

Effectiveness of the Educational Program Concerning Nurse- Midwives SBAR Tool Communication on Maternal Health Documentation at Maternal wards in Baghdad Maternity Hospitals

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DOI: [10.36347/sjams.2021.v09i06.015](https://doi.org/10.36347/sjams.2021.v09i06.015)

| Received: 09.04.2021 | Accepted: 02.06.2021 | Published: 15.06.2021

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Abstract

Original Research Article

Background: Obstetrics is one of the most common specialties to encounter malpractice claims. Some of the obstetric malpractice claims are related to poor nurse –midwives obstetric communications. The Situation, Background, Assessment and Recommendation (SBAR) model has been suggested as a channel to facilitate effective communication between healthcare professionals, developed for health care. **Objective:** To assess the effect of SBAR (Situation, Background, Assessment, and Recommendation) on maternal health report documentation accuracy. To determine the effect of adopting SBAR practice and communication tool in emergency and delivery settings. To find out the differences in the practice and communication of nurse –midwives before and after SBAR implementation. To develop a script paper based on SBAR tool for nurse –midwives. To assess the relationship between of self-assessment and researcher evaluation of maternal scenario application competency of nurse-midwives using SBAR tool. **Method:** A quasi-experimental design was carried out with the application of pre- posttest for nurses-midwives' knowledge regarding SBAR communication tool. The study is held in Al-Elwia maternity teaching hospital, Al –Karkh maternity hospital and Al-Yarmouk general teaching Hospital from 26/3/2017-to- 30/4/2018. The study aims to assess the Educational Program concerning Nurse- Midwives SBAR Tool Communication on Maternal Health Documentation at Maternal wards in Baghdad Maternity Hospitals and to assess the relationship between self-assessment and researcher evaluation of maternal scenario application competency of nurse-midwives using SBAR tool applying during fit time. The study sample consist of Non-probability (purposive) sample consisted of (84) nurse- midwives. The questionnaire comprised of demographic data, nurses- midwives knowledge of SBAR using (3) level Likert scale for assessment, with Cut –off point (2). Content validity was determined through (21) experts. Pilot study is conducted on (10) nurses-midwives at Al- Elwia maternity teaching hospital during the period from 15th to 22nd, may, 2017. **Result:** the study shows that the highest percentage of study sample was the age group of (21-25) years, and the graduate from midwives school (39.3%) of them has (1-5) years of work experience in maternity wards most of them Work in shifts and vacation (duty), and (56%) of them has nursing documentation one course inside the hospital and (54.8%) outside the hospital who presented low mean scores and relative sufficiency in both periods (Pretest and posttest test). No significant differences are shown between pre and posttest periods with the socio-demographic characteristics, except for work place at (P-value: 0.001-.040) respectively. There is significant statistical differences in all domain, so we reject the nil (H_0) hypotheses and accept the alternative one (H_1). There is high correlation between the assessments in comparing the four tools (Situation, Assessment, Background, and Recommendation). **Recommendations:** SBAR assessment quality care: Future research will have to address the accompanying, including requirement for refresher training inside team members after introductory SBAR instruction; the need for formal physician -nurse's midwives to be educated about SBAR.

Keywords: Obstetrics, SBAR, nurses-midwives, Educational Program.

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List of abbreviation

NO	Subject
SBAR	Situation –Background –Assessment –Recommendation
ICU	Intensive care unit
ERM	Early rapture membrane

Citation: Sundus Baqer Dawood. Effectiveness of the Educational Program Concerning Nurse- Midwives SBAR Tool Communication on Maternal Health Documentation at Maternal wards in Baghdad Maternity Hospitals. Sch J App Med Sci, 2021 Jun 9(6): 851-903.

WHO	World Health Organization
ED	Emergency Department
U SA	United States of America
IHI	Institute for Healthcare Improvement
AHRQ	Agency for Healthcare Research and Quality
CAUTIs	catheter associated urinary tract infections
AIHW	Australian Institute of Health and Welfare
ACSQHC	Australian Commission on Safety and Quality in Health care
NICU	Neonate Intensive care unit
(FHRM	fetal heart rate monitoring
ICCAS	Inter-expert Collaborative Competency Attainment Survey
IOM	Institute of Medicine
JCAHO	Joint Commission on Accreditation of Hospitals and Healthcare Organizations
FMDG	Fulfill Millennium Development Goal
CSO	central statistical organization
<i>N</i>	Number
HBM	health belief model
RS	relative -sufficiency
Chips	Clinical Hazard IN Patient Safety
SD	stander deviation
<i>M</i>	arithmetic mean
<i>K</i>	number of items
<i>r</i>	correlation Coefficient
X^2	Chi-square

1.1. INTRODUCTION

Communication happens every day, in nearly every situation. However, it isn't always effective. Human errors are the most common reason for planes to crash, and of all human errors, suboptimal communication is the number one issue. Mounting evidence suggests the same for adverse outcomes in critical care medicine (Brindley *et.al*: 2011). Communication breakdown is the leading cause of reported sentinel events in the perioperative setting. Barriers to optimal communication include noise, stress, multitasking, and rapid turnover among procedures (Australia health serves; 2010). More than 3, 000 sentinel events analyzed from 1995 to 2004 revealed that 65% of reported problems are caused by poor communication. In 2005, that percentage increased to 70%, of which half of the reported events occurred during the hand-off communication period (National Patient Safety Goal 2E, 2006). The causes and characteristics of communication errors in health care are myriad and complex. The situations often complicated by hierarchical, gender, and ethnic differences, especially in the communication between nurses and physicians (Monroe; 2011. Haig *et al*; 2006. Manning; 2006; Sutcliffe *et al*, 2004).

George Bernard Shaw, renowned playwright, journalist, and winner of the Nobel Prize, said: "*The single biggest problem in communication is the illusion that it has taken place*". Perhaps the best way to facilitate effective communication is the use of a standardized communication model. The model that the Joint Commission uses for communication is SBAR (situation, background, assessment, and

recommendation) (Labson; 2013). SBAR is originally developed by the United States Navy as a means of communication among nuclear submarines. It is to create a scripted language that would reduce miscommunication incidents that often result in catastrophic events (Doucette; 2006). It's then adopted by the aviation industry before coming to health care. Kaiser Permanente of Colorado is the first health care to utilize this communication model, implementing it in their rapid response teams (Pope; 2008). Nurse and physician communication is further impeded by differences in training and reporting expectations (Thomas *et al*; 2009).

The SBAR protocol was first introduced at Kaiser Permanente in 2003 as a framework for structuring conversations between doctors and nurses about situations requiring immediate attention (Thomas *et. al*; 2009). From this introduction, SBAR is perceived by health care administrators as being able to improve the accuracy and efficiency of communication in various health care settings. Thus, SBAR has been positioned as a tool to facilitate understanding between people who interact frequently or infrequently but might not communicate in the same way (Cornell; 2014).

The use of SBAR in health care communications has proven effective. According to (Guhde; 2014), it has promoted discussion between disciplines, and led to improved clinical judgment and decision making. In additions to these are findings, the use of SBAR has been increased consistency in

interdisciplinary collaboration and improved efficiency (Cornell *et. al*; 2014).

The success of the tool, particularly at standardizing communication in high-stress environments, led to its adoption in other settings, including health care. This appears to be a logical extension because Nurses, Physicians, and other health care workers often find themselves in situations requiring rapid but accurate communication while under extreme stress, as might be found in medical/surgical, obstetric, and neonatal units (Woodhall.*et.al*; 2008).

Problems arise in these settings when messages are not clearly delivered by the sender or are misunderstood by the recipient. Furthermore, differences in communication styles between health care workers may contribute to a breakdown in communication and negative patient outcomes. Dysfunctional Nurse-Physician communication has been linked to medication errors, patient harm, and patient deaths. The organization is accountable for providing a context that supports effective Nurse-Physician communication. Organizational strategies to create such a context are synthesized from the structural, human resource, political, and cultural frameworks of organizational behavior (Arford; 2005).

Many professional organizations, including the Institute of Medicine (IOM), the National Patient Safety Foundation, the American Medical Association, the JCAHO and the Agency for Health Care Research and Quality, have encouraged changes in communication between health care practitioners and the adoption of key strategies such as collaboration in order to minimize errors (Dougherty. Larson; 2005).

Evidence exists linking Nurse-Physician collaboration with greater nurse job satisfaction, decreased patient mortality and improvement in quality patient care depending on many variables in each individual study setting (Dawn; 2016. Joyce; 2011).

The SBAR protocol is position as a solution to these problems. When SBAR is used, the sender communicates the patient's condition in a concise manner by delivering each of the components of the protocol in sequential order and without extraneous detail. This provides the receiver with an expected framework for communication, fosters preparation on the part of the sender, and reduces the likelihood of errors of omission (Marini; 2005).

SBAR allows for an easy and focused way to set expectations for what will be communicated and how between members of the team, which is essential for developing teamwork and fostering a culture of patient safety'' (Kaiser Permanente, 2010). Because of its preliminary success, SBAR is becoming more

widely adopted at hospitals across the United States, especially in acute care situations (Pope. *et. al*; 2008).

1.2. Importance of the Study:

Poor communication in the healthcare system has been linked to patient safety events. Poor communication is responsible for up to two-thirds of sentinel events, and of those events, over half are related specifically to poor transition of patient care between providers (Pillow, 2007). The realities of our current complex healthcare system that may contribute to poor communication include the involvement of many team members using a variety of communication methods, professional hierarchies that inhibit Communication and members of the healthcare team constantly changing because of shift and schedule changes. One of the professional communication strategies that has been recommended to improve quality and safety by overcoming some of these barriers is the Situation- Background-Assessment-Recommendation/Request (SBAR) Communication tool (Kostoff *et al.* 2016).

Effective communication skills help in finding solutions to patients' problems and enhance nurse' self-confidence of taking care of patients (Smith. *et al.* 2011). Ineffective ways of communication negatively affect mortality rates, abnormal cases, near miss cases, and financial loss in healthcare fields as well as complaints among patients (McMurray *et. al.* 2010).

SBAR tool, developed for health care, may be useful as it can be used to efficiently hand over individual patient in approximately 30-60 second. Introducing a system such as SBAR into inter-professional communication not only improves the efficiency of communication, it also allows all members of the team lower down the hierarchy to add to conversation in an organized fashion (Kostoff. *et al.*; 2016).

Success of this tool, particularly at standardizing communication in high stress environments, led to its adoption in other setting, including health care. This makes sense because Nurses, Midwives, Physicians, and other health workers often find themselves in situation requiring rapid but accurate communication while under extreme stress such as in maternal obstetric, and neonatal units (.James *at.al*; 2011. woodhall *et.al*; 2008).

SBAR use has not only improved the relationship between the doctors and the nurses but has also had a dramatic increase of overall health of patients. This led to a decrease in hospitalizations and deaths which efficiently improved communication between the nurse and doctor, which also led to a reduction of unexpected deaths. The problem between

the communication nurses and doctors is that the levels of teamwork and interaction are different therefore causing ineffective communication (Narayan; 2013).

SBAR promotes quality and patient safety, primarily because it helps individuals communicate with each other with a shared set of expectations.

Staff and physicians use SBAR to share patient information in a clear, complete, concise and structured format; improving communication efficiency, accuracy and education level role and view point set to the communication process in health care setting according to (Manning; 2006).

The nursing change of shift report or handover is a communication that occurs between two shifts of nurses whereby the specific purpose is to communicate information about patients under the care of nurses (Lamond; 2000).

A nursing care plan provides direction on the type of nursing care the individual/family/community may need. The care plan is essentially for the documentation of this process. It includes within it a set of actions the nurse will apply to resolve/support nursing diagnoses identified by nursing assessment in healthcare, a change-of-shift report is a meeting between healthcare providers at the change of shift in which vital information about and responsibility for the patient is provided from the off-going provider to the on-coming provider (Grover *et. al*; 2013).

Nurses know how important communication is in the midst of their typically fast-paced and hectic day, and without excellent communication skills, time can be wasted. When nurses need to relay information concisely and quickly to physicians, the SBAR communication method is a favorite way of getting information across. (Labson; 2013)

1.3. Hypothesis of the study:

1. Null hypothesis which that: $H_0 = M_1 = M_2 = 0$. There will be no significant effectiveness of education training program (*pre-posttest*) concerning nurse- midwives SBAR tool communication versus to alternative hypothesis which that: $H_1 = M_1 = M_2 \neq 0$ (*correlation pre-posttest*)

2. Hypothesis statement: there is significant effectiveness of education training program concerning nurse- midwives SBAR tool communication.

1.4. Statement of the Problem:

Effectiveness of the Educational Program concerning Nurse- Midwives SBAR Tool Communication on Maternal Health Documentation at Maternal wards in Baghdad Maternity Hospitals.

1.5. Objectives of the Study:

1. To assess the effect of SBAR (Situation, Background, Assessment, Recommendation) on maternal health report documentation accuracy.
2. To determine the effect of adopting SBAR practice and communication tool in emergency and delivery settings.
3. To find out the differences in the practice and communication of nurse –midwives before and after SBAR implementation.
4. To develop a script paper based on SBAR tool for nurse –midwives
5. To assess the relationship between of self-assessment and researcher evaluation of maternal scenario application competency of nurse-midwives using SBAR tool.

1.6. Definition of Study Terms:

1.6.1 Effectiveness:

1.6.1. a. Theoretical Definition:

Effectiveness is the capability of producing a desired result or the ability to produce desired output. When something is deemed effective, it means it has an intended or expected outcome, or produces a deep, vivid impression (Dictionary; 2018).

1.6.1. b. Operational Definition:

The outcome results of skill of the educational program concerning Nurse- Midwives SBAR Tool Communication on Maternal Health Documentation at Maternal wards in Baghdad Maternity Hospitals.

1.6.2. Educational Program:

1.6.2. a. Theoretical Definition:

A planned, is coordinated group of activities, procedures, etc, often for a specific purpose, or a facility offering such a series of activities (Dictionary; 2018).

