION

Method discussion

A literature reviews were selected by the authors as a method to gain a deep understanding about the influence of communication between nurses and physicians on the patient outcome. The authors encountered some difficulties while searching for academic articles, that were linked to the study aim but in general the method was easy to understand. The difficulties were in how to choose primary articles that related to the topic of study. An abundance of articles were found related to the influence of communication between nurses and physicians on patient outcome available in the database. PubMed is a scientific website which has many articles that the authors used in this study, because of that no articles were included from CINAHAL.

The main challenge that the authors faced was in the limitation of published articles. The authors agreed that all articles that included in this study must be published from 2007 and up to 2013 in order to present the latest research available related to the study topic. For that the authors made a strategy to cope with these challenges, this strategy was divided into three steps. The first step was that the authors found approximately 200 articles from 2007 and up to 2013 that were related directly and indirectly to the subject of the study. The authors in the second step spent more time to analyze the articles. Then, the authors selected 33 articles that were more closely related to the topic of study. In the last step, the authors decided to include a total of 20 articles in the result part.

The authors faced a challenge during assessing the degree of articles' quality, for that the authors applied the general classification guide of Sophiahemmet University for article analysis. The authors struggled to give each article used in this study the appropriate grade in order to archive high level of credibility as well as not omission the efforts of publishers.

Moreover, the authors considered ethical considerations for each included article. Overall, 20 articles met the criteria and were graded as high and moderate quality. One of the authors' challenges was the language barrier since English is a second language for the authors. The authors consulted an English professional to eliminate this challenge as well as used an Arabic/English dictionary to translate some difficult words and terms.

The authors made a scheduled workshop to organize their work. These workshops were sometimes inside the college or outside. In each meeting, the authors discussed what information they had gathered that was related to the topic. On the other hand, the authors kept contact with the supervisor who guided the authors in their work. The literature review helped the authors to have access to different research design such as the qualitative and quantitative method, which might lead to answering the aim and research questions of the study.

Result discussion

Physicians are medical education degree holders and have a general or specific discipline in the medicine (McCray, 2009). Physicians have more authority and higher salary than other healthcare providers which makes them more satisfied in their job (Chang et al., 2009). From the authors' experiences as nurses, some physicians see themselves as better than nurses, while others are more cooperative with nurses and give them the opportunity to share their opinions and suggestions about the patient's status.

Professional nurses today require continuous communication with physicians about patient assessment, how to give medications, quantity and management of doses (O'Leary et al., 2010). Physicians described that in order to better communication they would need to spend a little more time with nurses, which might delay their work with patients (Manojlovich & Antonakos, 2008). The authors agree that adequate communication enhances the nurses and physician's ability to be able to manage the conflict if it is arising. The authors supported their agree with one of the qualitative studies, which described the communication as a key tool in a team and helps resolve conflict and a better care for patients (Klarare et al., 2013). Adequate communication will enhance the trust thus each one of them will understand their roles and responsibilities.

The main goal of communication is to create a relationship among health care teams and to provide optimal quality of care for patients (Naylor & Kurtzman, 2010). Both nurses and physicians must have skills of communication, knowledge, training, and orientation (Reeves et al., 2011). The authors believe that communication is the key to build up the relationship between nurses and physicians and thus improving the relationship between health care providers and patients. To make communication effective, health care providers require skills of communication such as give time to listen and understanding the message without interrupting, use of body language and clarifying the issues that are not understandable.

Patient outcome is considered a result of care for patients that are affected through interventions of healthcare providers and their practices (Kirwan et al., 2013; Meleis, 2012). Rothberg et al., (2011), said that when nurses share their opinions and discuss with physicians about patients' condition it has a positive effect on the patient outcome. The authors agree that patient outcome is affected through caregivers' interventions. On the other hand, the authors from their experience observe that nurses still have a lack of power and voice to be able to discuss with the physicians in some issues related to the patient such as making a decision or intervention. The authors believe that lack of nurses' power and voice comes from policies of some hospitals, especially in the authors' country.

According to Meleis, 2012 the goal of nursing is to develop and enhance the health of individuals in need of health care, including disease prevention as much as possible and reducing patients' suffering (Meleis, 2012). Some nurses expressed that they have not had enough experiences with how effective communication should be, because they have different ideas about it (Manojlovich et al., 2009; Robinson et al., 2010; McCorry & Mason, 2011). The authors believe that nurses must have knowledge and skills of effective communication. Continued education and training programs during working are the author's suggestions for nurses to develop their experience and knowledge about communication.