1.6.2. b. Operational Definition:

It is the process of sharing knowledge and training about communication by using SBAR tool documentation brief, clear, specific during time about critical maternal care.

1.6.3. Nurse-

1.6.3. a. Theoretical Definition

The nurse is a person who has completed a program of basic, generalized nursing education and is authorized by the appropriate regulatory authority to practice nursing in his/her country, to participate fully as a member of the health care team (International Council of Nursing; 2018).

1.6.3. b. Operational Definition

Who taking care women during are especially during critical area at Gynecology and Obstetrical hospitals.

1.6.4. Midwives**1.6.4. a. Theoretical Definition**

Midwives are health professionals who provide primary care to mother and her baby during pregnancy, labor, birth and the postpartum period, and integrated into health care system and work with doctors, nurses and health professionals when needed to provide appropriate and holistic care (Canadian association of midwives; 2018).

1.6.4. b. Operational Definition:

Those women who have academic education and work in maternity hospitals, which provide care for patients in different areas (delivery room, maternity wards, emergency room, intensive care unit).

1.6.4. SBAR (es'bar') Tool:**1.6.4. a. Theoretical Definition:**

Situation-background-assessment-recommendation (a tool used by health care professionals when they communicate with each other about critical changes in a patient's status) (Medical Dictionary; 2009).

1.6.4. b. Operational Definition

Is a tool used for communication between nurse –physician, and other work team to share concise important information in an effective method in a short time to enhance patient health outcomes.

1.6.5. Communication**1.6.5. a. Theoretical Definition**

Communication is the exchange of thoughts, messages, or information, either by speech, signals, writing, or behavior. A system is sending messages, orders and receiving messages between health workers and employees (Medical Dictionary; 2009).

1.6.5.b. Operational Definition

Is a way or a method that is used by Nurse – midwives to exchange information between health work team in maternity wards for improving high quality and fast care.

1.6.6. Maternal Health**1.6.6.a. Theoretical Definition**

Maternal health is the health of women during pregnancy, childbirth, and the postpartum period. It encompasses the health care dimensions of family planning, preconception, prenatal, and postnatal care in order to ensure a positive and fulfilling experience in most cases and reduce maternal morbidity and mortality in other cases (WHO Maternal Health; 2018).

1.6.6.b. Operational Definition:

Maternal health refers to health of women during prenatal, antenatal, and postnatal periods.

1.6.7. Documentation:**1.6.7.a. Theoretical Definition:**

Nursing documentation is the principal clinical information source to meet legal and professional requirements of the daily reality of nurses' work. (Daskein *et.al*; 2009).

1.6.7. b. Operational Definition

Nursing documentation is the record of nursing care that is planned and delivered to individual clients by qualified nurses or other caregivers using SBAR sheet, it provides information in accordance with the steps of the nursing process.

2. LITERATURE REVIEW

The literature review will provide comprehensive overview of current literature and research that has been reported regarding SBAR tool communication with nursing documentation includes:

Part I:**2.1.1. Theoretical Frameworks**

This study uses two frameworks; the first focuses on better communication, collaboration and critical thinking in cases of obstetric emergencies in delivery rooms and maternal wards. Nurses and midwives are educated and instructed specially SBAR tool to handover communication between nursing shifts and to use SBAR in critical cases of when there is a need to call the physician, and explaining the use of SBAR and training in using SBAR by manual note with scenario educated and instructed by 90 minutes training session. The second framework is theory we are selected of Kurt Lewin, who is considered the father of social psychology. This theory is his most influential theory. He theorized a three-stage model of change known as unfreezing-change-refreeze model that requires prior learning to be rejected and replaced. Lewin's definition of behavior in this model is "a dynamic balance of forces working in opposing directions." (Nursing-Theory.org.2016).

LEWIN'S hypothetical structure for make-up changing one style, moveable or re-up work style change about clear point for midwives- and other health works attitude through when they moved steps (Bozak, M. G. 2003). It indicates the implementation of the three levels concepts to this program. (Joy E.2015)

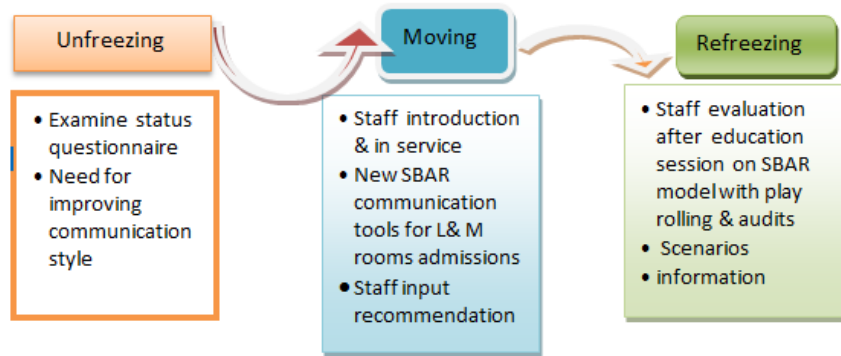


Fig-2.1: Lewin's change theory the application

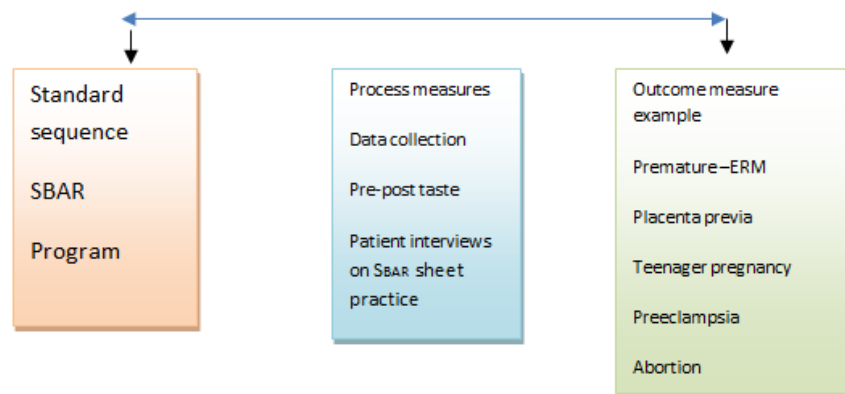


Fig-2.2: Lewin's steps theory

The design and target population of intervention process measures, such as measures of the intended delivery of the intervention (e.g., data collection, pre-posttests, patient interviews) on SBAR sheet practice Play rolling, and staff coaching and feedback tool). Outcome measures, which includes measures for the intended response or results of the intervention (e.g., premature –ERM, placenta previa, teenage pregnancy, preeclampsia, abortion, postdate pregnancy) concerns, and staff keeping patient informed.

2.1.2. Overview

Unclear and ineffective communication among health care professionals is a common underlying cause of patient injuries in healthcare (Gawande *et. al*, 2003). Therefore, the transmission of information among health care professionals is very important. If the information is unclear, there will be no typical understanding with which there will be a risk and harm to the basis of human services and the assessment and choices of experts will be inadequate (Greenberg *et. al*; 2007. Blom; 2015).

Communication failures have been referred to as the leading cause of inadvertent patient damage (KarimaVelji.*et. al*; 2008). Communication failures cause many problems for instance inadequate data, faulty exchanges of existing information, unsure and doubtful records and lack of timely and effective trade of applicable information (Sutcliffe. *et. al*; 2004) and

result from individual, interpersonal and systemic factors. Increasing recognition of these issues has made improving teamwork and communication a priority for advancing patient safety and quality of care (Leggat, Dwyer 2005; Baker, Norton; 2001).

Human errors are the most common reason for planes to crash, and of all human errors, communication errors are number one (Rall; 2005). to (25%) of sentinel events reported in public hospitals in 2004-2005 (AIHW; 2007). Additionally, (11%) of preventable adverse events leading to permanent patient disability have been attributed to communication issues, in comparison to (6%) resulting from inadequate skill levels of clinicians (WHO; 2007).

The health care environment has increasingly complex, with patients receiving input from multidisciplinary teams, consisting of clinicians with diverse backgrounds, training and communication styles, with nurses, doctors and other clinicians taught to communicate in very different styles (Leonard *et. al*. 2004). Communication is a vital constituent of healthcare and is necessary in order to provide patients with the best possible care. This makes clear the risk of communication breakdown and the impact of such an event. Many factors contribute to communication failures in health care including traditional hierarchical relationships, increasing workload, a mobile workforce, differing perceptions and language and prior experiences (Curtis *et. al*; 2011).

Nursing is a team work. Ineffective communication has many nursing implications. It affects the care delivery, collaboration with other health care team members. Poor communication and communication breakdown are shown to have direct bearings with the client care and outcome. Among many nursing implications that can be noted from this research exercise, three key implications he was find from this article that are noteworthy are the importance of self-reflection or self-analysis; the importance of preparation; and the importance of using structured communication technique as ways to enhance one's Nurse communication skill in a clinical settings, there by become better advocate for the clients (Curtis *et. al*; 2011).

Nursing is a collaborative practice and it involves exchange of information every minute. Is what makes best nursing care possible? Good nursing means nothing if communication is ineffectiveness and failure. Nurses are, above all, the communication bridges between clients and doctors, among clients and the family members (Diane. *et al*; 2012).

A lack of formal training and assessment in communication and teamwork skills has been identified as an issue within the health care workforce, and the hierarchical culture in medicine has been blamed for prohibiting people from speaking up (Leonard *et. al*; 2004). A trend towards specialization of health care provider's means more people and units are involved in a patient's care (WHO; 2007). Furthermore, members of the multidisciplinary team are often separated from each other both in time and space and members of the team may change many times during the patient's treatment. All of this can complicate communication and illustrates the importance of effective communication within the team for successful coordination of teamwork and collaborative care (Marshall *et. al*; 2015).

Obstetrics is one of the most common specialties to encounter malpractice claims. Some of the obstetric malpractice claims are related to poor nurse–obstetric communications (Haig; 2006) reported that nearly two thirds of adverse sentinel events in hospitals are related to communication problems.

During critical obstetrical events, there may be brief communication between nurses and obstetricians via telephone conversations; however, this may be a vulnerable process through which communication can fail (Rabol; 2011).

The situation-background-assessment-recommendation (SBAR) technique provides a structured method for consistent collaborative communication between healthcare providers (Sexton; 2006), streamlining information exchange and

promoting patient safety. (Flemming *et.al*; 2013) suggested that the use of tools, such as the SBAR, plays a role in avoiding communication errors. Studies evaluating the SBAR have also been shown to increase the perception of effective nurse–physician communication and collaboration in surgical and medical wards as well as in the rehabilitation setting (Meester; 2013).

Nonetheless, training is needed before the use of the SBAR technique which may be time-consuming. We wondered whether the SBAR technique would increase the workload for nurses, harm the work climate, or be detrimental to the neonatal outcome because it is a time-consuming technique. As a result, the primary objective of this observation is after evaluation the effect of the SBAR technique on the safety attitudes inside the obstetric department, especially the attitudes of the nurses, and midwives and the secondary outcome is to evaluate the effect of the SBAR technique on the neonatal outcome (Ting WHI; 2017).

Leonard *et al*; (2004) describe how the inherent limitations of human memory and the ability to multitask, in an environment associated with high levels of stress, fatigue and frequent interruptions, means that even the most skilled and experienced clinicians are likely to make mistakes. Effective communication and teamwork strategies are therefore essential to help prevent these inevitable mistakes from becoming consequential and harming patients and providers.

2.1.3. Nursing Documentation in Iraq

The documentation of nursing in Iraq lacks much importance and comprehensiveness to daily nursing work, where the nurse or midwife does a lot of work, but only a small part of it is documented. The daily routine of the nurse or midwife writes the report at the end of each shifts includes only number of patients and treatment, as well as the number of patients entering or leaving. They are written famous phrase (all patients stable).

It consolidates a daily record of documentation (assets in the workplace such as tools, furniture, blankets and bedding) takes a great deal of importance and is a priority for the work of the responsible head nurse shift (note that it is not nursing work).

Reducing nursing work is not only a disadvantage of nursing work. The daily routine of working in hospitals depends on the patient's condition, initial diagnosis, referral and consultation of the doctor's work only, knowing that they is studying in the nursing curriculum but in a simple manner, as well as urging the ministry to complete several courses In-hospital and out-hospital training. So far he has not taken his active role in nursing work.

2.1.4. Communication team in the Emergency Department:

The Emergency Department (ED) is an area in which multiple transitions of patient care occur. The communication process in the ED is particularly complex and there are many opportunities for errors which can impact on patient care (Redfern *et al*; 2009). The simultaneous management of multiple ill patients, practitioner shift work, limited knowledge of patients' pre-existing medical conditions, high levels of diagnostic uncertainty, high decision density, unscheduled care and variable practice settings make ED transfer of care especially vulnerable to error (Bomba. Prakash; 2005).

Depending on hospital's specific policy, it may need to activate this emergency team at some point. SBAR will help present key information needed to help. Patient whose is condition deteriorating. The team needs critical information about the patient to assess the situation. Handover of clinical information from ambulance crew to ED staff is often ineffective and error-prone, with one study indicating that only 56% of verbal information is accurately retained by ED staff (Redfern, *et al*; 2009. Talbot. Bleetman; 2007).

Preparation for potential emergencies requires planning and interdisciplinary collaboration, designating specialized first responder, and holding drills to ensure that everyone knows what to do in an emergency, teamwork will increase the efficiency, effectiveness and rapid response with protocol should provide for a full evaluation of the problem such SBAR; all health providers are encouraged to clearly communicate the patient care issue (Reaffirmed; 2016).

2. 1.5. Communication Breakdown:

Communication breakdown is the leading cause for reported sentinel events in the critical setting. Barriers to optimal communication include noise, stress, multitasking, and rapid turnover between procedures a standardized hand-off method provides an opportunity for personnel to ask and answer questions and should be available in the critical setting. At one facility, the standardization of hand-off reporting resulted in the development of new hand-off tools specific to the critical environment. A standardized reporting method enabled health care providers to address communication barriers and to maintain their focus on the patient during critical moments (e.g. shift changes), thereby improving patient safety (Johnson, *et al*; 2013).

Hospital communication is further complicated by the work setting, where conditions change quickly, and staff is dispersed. Information is contextual, and the surrounding circumstances influence subsequent action. Staff needs to see "the whole" in order to interpret meaning and decide next steps (Pirnejad, H; 2008).

This leads to a report use of verbal and recorded information (Benham-Hutchins; 2010). Nurses consult both sources continuously and dynamically, but prefer verbal communication, despite its highly interruptive nature (Mackintosh; 2009). Researchers at Kaiser Permanente examined a perennial source of communication problems: that between nurse and physician, especially during urgent and time-sensitive situations (Thomas; 2009). They found differences in training, hierarchy; gender and style were often at the root of miscommunication (Haig; 2006).

Drawing from the military aviation, and nuclear energy industries, they developed a 4-part, scripted protocol for communicating about patients called SBAR situation, background assessment, and recommendation (Doucette; 2006).

SBAR helps establish a common language and expectation, which reduces the effects of differences in training, experience, or hierarchy (Haig; 2006). This helps users form schemas and contributes to social capital (Vardaman; 2012).

The evidence-based adoption of SBAR has led to recommended use in hand-offs, medication reviews, rounds, and post-surgery meetings. Nurses often communicate in narrative style (Hill; 2010), and learn on the job. Presentation skill varies with experience, which can be counterproductive in an interdisciplinary setting. Hypothesis II asserts the script provided by SBAR will serve as an equalizer, raising the consistency of all nurses (Cornell; 2014).

The SBAR communication tool is a simple, structured, and standardized technique that the United States military developed and used to improve communication among team members during urgent situations. Members of the healthcare industry later adopted it and to be used in a wide variety of settings (Redfern; 2017. IHI; 2015). It is also one of many tools provided in the team-training program, which is often used in healthcare settings to improve teamwork, and ultimately patient care and safety. Many healthcare organizations have adopted the SBAR communication tool into their system and expect their clinicians to use it to enhance team-based communication. The actions required when using the SBAR tool are as follows: Situation, brief statement of problem. Background, concisely present relevant information related to the situation. Assessment, provide an analysis and consider the various options; and Recommendation, recommend a specific action.

This format allows for standard expectations with regard to the content and structure of information that is communicated. Because the SBAR communication tool is becoming increasingly popular in the healthcare setting, embedding it into health professions' education is important. This integration

will help close the gap between education and clinical practice. The Agency for Healthcare Research and Quality (AHRQ) has recommended that all professions be trained on the communication tool to achieve maximum effectiveness in inter professional healthcare settings. Despite these recommendations, there are limited reports in the literature regarding training of students to use the communication tool (Sharder, 2015. Marshall; 2009).

Within these limited publications, a wide variety of pedagogies are reported and the best training method has not been determined. Most of the literature related to the SBAR communication tool is situated in nursing education, and all of the training models took place within their own profession and did not involve other inter professional learners (Wang. 2015).

2.1.6. Handoffs:

Handoff is defined as direct face-to-face referral between primary care provider and behavioral health staff (Collins; 2009). During this process, the primary care provider will discuss patient information and introduce the behavioral health staff directly to the patient during the same visit.

Handoff reporting is recognized as a major healthcare challenge primarily due to the breakdowns in communication that occur during transitions in care. Consequently, they are characterized as being "remarkably haphazard", standardization in handoff communication events and unsuccessful completion of pre-turnover coordination activities. They propose strategic solutions that can effectively help mitigate the handoff communication breakdowns. Patient handoff remains one of the most important aspects of patient care. Effective and efficient communication must be incorporated into any handoff system for optimal and safe patient care. The SBAR transfer note standardizes the patient handoff method and increases nursing adherence and satisfaction with the new practice. They hope that the SBAR transfer note continues to promote and enhance communication at their hospital for current and future patients. Communication handoffs are critically important in creating a shared mental model around the patient's condition. Without a good shared model, we lose situational awareness. This loss of situational awareness has led to well-known tragedies (Strople; 2006. Wachter; 2004).

Daily experience in health care has taught us that there are many opportunities for improving the passage of information during handoffs. Many barriers can potentially contribute to communication difficulties between clinicians. A lack of structure and standardization for communications, uncertainty about who is responsible for the patient's care management (primary health team), hierarchy, sex, and ethnic background may all be contributing factors, are also a

major contributing factor differences in communication styles between nurses and physicians (Thomas; 2004).

A patient handoff refers to the transfer of care from one care provider to the next and involves the following aspects:

1. A transfer of all information to patient.
2. Responsibility and authority of transfer.
3. Handoff therefore is a clinical and organizational process that occurs at all levels of the hospital, starting from an individual level (e.g. between nurses during shift reports)
4. To an organizational level (e.g. between hospitals during patient transfers).
5. Despite its important role in ensuring the continuity of patient care activities, it remains a huge threat to patient safety.
6. Communication failures have been cited as the leading cause for a range of medical errors and adverse events (nearly 70%) in healthcare.
7. Almost half of these communication errors occurred during handoffs between care providers.
8. Consequently, handoffs have been characterized as being "remarkably haphazard" and "biform laic, partial and cryptic."
9. Several healthcare researchers and practitioners have highlighted that poor "handoffs often end in patient harm.

The issue of handoffs has been recognized increased attention by researchers, thereby illustrating the ubiquity and relevance of the problems associated with transitions in care. Some researchers have highlighted the barriers to effective handoffs¹, while others have studied the consequences of poor handoffs (Joanna Abraham; 2017).

To overcome these handoff barriers, some key strategies have been proposed such as

- (a) The incorporation of standardization methods for instance, with the use of templates, heuristics and communication mnemonics including SBAR (Situation, Background, Assessment and Recommendation) (Haig.*et al*; 2006).
- (b) The incorporation of education sessions to better train care providers performs effective handoffs for instance, with the use of simulated clinical exercises, and finally (Joanna Abraham; 2017).
- (c) The incorporation of tools such as online forms, checklists and other computerized technologies that can provide a structure to guide healthcare providers to share relevant and critical information (Arora. Johnson; 2006).

The SBAR tool may improve handover by providing a template which creates a clear picture of the patient's clinical issues while also defining outstanding issues and tasks. It aids communication by offering an expected pattern of transferred information so errors or omitted information become clear, despite handover practice being widely discussed in the literature,

Study of (Shalini; 2014) concludes that the staff nurses had positive opinion on SBAR technique of communication during patients' handoff. Most of them either agree or strongly agree for most items of the tool.

So this tool can be implemented in the nursing practice in order to improve the quality of care and patient safety.

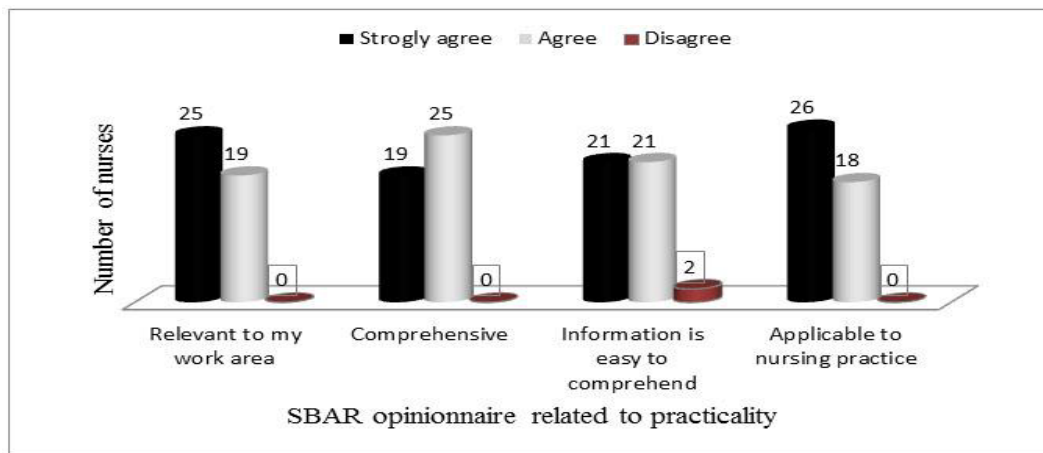


Fig-2.3: Frequency Distribution of Opinion Related to Practicality of SBAR Technique of Communication

2.1.7. Communication Failure:

Communication failures are cited as the leading cause of inadvertent patient harm (Joint Commission on Accreditation of Health Care Organizations, 2004; Sutcliffe *et al.*, 2004).

Communication failures include issues such as insufficient information, faulty exchanges of existing information, ambiguous, unclear information, lack of timely, effective exchange of pertinent information, result from individual, interpersonal and systemic factors (Leonard *et al.*, 2004; Sutcliffe *et al.*, 2004). Increasing recognition of these issues has made improving teamwork and communication a priority for advancing patient safety and quality of care (Health Council of Canada 2005; Leggat & Dwyer 2005; Joint Commission on Accreditation of Health Care Organizations 2004; Canadian Council of Health Services Accreditation 2004; Baker, Norton; 2001).

Effective interaction among team members has been associated with greater efficiency and decreased workloads, improved clinical outcomes, reduced adverse drug events, reduced patient morbidity, improved job satisfaction and retention and improved patient satisfaction (D'Amour *et al.*; 2005. Zwarenstein *et al.*; 2005. Aiken; 2001).

The link between communication and patient safety is well recognized in health care, with communication failure being identified as the leading cause of inadvertent patient harm (Leonard *et al.*; 2004).

Many factors contribute to communication failures in health care including traditional hierarchical relationships, increasing workload, a mobile workforce, differing perceptions and language and prior experiences. Nursing is a team work. Ineffective

communication has many nursing implications. It affects the care delivery, collaboration with other health care team members, and empowerment of the clients. Poor communication and communication breakdown are shown to have direct bearings with the client care and outcome (Curtis *et al.*; 2011).

Where the communication fails:

- Failure to get attention.
- Failure to communicate level of concern.
- Failure to communicate real problem.
- Failure to communicate desired action.
- Failure to reach decision together before communication is cut off.

2.1.8. Communication Errors:

The airline enterprise felt obliged as lives and profits are at stake. Scientific mistake is believed to be the reason at least for 80 000 annual death in United States alone (St Pierre; 2008. Brindly; 2010). Given the great value of communication, specialists in vital care must additionally be professionals in important care verbal communication (Brindly; 2011).

Most errors are result from aberrations in mental functioning. Thus, are to understand why errors occur who should first understand normal cognition. Although many theories have been espoused, and experts disagree, a unitary framework has been proposed by, that captures the main themes of cognitive theory and is consistent with empirical observation. It goes as follows (A variety of factors can divert attention control and make slips more likely. Physiological factors include fatigue, sleep loss, smoking, drugs, and illness. Psychological factors include other activity ("brevet busyness"), as well as emotional states such as boredom, frustration, fear, anxiety, or anger. All these factors lead to preoccupations that divert attention.

Psychological factors, though considered "internal" or endogenous, may also be caused by a host of external factors, such as overwork, interpersonal relations, and many other forms of stress. Environmental factors, such as noise, heat, visual stimuli, motion, and other physical phenomena, also can cause distractions that divert attention and lead to slips and communication error (Leape; 1994).

2.1.9. SBAR Communications:

SBAR (pronounced s-bar) is communication tools that can improve the way communicate. SBAR is an evidenced-based communication model developed in the military and is widely used in many industries including aviation and health care to make sure the right information gets to the right people in the shortest timeframe. It is currently the communication standard of care in many emergency departments in the United States because it has been so effective in improving communication between all types of health care providers. Joint Commission and the Institute for Healthcare Improvement now recommend this communication tool to (Cornell.etal; 2014).

It is also one of many tools provided in the Team training program, which is often used in healthcare settings to improve teamwork, and ultimately patient care and safety. Many healthcare organizations have adopted the SBAR communication tool into their system and expect their clinicians to use it to enhance team-based communication.

The actions required when using the SBAR tool are as follows: situation, succinctly state the problem; background, concisely present relevant information associated with the situation; assessment, provide an analysis and consider the various options; and recommendation, recommend a specific action. This format allows for standard expectations with regard to the content and structure of information that is communicated. Because the SBAR communication tool is becoming increasingly popular in the healthcare arena, embedding it into health professions' education is important. This integration will help close the gap between education and clinical practice. The Agency for Healthcare Research and Quality (AHRQ) has recommended that all professions be trained on the communication tool to achieve maximum effectiveness in inter professional healthcare settings. Despite these recommendations, there are limited reports in the literature regarding training of students to use the communication tool (Marshall; 2009. Shrader; 2015).

Hospitals are centers of communication. Patients who come into facility will be treated by any number of healthcare professionals. Each person who works with a patient must provide accurate and updated information whether are a nurse, dietician, and maintenance worker, or surgeon, ability to communicate information effectively and efficiently

greatly affects patient safety. In fact, data shows that most medical errors occur as a result of communication break. (Enrico Coiera; 2006)

2.1.10. Whom they can use SBAR with daily works:

SBAR communications want with different:

- Nurse to physician
- Physician to physician
- Resident to attending.
- Nurse to Nurse.
- Pharmacy to Nurse / physician.
- Nurse to technician.
- Bed control to Nurse.
- Administrator to Nurse / physician.
- Office /dietary / housekeeping staff to patient.

2.2.1. Impact of SBAR on Nurse Reports Communication:

Using the SBAR has been shown to reduce errors in communication, facilitate clinical decisions on the part of providers and increase staff satisfaction with communications and awareness of safety. The SBAR sharpens the ability to present information in formal presentations and reduces errors in order entry. SBAR education has been shown to increase a healthcare provider's ability to make an informed decision regarding the care of a patient. It has not been shown to significantly affect the outcome of adverse events. The SBAR can facilitate increased confidence in presenting situations to other healthcare providers and can expedite the orientation process (Cornell. *et al*; 2014).