Negative communication between nurses and physicians may lead to undesirable outcomes for example, medical errors. On the other hand, due to the complexity and pressure of work in health, nurses and physicians need to be more collaborative to enhance their communication to meet patients' needs (Fairbanks et al., 2007; Redfern et al., 2008). Regardless of communication and its importance among caregivers, they should avoid missing information to ensure that patients get good care (Morgan, 2013). The authors agree that communication between nurses and physicians must be clear in order to be free miscommunication because that has a bad effect on patient outcomes. Moreover, to achieve good communication between nurses and physicians, verbal communication should be through speaking audibly, speaking a common language and explaining again if it was not clear the first time.

Beckett & Kipnis stated that the goal of using SBAR is to share patients' information and conditions between physicians and nurses. Marshall et al., found that SBAR helps organize ideas, prepare information and helps get an important point across. The authors note through their experience that SBAR offers a simple way to standardize communication between nurse and physicians by using the four common elements.

The authors conclude from their experiences and several articles that were read that communication is vital instrument to develop personal interaction between nurses and physicians and to improve communication skills. The healthcare setting needs a regular training program about communication, based on theoretical and practical skills which will enhances the quality of patient care. A study conducted by Efraimsson et al., showed that communication is a complex process that requires training for health care professionals, which enhances the quality of the communication and increases job satisfaction along with the quality of care. The United States emphasized that the applicable to the hospital accreditation program is communication training programs and it is important for those responsible for hospital care to avoid communication barriers, breakdowns and problems (Efraimsson, Klang, Larsson, Ehrenberg, & Fossum, 2009).

CONCLUSION

In this study the authors tried to highlight influence of communication between nurses and physicians on patient outcome in the hospital settings. In general, the authors found that communication has an important link with health caregivers especially the nurses and the physicians and on the quality of patient outcome. Literature shows that nurses and physicians must strengthen the communication between them in order to decrease medication errors as well as to achieve the desirable patient outcome. Using communication models like SBAR might help nurses and physicians to structure communication between them. The authors recommend further communication lectures and workshops between nurses and physicians about the importance of communication and the quality of patient outcome.

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APPENDIX I

Classification guide of academic articles and studies regarding quality in both quantitative and qualitative research, modified from Berg, Dencker & Skärsäter (1999) and Willman, Stoltz & Bahtsevani (2006).

CLASSIFICATION	GRADING OF ACADEMIC QUALITY		
	I = High quality	II = moderate	III = Low quality
Randomised controlled trial (RCT) is a prospective study that entails a comparison between a control group and one or more experiment groups.	Large, well planned and well executed multicenter study with an adequate description of protocol, material and methods including treatment techniques. The number of patients/participants is large enough to answer the research question. Adequate statistical methods.	*	Randomised study with few patients/participants and/or too many partial studies with insufficient statistical strength. Insufficient number of patients/participants, inadequately described method or large attrition rate (participant drop out rate).
Clinical controlled trial (CCT) is a prospective study that entails a comparison between a control group and one or more experiment groups. Not randomised.	Large, well planned and well executed study with an adequate description of protocol, material and methods including treatment techniques. The number of patients/participants is large enough to answer the research question. Adequate statistical methods	*	Limited number of patients/participants, method inadequately described, faults or lacking in protocol and insufficient statistical strength.
Non- controlled study (P) is a prospective study but without a control group.	Well defined research questions, sufficient number of patients/participants and adequate statistical methods.	*	Limited number of patients/participants, method inadequately described, faults or lacking in protocol and insufficient statistical strength.
Retrospective study (R) is an analysis of a historical material that is related to something that already happened, for example patient charts.	Number or patients/participants sufficient to answer the research question. Well planned and well executed study with an adequate description of protocol, material and methods.	*	Limited number of patients/participants, method inadequately described, faults or lacking in protocol and insufficient statistical strength.

<p>Qualitative study (Q) often is an investigation where the aim is to study phenomena or interpret meaning, perceptions and experiences from the perspectives of the participants. The aim can also be to develop concepts, theories and models.</p>	<p>Context clearly described. Selection of participants motivated. Clearly described selection criteria, data collection, transcription process and method of analysis. Credibility and reliability described. Relation between data and interpretation evident. Critique of method.</p>	<p>*</p>	<p>Poorly formulated reserach questions. Patient/participant group inadequately described. Method and analysis not sufficiently described. Presentation of results incomplete.</p>
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* Some of the critera for level I are not met, but the academic quality is deemed higher than level III – Low quality.

APPENDIX II

Matrix tables (I) High Quality, (II) Moderate Quality, (III) Low Quality.