A number of protocols are proposed for improving communication between nurses and physicians. A literature search is made at the beginning years 2000-2012 using search words nurse communication, SBAR, workflow, rounding, shift reports, handoffs, discharge planning, and interdisciplinary collaboration. These typically provide a structure for consistent identification and prioritization of patient information. One protocol receiving a great deal of attention is Situation-Background-Assessment-Recommendation (SBAR). Designed to improve nurse-physician communication in urgent situations, SBAR can make communication more consistent and predictable. It also is intended to create a common mental model for structuring, prioritizing, and sharing information. However, SBAR does more than facilitate communication. It promotes critical thinking skills, enabling staff to do more than collect and convey data reported use of SBAR builds social capital and legitimacy for nurses in their interactions with physicians. Given its impact on nurse-physician communication, SBAR also has been advocated in nurse-to-nurse communication, particularly during shift reports (Cornell. *et al*; 2014).

2.2.2. Shift Reporting:

Shift reports occur at least twice a day for every patient, but the process rarely is taught in basic nursing education. Shift reports, as a form of handoff, typically are unstructured and inconsistent. Attention by The Joint Commission (2006) has prompted a change, but more is being learned as research is published. Four types of shift report typically are utilized: verbal reports, tape recordings, phone calls, and written reports (Nelson. Massey; 2010; Riesenberg *et al*; 2010).

While shift report often has been considered simply an exchange of patient information, Staggers and Jennings (2009) indicated shift report also plays organizational, social, and educational roles. Nonetheless, criticisms persist as to the required time, informational value, redundancy, and lack of standardization (Kerr *et al*; 2011. Sexton *et al*; 2004).

Similar to any other communication event, shift report benefits from a mixed medium. (Pothier *et al*; 2005) found information retention by staff was better when written and verbal reports were combined (Wentworth *et al*; 2012) reported a simple written form reduced report time by more than 50% (*That article describes a clinical nurse-led initiative that changed the traditional group shift report in the conference room to a combination of a written report with a nurse-to-nurse verbal exchange at the patient's bedside. The new process resulted in less time spent in shift report, financial savings from reduced overtime, and a decrease in the number of patient falls and call lights during change of shift*). Concluded no one approach to shift report outperforms the others. One explanation for this may be the lack of standardized tools to evaluate handoff quality. Handoffs serve a critical function in ensuring patient care continuity during transitions of care (Ong. Coiera; 2011).

2. 2.3. Components of SBAR:

Each component of (SBAR) situation, background, assessment, Recommendation—provides a format for which to present Information in a specific, system way.

A. SITUATION:

The situation is defined as patient conditions which required a referral. The situation needs to be clear and brief (Dingley. Daugherty. Derieg. Persing; 2008).

This part of SBAR determines what goes on and why health care professionals are needed. Health care professionals become familiar with the environment condition health the patient. Identify the problem and concern and provide a brief description of it. About staff health can be able to describe what is going on with the patient and why they are experiencing (what is going on) (Dunsford; 2009). During this stage of the communication the main goal is to communicate

what is happening (Thomas, 2009). It is recommended that this element be brief and last no more than 10 seconds. It is recommended that health care professionals identify the person with whom they are speaking, to introduce oneself (including title or role) and where one is calling from. Providing information about the patient such as name, age, sex, and reason for admission is also important. Lastly, the health care professional is to communicate the patient's status (such as chest pain or nausea) (Pope. Rodzen; 2008).

B. BACKGROUND:

The background is a patient's medical history in the clinical context. Pertinent background information includes patient's condition, current medication, medical history, and psychiatric history (Dingley *et al*; 2008).

The goal of background is to be able to identify and provide the diagnosis or reason for the patient's admission, their medical status, and history, As well as to determine the background or context of the patients visit (Thomas; 2009). During this stage the patient's chart is ready and as much important medical-based information is provided to set up the assessment of data (Dunsford; 2009).

C. ASSESSMENT:

Assessment is the provider's perceptions of the condition (Dingley *et al*; 2008). An example is a reason why the provider thinks the patient needs behavioral counseling.

At this stage, the situation is surveyed to determine the most appropriate course of action (Thomas; 2009). Medically based aspects of the patient are to be provided at this time such as vital signs, recent labs and other quantitative or qualitative data that might be available. If a diagnosis has already been made, this is provided; alternatively, the temporary diagnosis is mentioned (while keep sure that adequate empathy and concern towards the patient are exhibited) (Dunsford; 2009). Any impertinent information is avoided unless asked for. At this stage, vital signs outside of normal parameters are specifically mentioned, as well as the health care professional's clinical impression of the severity of the patient's status and additional concerns (Pope. Rodzen; 2008).

D. RECOMMENDATION:

Provider proposed interventions and prevention measures for patients, such as pharmacologic or non-pharmacologic interventions, lifestyle modifications, or behavioral modifications (Dingley *et al*; 2008).

Health care professionals give very precise and descriptive explanations on exactly what they need during that time frame (Dunsford; 2009). Possible solutions that could correct the situation at hand are

discussed between health care professionals (Thomas; 2009).

Notably, suggesting ideas to physicians can be a weak point of nurses. Therefore, an explicit statement of what is required, how urgent, and what action needs to be taken is paramount. Preparation is an integral part of SBAR and health care professionals are suggested to prepare to be able to answer any question the physician may ask. Discussion with another colleague may help.

It is highly recommended that information about medical records, medication, administration records, and patient flow sheet be studied before contacting a physician (Pope. Rodzen; 2008).

2.2.4. SBAR Standardized Communication Tools:

The implementation of standardized communication tools to improve safety has been occurring in other high reliability industries, such as SBAR (Situation, Background, Assessment, Recommendation), was developed by the US Navy for structuring important and urgent communication in nuclear submarines (Marshall *et al*; 2009). In the health care setting, the Australian Commission on Safety and Quality in Health (ACSQHC; 2010) recommends standardizing the content and process of clinical handover to improve safety by ensuring consistency in critical information exchanges.

SBAR was adapted for application to health care by (Leonard *et al*; 2004). SBAR can be applied to virtually any clinical domain and has been widely using in obstetrics, rapid response teams, ambulatory care, intensive care, cardiac arrests and other areas (Leonard, *et al*; 2004). The use of SBAR during handover has been recommended by (WHO; 2007) as part of its Patient Safety Solutions. It is also the suggested model for clinical communication by the Institute for Health Improvement (Marshall *et al*; 2009).

Handover mnemonics such as SBAR have been shown to improve communication during clinical handover in a number of ways. By providing a structured process to follow and enhancing the memory of important steps, they enable the brief and concise transmission of critically important pieces of information in a predictable sequence (Riesenberg *et al*; 2009. Leonard, *et al*; 2004). They can help to clarify the purpose and content of handovers, reduce confusion, bridge the difference in communication styles between disciplines and assist in the development of clinician's critical thinking skills ((Jorm *et al*; 2009. Leonard *et al*; 2004). Adopting a common language for communicating critical information may facilitate the reception and processing of information, enabling a more informed clinical contribution and optimizing the chances of problem recognition (Curtis *et al*; 2011. WHO; 2007. Leonard *et al*; 2004).

2.2.5. Patient safety

The World Health Organization (WHO.2009) defines patient as a person receiving health care, whereas safety is described as cutting down the risk of unnecessary harm to an acceptable minimum. Acceptable minimum means an understanding of current knowledge and resources, the context in which care is delivered, and comparing it to the risk of not treating, or giving another treatment. Combining these concepts, patient safety means that the risk of unnecessary harm related to health care is cut down to an acceptable minimum (WHO; 2009). In other words, patient safety means that patients are not accidentally injured or harmed as a result of health care (St. Germain. Blais; 2009). National Institute of Health and Welfare (2014) considers the term more widely, stating that patient safety includes the principles, practices, and processes of a health care unit, which are used to anticipate and prevent risks and dangerous situations. In addition, preventing human mistakes and learning collaboratively are part of patient safety (Terveyden ja Hyvinvoinnin laitos; 2014).

Patient safety, communication in the health care field, and teaching material were nurses and midwives as theoretical starting points. The literature review was conducted based on these concepts. The importance and need for products of this thesis was justified through the literature review (Kaisa Renkola.*et al*; 2014).

2.2.6. Utilizing SBAR as a Structure:

The majority of nursing staff describe SBAR as "very helpful" and it provides a good structure to use in oral reporting about patients conditions. Some respondent's feel that they are always is reporting in a similar manner, so the introduction of SBAR was not seen as something to be update. There are some nurses who have not used the model after its introduction, which is mainly due to forgetting to use it. One of the nursing staff does not think the ward actively used the SBAR model as intended (Blom; 2015).

The implementation of SBAR had a major influence on the staff perceptions of patient safety and the importance of communication. The method to collect data among different studies they are similar. Most of the studies utilized surveys and questionnaires to evaluate the outcomes of SBAR as a result, the studies shared similar conclusions. The results of these studies indicated that the utilization of SBAR enhanced communication between healthcare professionals and improved patient outcomes in terms of treatment continuity and decreased adverse events (Velji *et al*; 2010).

2.2.7. Reporting during fit Time:

The time taken for patient reporting is in part considered dependent on the person reporting. Some felt that the time for reporting had decreased since the

SBAR structure "taught them to report correctly", while others felt that this took equally long or longer, but that the SBAR structure provided more efficient communications (Blom; 2015).

2.2.8. Personal Aspects:

Nursing staff felt that the success of the SBAR model to improve communication between staff was dependent on the person communicated. For example, the ability of the SBAR model to facilitate patient safety was considered related to exactly what was reported regarding a patient's condition. Other aspects related to the person reporting were the time taken for reports and compliance to the SBAR model. Furthermore, the extent to which staff felt respected for their knowledge and skills varied. For example, one nurse felt that physicians did not always respect her competence (Blom; 2015).

2.2.9. Environment – SBAR- Communication:

In addition to providing time for active discussion among staff members, it is also important for hospitals to provide an environment that is conducive to that active discussion. This means time that is interruption-free and quiet enough that each part can be heard. Promoting the concept of active communication means staff needs to feel comfortable asking questions, and the group dynamic has to support the concept that there are no stupid questions. Asking questions like, "What else can I tell you?" may help active outreach by participants and thus encourage two-way dialogue.

In addition, staff members need to object to colleagues who don't participate appropriately or attempt to short-circuit or rush the process. The handoff communication process doesn't work if the sending and receiving staff members don't work as a team. As you design your process, you must include opportunities for constructive criticism of the process, colleagues, and departments that may not be contributing as needed (Kurt; 2007).

2.2.10. SBAR as a Key of Patient Care Information:

Utilization of the SBAR tool establishes a common zone for communication regarding patient care. Specifically, when used to guide information exchange between nurses and physicians, the communication gap that exists between the two professions is bridged through the combination of the communication styles of nurses and physicians that exists in the SBAR tool (Haig *et al*; 2006). In addition, use of the SBAR communication tool temporarily flattens the hierarchy perceived in most healthcare settings, resulting in more effective channels of communication between healthcare providers (De Meester *et al*; 2011).

Historically, nurses and physicians are taught to communicate using styles suited to the needs and thought processes of the respective professions. As the

bedside caregiver involved in the play-by-play action of caring for the patient, the nurse perceives the subtle changes in condition and unique responses of each individual patient. Consequently, nurses tend to communicate using a subjective, narrative style that reflects the continuous flow of information received in the constant caregiving of the nursing profession (Haig *et al*; 2006).

In contrast, physicians are accustomed to communicating via an objective, headline approach that echoes the action-oriented method of traditional medical education in which expertise of the diagnosis and treatment of the disease process demands quick action that is based on the objectivity of current evidence. The integration of the communication styles of each profession that occurs in the SBAR tool results in a more holistic process for communication, adding standardization to nurses' individualized assessment report and increasing the situational awareness of physicians, therefore improving communication between the two professions, and consequently leading to improvements in patient safety (McCrorry *et al*; 2012. Haig *et al*; 2006).

2.2.11. SBAR Increases Confidence of Speaker and Receiver of the Handoff Report:

Use of the SBAR communication tool provides a simple framework for conducting effective handoff reports through standardization of communication. Standardizing the format of the report eliminates the question of how to conduct a handoff report by giving the speaker of the report a set method for the communication; thereby, improving the speaker's confidence in his or her ability to give an effective report (Christie. Robinson; 2009).

In (Cornell *et al*; 2014. Wentworth *et al*; 2012), quasi-experimental design studies in which the consistency of handoff reports between nurses using SBAR was measured, the authors of each study concluded that handoffs formatted according to the SBAR template are more consistent because of the standardization of handoff reports brought about through use of the SBAR technique.

Similarly, (Ascano-Martin; 2008; Thomas. collegeous; 2009), the authors of multiple studies reviewing the effect of the SBAR tool on the handoff abilities of nursing students in simulated scenarios suggested that use of the SBAR tool enabled the student to organize his or her thoughts quickly, increasing the student's confidence to conduct an effective handoff report. Because the order of the report is uniform regardless of the profession, experience, or position of the users, utilization of the SBAR template enables the speaker and the receiver to focus on the information being exchanged as the expectations for the report are clearly defined and consistent between both parties (Christie. Robinson; 2009).

Consistent use of SBAR also aids in the identification and correction of omitted information, subsequently improving the confidence of the receiver in the information contained in the handoff report (Blom, *et al*; 2015). In the same way that assessing the body systems in a consistent order for every patient helps protect against an accidental assessment oversight, so following a standardized format for every handoff communication can help protect against the accidental omission of critical information. Furthermore, use of the SBAR tool grants the handoff a checklist of sorts, creating a commonly-held expectation for how the report will proceed and increasing the receiver's confidence in the information being communicated. In a quasi-experimental study, use of the SBAR framework between nurses and physicians decreased the receiver's impression of needing to consult the medical record to verify information communicated in the handoff report because the receiver felt more confident in the information communicated under the SBAR framework. Knowing when to expect which type of information allows the receiver of the report to withhold questions regarding information that has not yet been communicated, anticipating that the information will be covered in the remaining duration of the handoff report. Should patient-care information be mistakenly skipped over by the speaker, the information is easily identified as missing, pointed out, and then requested by the receiver of the report (Randmaa *et al*; 2013).

Knowing when to expect which type of information allows the receiver of the report to withhold questions regarding information that has not yet been communicated, anticipating that the information will be covered in the remaining duration of the handoff report. Should patient-care information be mistakenly skipped over by the speaker, the information is easily identified as missing, pointed out, and then requested by the receiver of the report (Kathryn; 2016).

2.2.12. SBAR Improves the Efficiency, and Accuracy of the Handoff Report.

Use of the SBAR communication template gives the handoff report a standardized format that becomes engrained in the habits of the users, decreasing the time required for report and increasing the efficacy of the report (Cornell *et al*; 2014; Wentworth *et al.*, 2012; Christie. Robinson, 2009. Marshall *et al*; 2009. Harris; 2008).

Performing a task the same way every time naturally facilitates improved proficiency for the user. In a quasi-experimental study, implementation of the SBAR template for use during the nurse-to-nurse shift handoff resulted in handover times decreasing from approximately 45 minutes pre-SBAR to 7 minutes post-SBAR (Christie. Robinson; 2009). (Cornell *et al*; 2014) in a quasi-experimental study also concluded that

consistent use of SBAR during inter-disciplinary rounding and the nurse shift handoff report resulted in more focused patient reviews and shift reports, with increases in the volume of information exchanged, reductions in time spent on non-pertinent information, and decreases in the overall time spent giving and receiving report. While decreasing the time the handoff report takes is certainly not the primary goal, increasing the efficiency of the report and reducing the amount of time spent on extraneous and unnecessary patient information allows healthcare professionals to dedicate more time to activities that pertain to patient care. Furthermore, by decreasing the amount of time dedicated to handoff reports, use of the SBAR communication tool results in financial savings for hospitals through the reduction of overtime hours spent in lengthy handoff reports (Freitag.Carroll; 2011.Novak. Fairchild; 2012).

In addition to shortening and focusing handoff reports, consistent use of the SBAR technique also improves the accuracy and efficacy of information exchanged during report. The simplicity and consistency of the SBAR communication tool facilitates the ability of those conducting the report to differentiate the information needed for safe patient care and then convey the information correctly (Blom *et al*; 2015. Randmaa *et al*; 2013). Implementation of the SBAR tool to guide inter-unit transfers between intensive care units, step-down units, and medical-surgical floors at a Magnet hospital was reported by nurses to improve satisfaction with the transfer process and resulted in a decreased need for follow-up phone calls to clarify information given in the handoff report (Harris; 2008).

2.2.13. SBAR Improves Perception of Effective Communication between Healthcare Staff and Health Care Organization.

The SBAR framework is considered by nurses and physicians to be an effective method for organizing the handoff report. A researcher of a quasi-experimental study examines the use of pre/post SBAR questionnaires to evaluate healthcare provider's perceptions regarding communication concludes that introduction of the SBAR tool resulted in a functional process of handoff reports and improved perceptions of communication in nurse-to nurse and nurse-to-physician scenarios (Blom *et al*; 2015).

Use of SBAR in this study is additionally linked to an increase in the proportion of survey participants agreeing that the present structure using a handoff communication is efficient, and agreement with this questionnaire item increased from 45% pre-SBAR to 70% post-SBAR (Blom *et al*; 2015). In multiple other quasi-experimental studies by (Martin. Ciurzynski, ; 2015); (De Meester *et al*; 2013); (Beckett. Kipnis; 2009), through the post SBAR survey results, the authors demonstrated the common perception among healthcare staff that use of the SBAR tool during

handoff increases the level of communication and collaboration within the patient care team.

The perception among healthcare staff that use of the SBAR communication tool improves communication is not unexpected, given the actual effect that use of the SBAR technique has been shown to have on quantifiable patient safety outcomes such as rate of catheter associated urinary tract infections (CAUTIs), patient falls, use of restraints, and medication errors (Ardoin, Broussard; 2011; Freitag, Carroll; 2011). While not unexpected, the perception is significant because gaining the confidence of healthcare providers produces a progressive cycle in which the number of providers willing to use SBAR increases when providers perceive the tool as effective and worthwhile. The cycle synergistically furthers the positive effect of SBAR on communication and patient safety by increasing the number of providers using the tool, leading to better results in the realm of patient safety. With more consistent and widespread use of the SBAR template, the more the use of the tool is able to contribute to improved communication and patient safety by becoming engrained in the habits of the users, endowing the handoff report process with dependability and reliability through standardization of format and expectations (Christie, Robinson; 2009. Cornell *et al*; 2014).

Safety culture is defined as the “values, attitudes, perceptions, competencies, and patterns of behavior that determine commitment to, and the style and proficiency of, an organization’s health and safety management”. Furthermore, a culture of patient safety involves a healthcare environment, in which there is mutual trust, shared perceptions regarding the importance of patient safety, and confidence in the efficacy of existing safety measures (Agency for Healthcare Research and Quality (AHRQ); 2014).

The SBAR tool may improve handover by providing a template which creates a clear picture of the patients clinical issues while also defining outstanding issues and tasks (Horwitz; 2008). It aids communication by offering an expected pattern of transferred information so errors or omitted information become clear. Studies on SBAR have shown that it can have a substantial impact on improving the quality of handover. It is a well-received, easy to remember tool, and has been shown to reduce rates of adverse events (Woodhall; 2008).

SBAR is developed to facilitate the efficient transmission of information. It is most effective when time is limited and a quick decision is needed.

Furthermore, this mnemonic should be used as a situational briefing tool, as intended, and is appropriate for use across hierarchical boundaries. Although use of SBAR has been extended to handoffs of patient care at change of shift or patient location, there are limitations in its applicability, particularly in situations that it includes transmission of information about complex patients who require broader information and context (Monroe; 2011).

3. METHODOLOGY

3.1. Study designing:

A quasi-experimental is designed through the present investigation with use of pre-test and post-test for –Midwives-Nurses knowledge regarding SBAR communication tool through nursing daily work during change shift, and sharing recommendation with other health team specifically critical case care.

3.2. Administrative Arrangements and Ethical Consideration

The research proposal is first reviewed and approved by the supervisors. The researcher has completed all permissions of the study before interaction of actual collection of information; formal administrative approvals are obtained to conduct the study from.

- Postgraduate studies, College of Nursing / University of Bagdad.
- Ministry of Planning and Development Cooperation (CSO) (central statistical organization) in order to obtain an official permission for conducting this study. (Appendix- 3)
- Ministry of Health / AL-Karkh Health Directorate (Al –Karkh Maternity Hospital and AL – Yarmouk Teaching General Hospital - Maternity Department) and AL-Rurssafa Health Directorate (Al-Elwia Maternity Teaching Hospital). (Appendix- 6, 7and8)
- The researcher informed the study participants about the overall goal of the study, how to complete the data collection, and ensure their understanding that participation is voluntary and that they can withdraw from the study at any time. The researcher assured participants that the data of the study will be confidential and all the information are used for the study purpose only.

3.3. Setting of the Study:

The study is held at Al-Elwia Maternity Teaching Hospital, at Al-Russafa Directorate. Al – Karkh Maternity Hospital and AL- Yarmouk General Teaching Hospital / Maternity Department at Al-karkh Directorate.

3.4. Dates of Conducting the Study:

Table-3-1: Date line for Conducting the Study

No	Date	Date & work that was achieved
1	26/3/2017	Construction of the questionnaire and educational materials done after literature review.
2	16/4/2017	Primarily worked at consent have gotten for AL-Elwia maternity teaching hospital
3	18/4/2017	Need assessment in AL-Elwia maternity teaching hospital.
4	7/5/2017	Primarily worked on permission was obtained for AL- Karkh maternity hospital &AL-yarmok general teaching hospital.
5	10/5/2017	Validity and reliability of SBAR sheet program
6	15/5/2017	Conducting the pilot study
7	4/6/2017	Data collection will be assembled by utilizing questionnaire and education program concerning Medical caretaker Birthing SBAR Tool Communication on Maternal Health Documentation
8	1/2/2018-1/3/2018	Data will be analyzed by using suitable statistical methods.
9	30/4/2018	Writing the final draft

3.5. Sample of the Study:

Non-probability (purposive) sample consists of (84) nurse- midwives. The sample is used in SBAR program exposed to pretest and posttest). There are (48) nurses –midwives chosen from Al-Elwia maternity teaching hospital, (10) for pilot study excluded from the original sample, and (10) dropout, so the sample

number from AL- Elwia maternity hospital is (28). There are (34) nurses-midwives chosen were from Al-karkh maternity Hospital, (6) dropout, the final sample number is (28). From Al-Yarmouk general teaching Hospital- maternity department (28) number nurses-midwives were chosen to participate in the in the study (table 3-2).

Table-3-2: Distribution of the Study Sample according Settings

Setting of the study	Total hospital No. of Nurse-Midwives	Sample Size chosen for study	Actual Sample Size	%	Drop Out
Al- Elwia Maternity teaching hospital	120	38+ 10 pilot	28	33.33	10
Al –Karkh Maternity Hospital	45	34	28	33.33	6
Al-Yarmouk Teaching Hospital/ Maternity department	31	28	28	33.34	0
Total	196	100	84	100	16

3.6. Sample Size Calculation:

The calculation of sample size for SBAR program and practices are illustrated as below.

According to the above table, total size of population equal to (196), and each hospital consists of (120, 45 & 31) respectively. So we apply this relation to calculate the sample size of the study:

$$n_1 = N_1 * \frac{n}{N}$$

Where,

n_1 : The part one of the sample.

N_1 : The layer is one of the populations.

n : The sample that under study.

So, the calculation of all part of the sample:

$$n_1 = N_1 * \frac{n}{N} = 120 * \frac{84}{196} = 51.42$$

$$n_2 = N_2 * \frac{n}{N} = 45 * \frac{84}{196} = 19.28$$

$$n_3 = N_3 * \frac{n}{N} = 31 * \frac{84}{196} = 13.28$$

(* = ×)

After approximate these ratio respectively (28, 28, 28) for each hospital, the sum of all of them (28+28+28=84) is the appropriate size sample that were chosen from the total population (N=196).

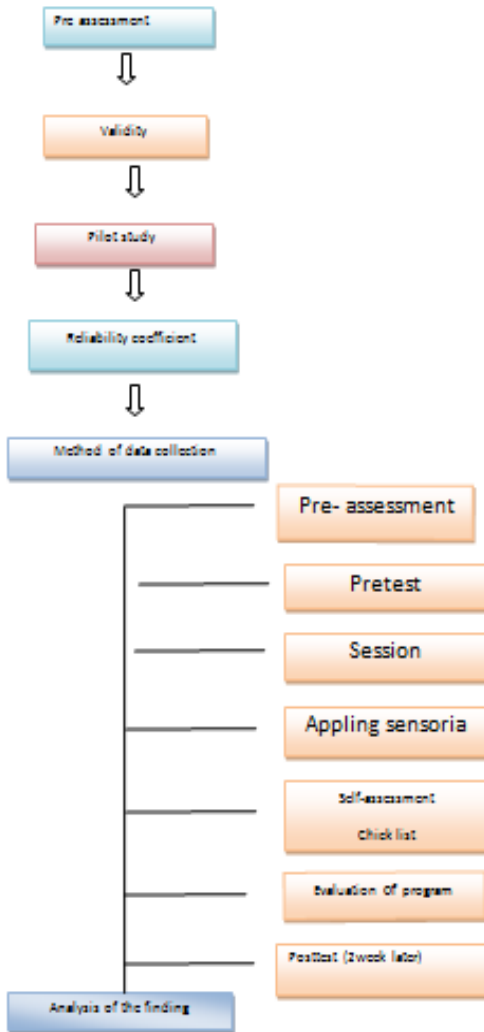


Fig-1-3: show methods study

3.7. Inclusion Criteria:

The criteria for selecting the study sample are:

1. Nurses – Midwives who are working in the daily shift.
2. Different educational level of nurses –midwives.
3. Nurses –midwives who are working in critical care wards (delivery rooms, intensive care units, maternal wards and maternal emergency).
4. Nurses –midwives who agree to participate in the study.

3.8. Exclusion Criteria:

1. Nurses –Midwives who are not working in critical care wards.
2. Nurses –Midwives who are dropped out and not completed posttest.
3. Nurses –midwives who are absent in education sessions.
4. Nurses –midwives who are transferred to other shift or another

Places not in critical area or other hospitals. (During the program, the participant transferred to another hospital that is not included in the area research, or that are transferred to the hospital in another place, such as the outpatient clinic).

3.9. Methods of data collection

3.9.1. Needs Assessment:

The study focuses on assessment of nurses–midwives need for practicing Communication between nursing shift and another health delivery servicing to improve the quality of health special care the patient needs.

The aim of introducing the SBAR model was to increase focusing on patient safety when communicating information, and shoring time by enhancing the structure of the information. When introducing SBAR, the specific content of the model needs to be adjusted to the relevant context (Ko *et. al.*, 2011). Therefore, a working group is formed nurses and midwives.

1. Discussing the benefits tool of inter professional communication and Collaboration to enhancing patient care safety and outcomes.
2. Identifying the SBAR method as evidence based model on Education sessions.
3. Applying a communication technique using case scenarios.
4. Applying Right / correct SBAR forma according to provided scenarios.
5. Evaluation of nurses –midwives practice by applying forma of patient cases.