Author's / Year / Country	Aim	Title	Method	Participant (attrition rate)	Result	Quality Design
Chang, Ma, Chiu, Lin, & Lee, 2009 Taiwan.	This paper is a report of a study conducted to compare levels of job satisfaction and perceptions of the quality of patient care, collaboration and teamwork among healthcare professionals in four acute care hospitals and to determine the factors associated with job satisfaction for physicians, nurses and other healthcare professionals.	Job satisfaction and perceptions of quality of patient care, collaboration and teamwork in acute care hospitals.	Quantitative (questionnaire)	1475 N (0)	Physicians were having more job satisfaction in their position in the four acute care areas than staff nursing related to their higher yearly income that may make them less collaboration.	I (P)

<p>Dingley, C, Daugherty, K, Derieg, M. K., & Persing, R. 2008 United States</p>	<p>The purpose of this study was to develop, implement, and evaluate a comprehensive provider/team communication strategy, resulting in a toolkit generalizable to other setting of care.</p>	<p>Improving Patient Safety Through Provider Communication Strategy Enhancements.</p>	<p>Quantitative</p>	<p>477</p>	<p>Result shows that SBAR was useful strategy in prepare information with other provider or staff member. Moreover SBAR help to decrease spend time in provided care for patients and resolution time.</p>	<p>I (RCT)</p>
<p>Donahue, M., Miller, M., Smith, L., Dykes, P., & Fitzpatrick, J. J. 2011 United States.</p>	<p>The specific project goals included (a) translation of SBAR structured communication methods for use with PPS, (b) reduction of cultural and educational barriers to interdisciplinary communication, and (c) examination of the effect of the EMPOWER intervention on the PPS communication practices and perceptions of the patient safety culture.</p>	<p>A leadership initiative to improve communication and enhance safety.</p>	<p>Quantitative (survey)</p>	<p>280 N= (98)</p>	<p>Results of the project indicate a change in the use of SBAR throughout the institution, with particular improvement in communication from PPS to professional staff.</p>	<p>II (P)</p>
<p>Fairbanks, R. J., Bisantz, A. M. & Sunm, M. 2007 United States.</p>	<p>To describe the communication links and patterns between and within emergency department (ED) practitioner types.</p>	<p>Emergency Department Communication Links and Patterns.</p>	<p>Qualitative (observation)</p>	<p>20 N=(0)</p>	<p>Verbal communication was the most common mode. Communication gaps were found between ambulance providers and the providers who would ultimately take care of the patient during their ED stay.</p>	<p>I (Q)</p>

Kalisch, Lee, & Rochman, 2010 United States.	The aim of the present study was to explore the influence of unit characteristics, staff characteristics and teamwork on job satisfaction with current position and occupation.	Nursing staff teamwork and job satisfaction.	Quantitative (cross sectional study)	3675 N=(0)	The result shows that existence of education and cultural differences are making challenges in communication among professionals.	I (P)
Klarare, A., Hagelin, C. L., Fu`rst, C. J. & Fossum, B. 2013 Sweden.	Explore team interaction among team members in specialized palliative care teams.	Team interactions in specialized palliative care teams: a qualitative study.	Qualitative (interview)	15 N=(0)	The communication as a key of team and helps resolving conflict and executing of care. The most common communication among teams of palliative care was verbal.	I
Manojlovich, M. & Antonakos, C. 2008 United States.	The objective of this study was to determine if specific communication elements contribute to nurses' satisfaction with communication.	Satisfaction of Intensive Care Unit Nurses With Nurse-Physician Communication.	Quantitative (non-experimental, descriptive design)	866 N=(404)	Positive communication between nurses and physicians may lead to improve job satisfaction, patient outcome and decrease in medical errors.	II (P)
Manojlovich,, M., Antonakos,C. L. & Ronis, D. L. 2009 United States.	To determine the relationships between patients' outcomes and (1) nurses' perceptions of elements of communication between nurses and physicians and (2) characteristics of the practice environment.	Intensive Care Units, Communication between Nurses and Physicians, and Patients' Outcomes.	Quantitative (cross-sectional survey)	866 N=(404)	Verbal and nonverbal communications are helpful way to develop a therapeutic relationship for patient and increase their corporation.	I (P)