Need assessment sample consisted of (10) Nurses – midwives and the questionnaire is composed of (4) questions (appendix 17)

Both midwives and nurses are given a time period of (10) minutes to answer the questions by (interview orally answer). The result reveals that the maximum (90%) of midwives and nurses displayed knowledge deficit toward the definition of SBAR.

About for that is Components and meaning of SBAR. (100%) of nurses –midwives displayed practice deficiency regarding the meaning of SBAR and its components. The result regarding the need for communication and documentation during daily work is that (80%) of nurses–midwives displayed knowledge deficiency why need communication and documentation.

The assessment they reveals a need to construct an education whit training program for these nurses - midwives specifically to those who work in critical care unit, delivery room, and emergency in order to improve their knowledge of SBAR and practice on how to use it and apply it in daily work for patient safety and to improve the quality of nursing care services.

3.9.2. Implementation of the Nurses–Midwives Education Program.

Before Implementation the program, at the SBAR introduction, primarily the researcher provided the staff with information about the study, asked of them participate, and obtained informed consent before completing the pre/post intervention program using interview. The SBAR intervention, based on the evidence for best practice, included team building and collaboration strategies, positive communication techniques, communication styles, empathy, and problem-solving strategies. Intervention classes offered in 90 minutes sessions at various times throughout a 2-week time frame provided ample opportunities for day shift staff to participate. (Appendix 10)

The lecture included:

1. PowerPoint presentation about how to or (should nurse communication) with pregnant mother to enhance her safety period.
2. Overview of SBAR sheet.
3. A(5) minute video depiction of SBAR in practice,
4. Small group session to practice the SBAR technique using several sessions to practice the SBAR technique utilizing several scenarios.

Professional nurses and midwives were identified in that session because hand-offs and communication skills are important for all clinicians to improve patient safety Appendix (18). Nurses and Midwives have often experienced communication difficulties related to their different professional cases, experiences, and expectations. Evidence has shown that standardized communication tools that are shared across professions improve communication and patient safety.

During this session, nurses and Midwives take more knowledge of (SBAR) tool and writing brief and clear report practice to communication others.

Nurses and Midwives take an adapted pre- at the beginning of class and a post-test and class evaluation at the end of the class. Appendix (10).

3.9.3. Evaluation of the effectiveness of the education program.

The final steps of study are to evaluation the effectiveness of the changes that occur in nurse-midwives practices application SBAR sheet toward communication and nursing decimation (10 mints). This is done through the application of (posttest) after implementation of the education program and application six scenario for their practices by using self-evaluation and researcher evaluation by check list observation.

3.10. Study Instrument:

A questionnaire is constructed through the review of literatures previous study, and use of information which have emerged prior to need

assessment, and applied before implementation Educational Program. The questionnaire is used as a method of data collection. This is included in Appendix (9).

Part I: Demographic Information:

Demographic data include, age, educational level, place of work, years of experience, work shift, previous number of courses in nursing documentation inside hospital, previous number of courses in nursing documentation outside hospital.

Part II: Nurses- Midwives Knowledge and Practices of SBAR:

There are no instruments in the literature to measure skills of communication, and knowledge of SBAR. It was developed and piloted by the researcher; An instrument was constructed in line with the Health Belief Model (HBM) focuses on nurses –midwives benefits, severity, barriers, probability and shows the importance of using SBAR to communicate and denomination during nursing daily work (Pett. *et al*; 2003), toward critical care unit, delivery rooms, and emergency in three maternity hospitals through the use of (3) level Likert scale for assessment.

Part III: Practices of SBAR:

SBAR sheet is developed to evaluate nurses-midwives practices of Communication performance which is measured by observing the behavior of nurses and midwives for compliance with the SBAR method of communication when contacting a provider with a patient concern. Nurses and midwives were given a scenario in the simulation cases that required an urgent response and contact of a provider. Because there were no instruments in the literature to measure the observed behavior using SBAR, the SBAR observed for seven scenarios. Tool is modifying by the researcher.

The practices of SBAR sheet are used as a means of practice Communication follows (appendix 12), and Applying for seven cases according ministry of health (2015-2016) statistic yearly report.

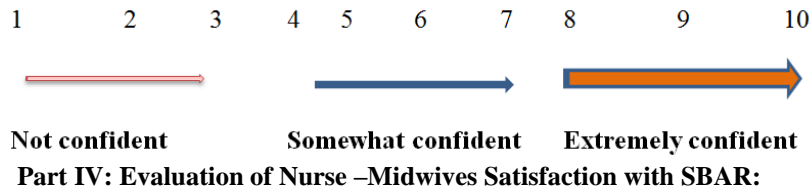
Including:

1. Post-partum hemorrhage (Applied by the researcher for teaching the participant and excluded from result table).
2. Premature-early rupture membranes
3. Placenta praevia.
4. Teenager pregnancy
5. Preeclampsia
6. Abortion
7. Postdate pregnancy

It was developed to evaluate nurse –midwives practices regarding SBAR sheet applying in wards, erase study delivery room, emergency department, intensive care unit and maternity wards) using observation check participant with fit time applying sheet after that, they evolution them self, when they

finished the reached evaluation applying sheet by checklist and camper between answer, (Appendix -13), during 10-15 mint.to assess answer participants by using :

On a scale of 1 to 10 (with 1 not confident at all and 10 extremely confident), how confident are you, that you will implement the SBAR process in the future (Chips by Adrian, 2011).



A key component of the design has to be pilot-testing, which includes a phase for evaluating staff satisfaction with the new process SBAR and nurses-midwives adherence to the new process, using (5 level) Likert scale (strongly agree (5), agree (4), Don't know (3), don't agree (2) and strongly don't agree (1), nurses-midwives evaluated their records to answer (29) question after the end of program (appendix 11),

- $RS = \frac{\text{Mean of Score}}{\text{No of Scores}} \times 100$ (for practice)
- Low less than= 60
 - Moderate= (61 -77),
 - High (78– 100)
 - Interval:8

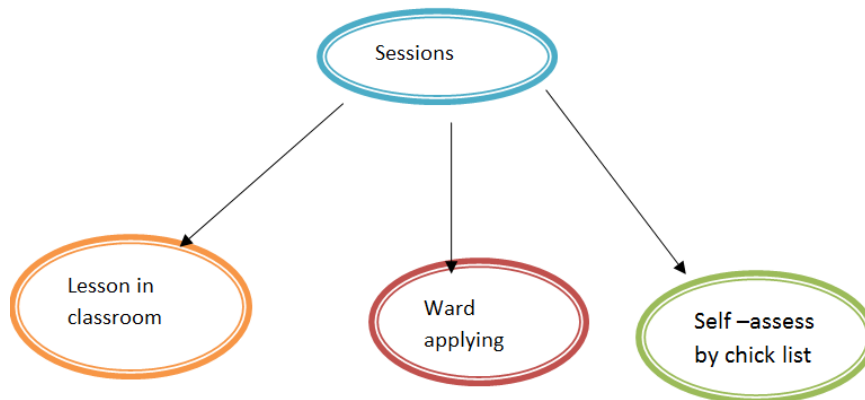


Fig-2-3: shows stapes Session

3.12. Validity of the Instrument:

Content validity of the program and study practice test is determined through (21) expert who had more than (10) years' experience in their field to investigate content of the educational program and questionnaire Appendix (1).

These experts were asked to review a copy of SBAR program manual, the program for content charily, relevancy, and adequacy to fit with time education session, some items were excluded and others were added after a face to face discussion with each expert and then the instrument was considered valid after taking all the comments recommended in to consideration.

3.13. Pilot Study:

The Pilot study conducted (10) nurses-midwives who were randomly chosen. The nurses -midwives in pilot study had the same criteria of the original study sample at Al- Elwia maternity teaching hospital from 15th to 22nd may, 2017. The sample was excluded from the original sample of study. Each study

sample give fill guideline show in the beginning of the theses.

3.13.1. The Pilot Study Guidelines:

- a. The participants are evaluated according to practices and that is considered the pretest.
- b. The education program is implemented on nurses – midwives in the study sample.
- c. Posttest examines knowledge test SBAR practices for nurses-midwives used SBAR communication which performed documentation on scenario of critical care and evaluate themselves on time.

3.13.2. The Results of Pilot Study:

The results of pilot study show that:

- (1) The program is clear.
- (2) The time required to answer the (20) questions is 10 minutes.
- (3) The time required to answer (7) scenarios and how they apply SBAR sheet is (40) minutes.
- (4) The time required to answer (29) questions for evaluating SBAR program is (10) minutes.

(5) The time that required to each session is (90) minutes

3.13.3. Purposes of the Pilot Study:

- To estimate the time required for answering each question.
- To find out whether the content of the questionnaire items the education program were clear and understandable by the study sessions.
- To determine the reliability of the instrument.
- To confirm the clarity and content adequacy of the instrument structure throughout the subjects understanding, and to determine the required modifications.
- To estimate the time needed for data collection.
- To identify the best approach to find out the nature of the difficulties that are nurses -midwives they might face

3.13. Reliability of the Questionnaire:

Reliability of the questionnaire is used to determine the accuracy of the questionnaire, since the results shows a very high level of stability and internal consistency of the main study domains at the level of items of the applied questionnaire, all those are calculated by using the major statistical parameter (*Alpha Cronbach*).

3.14. Limitations of the Study:

- The lack of the relevant published literature and research studies
- Lack of full –time for the nurses and midwives in special areas to participate in the study (private wards, night shift in some hospitals).
- Nurses –midwives failure to attend part of the lectures and make them excluded from the study.
- Some nurses –midwives cannot answer the questions honestly due to their fear and worries.

$$\text{Actual - value} = \left[1 - \frac{\text{no.of non coincidences items}}{\text{no.of all items * sample size of pilot study}} \right] * 100\%$$

- Chi-square(X^2)test for testing the differences between the distribution of the (practice) in SBAR program the socio-demographic characteristics, and using for the evaluation variable in (SBAR program) on overall domains (Practice)
- The matched paired –sample t- test compare the mean of two variables pre-posttest, it computer the difference between values of the two variables for each case and test whether the average differs from zero.
- The rating score for the instrument (3), for agree (2), for don't know, (1) for disagree with Cut –off point (2), and for positive question (1-10).The rating scores of the negative questions (11-20), are (1) for agree (2), for don't know (3) for disagree with Cut –Off Point (2).**

- Difficulties in the routine of some areas, staffs change from one area to another, which leads to lose posttest form, therefore the nurse-midwife excluded from the study, also dropout during applications of scenario.
- Limited number of nurse –midwives specifically in critical units

3.15. statistic procedures:

3.15.A. Descriptive Statistical Data Analysis:

- Tables (frequencies, percentage, and cumulative percent's) with comparison significant.
- Summary statistic tables including : Mean with their standard Deviation (SD), Relative Sufficiency (RS%) and their assessment, (low, moderate, and high), cutoff point for the scores (1, 2, 3)= (2), (1, 2, 3, 4, 5)= (3) and (1-10) measures of scores respectively.
- Mean score of differences, with standard deviation (SD) for differences, Arithmetic Mean (\bar{x}).
- Contingency table to find out the relationships and correlation between nurses –midwives knowledge regarding practices Demographic information, and identify the relationship between the nurses – midwives regarding Knowledge and practice pre-posttest, and evaluation of the program.
- Graphical presentation by using.

-Stem –Leaf plot

3.14. B. Inferential statistical data analysis:

These are used to accept or reject the statistical hypotheses, which include the following:

- Reliability coefficient (pre-posttest) examiner for pilot study and reliability coefficient Cronbach's Alpha based on standardized Items.
- Reliability coefficient for the pilot study was calculated by flowing formula:

$$\text{RS} = \frac{\text{Mean of Score}}{\text{No of Scores}} \times 100 \text{ (for practice)}$$

- Low less than 66.66**
- Moderate (66.67-77.77)**
- High (77.78-100)**
- interval:11.11**

A confidence interval gives a range of values for an unknown parameter of the population by measuring a statistical sample. This is expressed in terms of an interval and the degree of confidence that the parameter is within the interval (Courtney Taylor; 2018).

A measure called relative sufficiency, by which the degree of sufficiency can be defined for the problem of random parameter estimation is presented. It is shown that relative sufficiency is equivalent to the

Kullback- Leibler information measure. Its calculation and interpretation are illustrated for the estimation of a scalar random variable. (Jalayer.2012)

4. RESULT OF STUDY

Table-4-1: Distribution of Socio-demographic Characteristics for SBAR Sample (n=84)

Age groups / years	F	%
21-25	44	52.4
26-30	13	15.5
31-35	9	10.7
36-40	7	8.3
41-45	8	9.5
46-50	3	3.6
<i>Mean ± SD =28.89± 2.90</i>		
Educational level	F	%
Nursing secondary School	23	27.4
Midwifery secondary School	40	47.6
Institute nursing Degree	16	19
Bachelor's nursing Degree	5	6
Work- place		
Maternity Wards	29	34.5
Emergency room	14	16.7
Intensive care unit	19	22.6
Delivery room	22	26.2
Years of experience	F	%
1-5	33	39.3
6-10	26	31.0
11-15	12	14.3
16-20	6	7.1
21-25	7	8.3
<i>Mean ± SD =8.71± 2.03</i>		
Work in shifts and vacation (duty)	F	%
Yes	69	82.1
No	15	17.9
No. courses in nursing documentation in hospital	F	%
no courses	5	5.9
one course	47	56
two courses	17	20.2
three courses	4	4.8
four courses	4	4.8
five courses	5	5.9
six courses	1	1.2
seven courses	1	1.2
No. courses in nursing documentation (out hospital)	F	%
no courses	17	20.2
one course	46	54.8
two courses	8	9.5
three courses	6	7.1
four courses	3	3.6
five courses	3	3.6
six courses	1	1.2

F: Frequency, %: Percentage, $\bar{x} \pm SD.$ = Arithmetic Mean (\bar{x}) and Standard Deviation.

Table (4-1) shows that more than a half of participants' age are within the (21-25) years-old ($n = 44$; 52.4 %), followed by those who are in the (26-30) years-old ($n = 13$; 15.5%), and those who are in (46-50) years-old ($n = 3$; 3.6%), with mean and SD (28.89 ± 2.90). Concerning the educational qualification, less than a half are Midwifery secondary school graduates ($n = 40$; 47.6%), followed by those who are Nursing secondary school graduates ($n = 23$; 27.4%), those who have an Institute nursing Degree ($n = 16$; 19.0%), and those who hold Bachelor's nursing Degree ($n = 5$; 6.0%). Regarding the work place the highest percentage of study sample (34.5 %) was in maternity wards, while the lowest percentage (16.7 %) of them was in

(Emergency room). Regarding experience years in work that the highest percentage (39.3%) was in group (1-5) years, while the lowest percentage (7.1%) were in group (16-20) years of work. Concerning work in shifts and vacation (duty), most of them answered yes (82.1 %), while (17.9 %) of them answered no. Regarding the number of courses in nursing documentation in hospital, the highest percentage (56 %) having only one course, while the lowest percentage (1.2 %) having (seven courses). Previs Number courses nursing documentation (out hospital) that the highest percentage (54.8%) with group one courses external. while the lower percentage was (1.2 %) was in (six courses).

Table-4-2:- Nurse –Midwives Knowledge in Pre-Posttest for SBAR Tool.

NO	Statistic Items	Pretest no. (84)										Posttest no. (84)									
		disagree		Don't know		agree		MS	SD	RS	Ass	disagree		Don't know		agree		MS	SD	RS	Ass
		F %	F %	F %	F %	F %	F %					F %									
1	The nursing documentation is important to improve the ability of nursing practice.	3(3.6)	7(8.3)	74(88.1)	2.8452	.45241	94.84	High	1(1.2)	0	83(98.8)	2.9762	.21822	99.21	High						
2	SBAR is easy to use	4(4.8)	73(86.9)	7(8.3)	2.0357	.36227	67.86	Mod.	7(8.3)	3(3.6)	74(88.1)	2.7976	.57623	93.25	High						
3	SBAR summarize the time and effort	4(4.8)	71(84.5)	9(10.7)	2.0595	.39120	68.65	Mod.	6(7.1)	3(3.6)	75(89.3)	2.8214	.54132	94.05	High						
4	SBAR communication reduces maternal mortality	3(3.6)	73(86.9)	8(9.5)	2.0595	.35909	68.65	Mod.	5(6.0)	5(6.0)	74(88)	2.8214	.51859	94.05	High						
5	The patient situation information preferable to be comprehensive and more detailed regarding social status	5(6.0)	70(83.3)	9(10.7)	2.0476	.40790	68.25	Mod.	5(6.0)	6(7.1)	73(86.9)	2.8095	.52587	93.65	High						
6	SPAR contains all the necessary information	6(7.1)	70(83.3)	8(9.5)	2.0238	.41000	67.46	Mod	4(4.8)	4(4.8)	76(90.4)	2.8571	.46937	95.24	High						
7	The information is transferred to the doctor or other duty team without mentioning the name of the nurse being an already record.	12(14.3)	61(72.6)	11(13.1)	1.9881	.52627	66.27	low	2(2.4)	7(8.3)	75(89.3)	2.8690	.40419	95.63	High						
8	SBAR recognize mal practice easily.	6(7.2)	59(70.2)	19(22.6)	2.1548	.52627	71.83	Mod	4(4.8)	2(2.4)	78(92.8)	2.8810	.45003	96.03	High						
9	Serious conversation is faster to describe the case health.	17(20.2)	13(15.5)	54(64.3)	2.4405	.81183	81.35	High	3(3.6)	3(3.6)	78(92.8)	2.8929	.41122	96.43	High						
10	The SBAR is less time consumer	7(8.3)	7(8.3)	70(83.4)	2.7500	.59869	91.66	High	2(2.4)	3(3.6)	79(94.0)	2.9167	.35426	97.23	High						

11	The patient is more comfortable in the conversation	41(48.8)	28(33.3)	15(17.9)	2.309	.57899	76.98	Mod.	57(67.9)	9(10.7)	18(21.4)	2.464	.81184	82.14	high
12	The SBAR guarantees the rights of the nurse of her work	11(13.1)	22(26.2)	51(60.7)	1.52	.7589	50.79	Low	15(17.9)	9(10.7)	60(71.4)	1.46	.6899	48.209	Low
13	The verbal conversation ensures the patient privacy	20(23.8)	15(17.9)	49(58.3)	1.654	.7001	55.158	Low	20(23.8)	4(4.8)	60(71.4)	1.523	.7073	50.79	Low
14	Shortness of evening shift lead to a difficulty record	62(73.8)	14(16.7)	8(9.5)	2.64	.8966	88.9	High	46(54.8)	3(3.6)	35(41.6)	2.13	.50622	71.03	Mod
15	When in waiting room I observe only the cases and will wait doctor's instructions	65(77.4)	13(15.5)	6(7.1)	2.702	.90728	90.07	High	60(71.4)	3(3.6)	21(25.0)	2.464	.81184	82.14	High
16	case sheet field of nursing notes space is Enough	54(64.3)	14(16.7)	16(19.0)	2.452	.9766	81.73	High	(54.8) 46	6(7.1)	32(38.1)	2.166	.95480	72.2	Mod
17	The document ensure my presence	28 (33.3)	13(15.5)	43(51.2)	1.821	.5467	60.2	Low	16(19.0)	14(16.7)	54(64.3)	1.547	.70766	51.569	Low
18	We receive the case ready without the need for my observations	38(45.2)	7(8.4)	39(46.4)	1.988	.60677	66.26	Low	13(15.5)	3(3.6)	68(80.9)	1.345	.63622	44.83	Low
19	Regular documentation ensures continuity of health care for patient.	41(48.8)	6(7.1)	37(44.1)	2.047	.96823	68.23	Mod	26(31.9)	3(3.6)	55(65.5)	1.654	.82481	55.13	Low
20	Equipment and tools document more priority from head nurse more than Nursing documentation	17(20.2)	8(9.6)	59(70.2)	1.5	.81403	50	Low	12(14.3)	3(3.6)	69(82.1)	0.940	.71407	31.33	Low

F: Frequency, %: Percentage, MS.: Mean of Scores(Weighted mean); SD: Standard Deviation, RS.: Relative Sufficiency, Ass.: Assessment, Low: (0-66.66), Mod.= Moderate : (66.67 -77.77), High (77.78– 100) interval:11.11

Table (4-2): indicates that there is low mean scores and relative sufficiency in items (7, 12, 13, 17, 18, 20), moderate mean scores and relative sufficiency in items (2, 3, 4, 5, 6, 8, 11, 16, 19), and high mean scores and relative sufficiency in items (1, 9, 10, 14, 15) in pretest periods. While there is high mean scores and

relative sufficiency in items (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 15), moderate mean scores and relative sufficiency in items (14, 15), and low mean scores and relative sufficiency in items (12, 13, 17, 18, 19, 20) in posttest period.

Table-4-3: Paired Samples Differences for the Pre-Posttest Period for SBAR Program (n-84).

Paired Samples Test(T test)										
No	Statistic Items	Paired Differences					t	df	P-value	Sig.
		Mean differences	SD	SE Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
1	The nursing documentation is very important to improve the ability of nursing practice.	-.13095-	.40419	.04410	-.21867-	-.04324-	-2.969-	83	.004	HS
2	SBAR is easy to use	-.76190-	.57286	.06250	-.88622-	-.63759-	-12.190-	83	.000	HS
3	SBAR summarize the time and effort	-.76190-	.61348	.06694	-.89504-	-.62877-	-11.382-	83	.000	HS
4	SBAR communication reduces maternal mortality	-.76190-	.55143	.06017	-.88157-	-.64224-	-12.663-	83	.000	HS
5	The patient situation information preferable to be comprehensive and more detailed regarding social status	-.76190-	.63282	.06905	-.89923-	-.62457-	-11.035-	83	.000	HS
6	SPAR contains all the necessary information	-.83333-	.53399	.05826	-.94922-	-.71745-	-14.303-	83	.000	HS
7	The information is transferred to the doctor or other duty team without mentioning the name of the nurse being an already record.	-.88095-	.64760	.07066	-1.02149-	-.74041-	-12.468-	83	.000	HS
8	SBAR recognize mal practice easily.	-.72619-	.62770	.06849	-.86241-	-.58997-	-10.603-	83	.000	HS
9	Serious conversation is faster to describe the case health.	-.45238-	.79766	.08703	-.62548-	-.27928-	-5.198-	83	.000	HS
10	The SBAR is less time consumer	-.16667-	.61768	.06739	-.30071-	-.03262-	-2.473-	83	.015	S
11	The patient is more comfortable in the conversation	.15476	.66756	.07284	.00989	.29963	2.125	83	.037	S
12	The SBAR guarantees the rights of the nurse of her work	-.05952-	.62770	.06849	-.19574-	.07669	-.869-	83	.387	NS
13	The verbal conversation ensures the patient privacy	-.13095-	.96667	.10547	-.34073-	.07883	-1.242-	83	.218	NS
14	Shortness of evening shift lead to a difficulty record	-.51190-	.99993	.10910	-.72890-	-.29491-	-4.692-	83	.000	HS
15	When in waiting room I observe only the cases and will wait doctor's instructions	-.23810-	.90005	.09820	-.43342-	-.04277-	-2.424-	83	.018	S
16	case sheet field of nursing notes space is Enough	-.28571-	.75365	.08223	-.44927-	-.12216-	-3.475-	83	.001	HS
17	The document ensure my present	-.27381-	.86917	.09483	-.46243-	-.08519-	-2.887-	83	.005	HS
18	We receive the case ready without the need for my observations	-.64286-	.95240	.10391	-.84954-	-.43617-	-6.186-	83	.000	HS
19	Regulatory documentation ensures that continuance of health care for patient.	-.39286-	.79179	.08639	-.56469-	-.22103-	-4.547-	83	.000	HS
20	Equipment and tools document more priority from head nurse more than Nursing documentation	-.17857-	.73075	.07973	-.33715-	-.01999-	-2.240-	83	.028	S

df.: Degree of freedom, P-value: Probability value, Sig.: Level of significance. SD: Standard Deviation, SE: standard error

Table (4-3): Show there is a high statistical significant difference in the communication level over time in all items (p-value 0.01 - 0.000) respectively, except for in items (12; The SBAR guarantees the rights

of the nurse of her work, and 13; The verbal conversation ensures the patient privacy). This indicates that program has a positive influence on participants' communication skill

Table-4-4: The Relationship between Pre-Posttest SBAR Program and the Socio-demographic Characteristics (n=84).

Socio-demographic Characteristics	X ²	df	P-value	Sig.	X ²	df	P-value	Sig.
	Pretest-period				Posttest-period			
Age groups/years	2.486	5	.779	NS	3.081	5	.688	NS
Educational level	3.195	3	.526	NS	2.458	3	.652	NS
Work- Place	19.627	3	.001	S	10.000	3	.040	S
Years of experience	2.955	4	.565	NS	7.031	4	.134	NS
Work in shifts and vacation(duty)	1.486	1	.223	NS	.923	1	.337	NS
No. of courses in nursing documentation in hospital	.059	7	.808	NS	.173	1	.678	NS
No. of courses in nursing documentation (out hospital)	8.032	6	.236	NS	7.916	7	.244	NS

df.: Degree of freedom, P-value: Probability value, Sig.: Level of significance.

The table (4-4): presents no significant differences between pre, and posttest periods with the socio-demographic characteristics, except for work place shows significant differences in pre, and posttest periods at (P-value : 0.001-.040) respectively.

Hypotheses:

To see whether SBAR global program can be reliable and practice in our hospitals for nursing documentation in critical care wards.

Table-4.5: Reliability Coefficient (Alpha Cronbach) of the Questionnaire:

Questionnaire's main domains	Alpha Cronbach	Cronbach's Alpha Based on Standardized Items	Reliability
Pre-test	0.653	0.731	0.89
Post-test	0.707	0.70	0.89
Evaluation(practice)-test	0.952	0.956	0.936

a- Alpha Cronbach (α) for the reliability of questionnaire

$$\alpha = \frac{K}{K-1} \left(1 - \frac{\sum_i \sigma_{ii}}{\sum_i \sum_j \sigma_{ij}} \right)$$

K: is the number of items (questions) and σ_{ij} is the estimated covariance between items i and j.
Note: σ_{ii} is the variance (not standard deviation) of item.

b- The reliability of questionnaire is calculated by the following formula:

$$\text{Reliability} = \frac{2r}{1+r}$$

r: is the correlation Coefficient(r=0.80).

Table-4-6: Comparison between the Two Pre-Posttest Periods (SBAR program) on Overall Domains.

Paired Samples Statistics							
		NO	Mean	SD	Std. Error Mean	Correlation	Sig
Pair 1	pretest	84	41.7619	4.47650	.416	.416	.000
	posttest	84	50.5595	5.39824	.58900		

Paired Samples Test								
Domain	Paired Differences					t	Df.	Sig. (2-tailed)
	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
pretest posttest	-8.79762-	5.39250	.58837	-9.96786-	-7.62738-	-14.953-	83	.000

Df: Degree of freedom, T: T-Test, Sig.: Level of significance.

There are significant different correlations between two variables pretest and posttest because the value of the correlation is equal to 0.416 therefore there is significant different means between pre-post in SBAR program. So, the null hypothesis is rejected because the p-value is equal to 0.000; in this case it is significant statistical difference between the two periods

($\bar{X}_1 = 41.7619$, $\bar{X}_2 = 50.5595$), in other word the means are not equal, therefore, the hypotheses is put as bellow:

$H_0 : M_1 = M_2$	Null hypothesis
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Against:

$H_1 : M_1 \neq M_2$	Alternative hypothesis
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Table-4.7: The Evaluation Variable in (SBAR program) by Using Chi-Square test on Overall Domains (Practice) (n=84).