Manojlovich, & DeCicco, 2007 United States.	To examine the relationships between nurses' perceptions of their practice environment, nurse-physician communication, and selected patients' outcomes.	Healthy work environments, nurse-physician communication, and patients' outcomes.	Quantitative (non-experimental, descriptive design)	866 N=(404)	There are perceptions from nurses about communication with physician. They found that magnet characteristic in practice environment and increased the communication and medical error is decreased.	I (P)
Marshall, S., Harrison, J. & Flanagan, B. 2009 Australia.	The aim of this study was to determine if the teaching of a communication tool SBAR improved the content and clarity of a telephone referral in an immersive simulated clinical scenario conducted in real time.	The teaching of a structured tool improves the clarity and content of interprofessional clinical communication.	Quantitative	17 N= (0)	The result shows that SBAR will help speaker to organize ideas, prepare critical information and help receiver to get important point.	II
Redfern, Brown, & Vincent, 2009 United Kingdom.	To describe the investigation of the communication processes within the ED, identify points of vulnerability and guide improvement strategies.	Identifying vulnerabilities in communication in the emergency department.	Qualitative (interview)	19 N= (0)	There are some of vulnerabilities in communication among health caregiver that cause catastrophic mistakes against patient.	II (Q)
Redfern, E., Brown, R. & Vincent, C. A. 2009 United Kingdom.	To improve the reliability of two steps of the communication process identified as having a high probability of failure: (1) transfer of information between the ambulance crew and the emergency staff; and (2) preparation of written documentation following patient assessment.	Improving communication in the emergency department.	Quantitative (observation)	182 N=(0)	The studies demonstrated very high levels of communication failure, particularly in transfer of written information from the ambulance crew. In addition, negative communication between nurses and physicians sometime leads to catastrophic mistakes against patient such as medical errors.	II (RCT)

Robinson, F. P., Gorman, G., Slimmer, L. W. & Yudkowsky, R. 2010 United States.	The purpose of this study was to explore nurse and physician perceptions of effective and ineffective communication between the two professions.	Perceptions of Effective and Ineffective Nurse-Physician Communication in Hospitals.	Qualitative (interview)	18 N=(0)	Nurse-physician' perceptions of effective and ineffective communication between them showed that linguistic barriers are one of ineffective communication.	I (Q)
Rothberg, M. B., Steele, J. R., Wheeler, J., Arora, A., Priya, A. & Lindenauer, P. K. 2011 United States.	To assess the association between time spent communicating, agreement on plan of care, and patient satisfaction.	The Relationship Between Time Spent Communicating and Communication Outcomes on a Hospital Medicine Service.	Quantitative (observation)	379 N=(0)	After observed eighteen hospitals, the result shows that there was no verbal communication between nurses and physicians due to lack of time.	II (P)
Sterchi, L. S. 2007 United States.	The purpose of this study was to examine physicians and nurses' perception and attitudes toward collaboration in the preoperative setting.	Perceptions that affect physician-nurse collaboration in the preoperative setting.	Quantitative (questionnaire)	137 N= (0)	The result shows that lack understanding between nurses and physician led to influence patient outcome and medical errors.	II (Q)
Street, M., Eustance, P., Livingston, P. M., Craike, M. J., Kent, B. & Patterson, D. 2011 Australia.	Identify the strengths and limitations in current practice of nursing clinical handover and implement a new bedside handover process.	Communication at the bedside to enhance patient care: A survey of nurses' experience and perspective of handover.	Quantitative (survey)	259 N= (0)	Improve clinical handover need to structure technique as SBAR which can help streamline exchanges information, and promote safety of patient.	I (P)
Tabak, & Koprak, 2007 Israel.	This research examines what tactics nurses adopt to resolve conflicts with doctors and how the different tactics affect their level of stress and job satisfaction.	Relationship between how nurses resolve their conflicts with doctors, their stress and job satisfaction.	Quantitative (questionnaire)	117 N= (0)	Nurses used hypothesis called integrating-dominance approach as a tactic to resolving conflict with physician, which will show less stress related to work.	II (P)

Tjia, Mazor, Field, Meterko, Spenard, & Gurwitz, 2010 United States.	The goal of this study was to describe nurses' perceptions of nurse-physician communication in the long-term care (LTC) setting.	Nurse-physician communication in the long-term care setting: perceived barriers and impact on patient safety.	Qualitative (interview) & Quantitative (questionnaire)	375 N= (0)	Nurses noted there are many barriers effect communication with physician and physician need to be more open in listening to them.	I (RCT)
Velji, K., Baker, G. R., Fancott, C., Andreoli, A., Boaro, N., Tardif, G., Aimone, E. & Sinclair, L. 2008 Canada.	To evaluate the effectiveness of an adapted SBAR tool for both urgent and non-urgent situation within a rehabilitation setting.	Effectiveness of an Adapted SBAR Communication Tool for a Rehabilitation Setting.	Quantitative (survey)	415 N= (0)	In rehabilitation setting use of protocol SBAR showed improvements of staff communication and increase safety reporting	II (P)
Wanzer, M. B., Wojtaszczyk, A. M. & Kelly, J. 2009 United States.	This study examined the relationships among nurses' perceptions of physician communication practices, nurse-physician collaboration, and nurses' job satisfaction.	Nurses' perceptions of physicians' communication: the relationship among communication practices, satisfaction, and collaboration.	Quantitative (survey)	205 N=(0)	Job satisfaction plays an important role to gain positive communication between nurses and physicians.	I (P)