No	Items	Strongly disagree	Disagree	Don't know	Agree	Strongly agree	MS	SD	RS	Ass.	χ^2	df	P-value	Sig.
		F (%)	F (%)	F (%)	F (%)	F (%)								
1	SBAR Program promotes continuous teamwork	1(1.2)	4(4.7)	0(0.0)	53(63.1)	26(30.6)	4.1786	.76301	83.572	High	82.762	3	.000	HS
2	We are doing this in response, but without the need for a SBAR	15(17.9)	48(57.1)	8(9.5)	13(15.4)	0(0.0)	2.2262	.92295	44.534	Low	47.524	3	.000	HS
3	Improve and enhance the spirit of cooperation between us	8(9.4)	6(7.1)	2(2.4)	46(54.1)	22(25.9)	3.8095	1.1870	76.19	Mod.	76.952	4	.000	HS
4	I encourage program evaluation	5(5.9)	3(3.6)	1(1.2)	44(52.4)	31(36.9)	4.1071	1.02989	82.142	High	90.524	4	.000	HS
5	Documentation is a personal and non-compulsory work	22(25.9)	16(18.8)	6(7.1)	26(30.6)	14(16.5)	2.9286	1.49526	58.572	Low	14.095	4	.007	HS
6	We need to document only emergency responses	38(45.2)	21(25)	4(4.8)	14(16.7)	7(8.3)	2.1786	1.38112	43.572	Low	43.738	4	.000	HS
7	These questions are easy and quick to be paid by the client	5(6)	7(8.3)	4(4.8)	40(47.6)	28(33.3)	3.9405	1.12315	78.81	High	63.262	4	.000	HS
8	In some emergencies it is very difficult to speak and take information from the patient	1(1.2)	5(6)	7(8.3)	45(53.5)	26(31)	4.0714	86129	81.428	High	81.238	4	.000	HS
9	This is an important topic that encourages communication between duties	4(4.7)	5(6)	2(2.4)	39(46.4)	34(40.5)	4.1190	1.04599	82.38	High	78.024	4	.000	HS
10	I don't agree that duty of doctor only	28(33.4)	10(11.9)	4(4.7)	21(25)	21(25)	2.9643	1.65337	59.289	Low	22.071	4	.000	HS
11	Shortening and not chatting helps you to work smoothly and accurately	4(4.7)	1(1.2)	4(4.7)	39(46.4)	36(43)	4.2143	.95780	84.286	High	85.643	4	.000	HS
12	Documentation is very important for ease of return when confusion occurs	5(6)	3(3.6)	3(3.6)	35(41.6)	38(45.2)	4.1667	1.07360	83.334	High	77.429	4	.000	HS
13	By SBAR can be therapeutic diagnosed or management error easy	3(3.6)	6(7.1)	7(8.4)	38(45.2)	30(35.7)	4.0238	1.02940	80.476	High	61.119	4	.000	HS
14	I know very well how to direct questions that serve the health of the patient	4(4.7)	2(2.4)	1(1.2)	51(60.7)	26(31)	4.1071	.91859	82.142	High	112.310	4	.000	HS

15	In emergency situations, mistakes are not discussed but depend on the speed of performance	12(14.3)	16(19)	5(6)	38(45.2)	13(15.5)	3.2857	1.33147	65.714	Low	37.310	4	.000	HS
16	It is duty for head nurse shaft - only and I have nothing to do with it	33(38.8)	21(24.7)	9(10.6)	18(21.2)	3(3.5)	2.2500	1.27888	45.00	Low	31.714	4	.000	HS
17	Recommendations make me an active member of the importance of treating patient	6(7.1)	4(4.7)	1(1.2)	39(46.4)	34(40.6)	4.0833	1.12162	81.666	High	78.500	4	.000	HS
18	This program can now be applied but neglected after that because you do not care about it	18(21.4)	19(22.6)	10(11.8)	28(33.4)	9(10.7)	2.8929	1.36230	57.858	Low	14.214	4	.007	HS
19	The program atmosphere is fun and helpful	4(4.7)	1(1.2)	4(4.7)	47(56)	28(33.4)	4.1190	.92365	82.38	High	96.119	4	.000	HS
20	The situation and communication are a bit vague	18(21.4)	6(7.1)	13(15.5)	36(42.9)	11(13.1)	3.1905	1.36634	63.81	Low	31.833	4	.000	HS
21	Nursing documentation We need more than one program to get used to	5(6)	10(11.9)	6(7.1)	51(60.7)	12(14.3)	3.6548	1.05846	73.096	Mod.	88.976	4	.000	HS
22	The background of the case briefly appeared	12(14.3)	14(16.7)	7(8.3)	34(40.5)	17(20.2)	3.3571	1.35898	67.142	Mod.	25.167	4	.000	HS
23	Education examples wear difficult	19(22.6)	28(33.4)	5(5.9)	21(25)	11(13.1)	2.7262	1.40010	54.524	Low	19.095	4	.001	HS
24	Being a nurse and observing guest and applying description only	28(33.3)	22(26.2)	10(11.9)	13(15.5)	11(13.1)	2.4881	1.42689	49.762	Low	14.690	4	.005	HS
25	I respect the privacy of the patient so I don't recording anything	40(47.6)	13(15.5)	10(11.9)	13(15.5)	8(9.5)	2.2381	1.42794	44.762	Low	41.119	4	.000	HS
26	We found Sections lecture a useful training	5(6)	2(2.4)	10(11.9)	48(57.1)	19(22.6)	3.8810	.98672	77.62	Mod.	82.310	4	.000	HS
27	The case description is a useful way to teach different skills	3(3.6)	2(2.4)	4(4.7)	50(59.3)	25(30)	4.0952	.87287	81.904	High	103.738	4	.000	HS
28	I am becoming more aware of patient safety issues	4(4.7)	3(3.5)	3(3.5)	49(58.3)	25(30)	4.0476	.95570	80.952	High	98.143	4	.000	HS
29	I recommend that we study this method of documentation and communication in the nursing curriculum	10(11.9)	5(6)	4(4.7)	36(42.4)	29(34.1)	3.8214	1.30024	76.428	Mod.	51.595	4	.000	HS

MS: mean of Score, SEM: Std. Error of Mean, SD: Std. Deviation, χ^2 : Chi-square test, df: Degree of freedom, Asymp. Sig: Probability value. Low: (0-60), Mod.= Moderate : (61 -77), High (78– 100) interval:8

The table depicted that there is significant statistical differences in all domain, so we reject the nil (H_0) hypotheses and accepted the alternative one (H_1) . Because the calculate value greater than table value for

each degree of freedom (3, 4) that corresponding the table value (7.816, 9.488) respectively. The means are not equal for all in chi- square distribution and in the

corresponding degree of freedom as it illustrate in above table (4-6).

Table-4-8: Association between Evaluation Variable (practice) in SBAR Program and their Socio-demographic Characteristics

Socio-demographic Characteristics	Chi-square	df	P-value	Sig.
Practice test -period				
Age groups/years	1.836	5	.871	NS
Educational level	5.836	3	.120	NS
Work- Place	21.024	3	.000	S
Years of experience	6.456	4	.168	NS
Work in shifts and vacation(duty)	1.577	1	.209	NS
No. of courses in nursing documentation in hospital	.370	7	.543	NS
No. of courses in nursing documentation (out hospital)	5.699	6	.458	NS

Df: Degree of freedom, P-value: Probability value, Sig.: Level of significance.

The table presents no significant differences between evaluation variable (practice) in SBAR program with the socio-demographic characteristics, except for work place shows significant differences at (P-value : 0.000). In the Emergency Unit, unexpected emergencies occur quickly and most participants are

said to have returned; They have increased their knowledge of the importance of time, organization and communication with the staff, adding that continuous work needs more learning and increased experience because they are constantly in contact with the critical cases.

Table-4-9: The Correlation between the Four Tools in SBAR Program and the Relation between them in Pre - Post Periods

Paired Samples Statistics								
Items		N	Mean	Std. Deviation	Std. Error Mean	Correlation	P-value	Sig.
	situation_ participant	84	17.8929	5.72043	.62415			
Pair 2	background_ student researcher	84	16.1667	5.88204	.64178	.766	0.000	HS
	background_ participant	84	16.5714	5.98046	.65252			
Pair 3	assessment_ student researcher	84	15.6548	6.76364	.73797	.875	0.000	HS
	assessment_ participant	84	15.5000	6.93950	.75716			
Pair 4	recommendation_ student researcher	84	13.6429	7.73296	.84373	.896	0.000	HS
	recommendation_ participant	84	14.2738	8.05007	.87833			

The table (4-8): presents that there is high correlation between the assessments if we compare the four tools as they shown in above table. So, this item indicate that if the correlation is very high between any two variables that implies there is no statistical differences between them as shown in the below table.

Table-4-10: Differences Confidence Variables in (SBAR) Program with their properties using one sample T test between Researcher and Participants.

Items	Paired Differences Statistic					t	df	P-value	Sig. (2-tailed)
	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1 Situation participant	-.22619-	2.97520	.32462	-.87185-	.41947	-.697-	83	.488	NS
Pair 2 Background researcher Background participant	-.40476-	4.06015	.44300	-1.28587-	.47634	-.914-	83	.364	NS
Pair 3 Assessment researcher Assessment participant	.15476	3.43439	.37472	-.59055-	.90007	.413	83	.681	NS
Pair 4 Recommendation researcher Recommendation participant	-.63095-	3.61316	.39423	-1.41506-	.15315	-1.600-	83	.113	NS

In this (4-9): there is no significant statistics between every two tools from SBAR program because the correlation is very High. (Post researcher - Post

Participant) due to this are approximation or similarity of means between the researcher and the participants' evaluation.

Table-4-11: Correlation between the Researcher Student Evaluation (n=84) and the Participant Evaluation (n=84) Scores for over there are four SBAR Domains.

Domain student researcher	Participant			
	situation	background	assessment	recommendation
Situation	.859			
Background		.766		
assessment			.875	
recommendation				.896

The table (4-10): indicated that there is no significant correlation between the evaluations for student researcher with participant. The above table indicates the relation between the evaluations for

student researcher with participant study sample for SBAR forma after self-assessment for all SBAR compounds during practice applying scenario by using chick list.

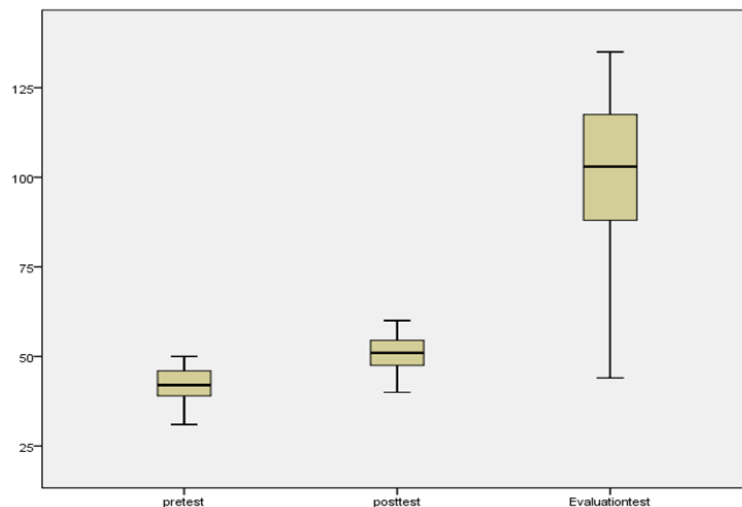


Fig-4-1: Stem –Leaf plot (Explorer) for illustrating the actual effectiveness of program on nurses –midwives practice in study sample. Relation betweenPre, Post and Evaluation Period

The figure (4-1) represent clearly the actual improvement which were reported in study steps which indicated that period mostly illustrated too highly

improvement on study overall domain related nurses – midwives knowledge for inters tented SBAR program

Table-4-12: SBAR Training Feedback

Cases		SBAR Training Feedback- Statistic				Mean for all	SD for all
		N=	Not Confident	Somewhat Confident	Extremely Confident		
1	Premature-early rupture membranes	14	3 (21.4%)	8 (57.2%)	3 (21.4%)	5.814	0.415
2	Placenta praevia	14	1 (7.1%)	5 (35.8%)	8 (57.1%)	6.564	0.468
3	Teenage pregnancy	14	2 (14.2%)	5(35.8%)	7 (50%)	6.533	0.466
4	Preeclampsia	14	1 (7.1%)	8 (57.1%)	5 (35.8%)	6.15	0.439
5	Abortion	14	1 (7.1%)	5 (35.8%)	8 (57.1%)	6.564	0.468
6	Postdate pregnancy	14	2 (14.2%)	6 (42.9%)	6(42.9%)	6.128	0.437

Table 4.11 Participants were extremely confident in applying scenario no. (2 & 5) for Placenta praevia, and Abortion (Mean± SD= 6.564± 0.468) respectively, then followed by scenario no. (3) For Teenage pregnancy (Mean± SD = 6.533± 0.466), then followed by scenario no. (6) For Postdate pregnancy (Mean± SD= 6.128± 0.437), then followed by scenario no. (4) For Preeclampsia (Mean± SD = (6.15± 0.439),

and the last scenario no. (1) For Premature-early rupture membranes (Mean± SD = 5.814± 0.415).

On a scale of 1 to 10 (with 1 not confident at all and 10 extremely confident), how confident are you that you, Will implement the SBAR process in the future (Chips, 2011, *Inter-professional Communication SBAR Module*).



Table-4.12: Descriptive Statistics for Detailed Applied Scenarios Practice

SBAR Training Feedback					
SBAR Domains	Not Confident	Somewhat Confident	Extremely Confident	Mean	SD
Premature-early rupture membranes no.=14					
<i>Situation</i>	1	9	4	6.68	0.47
<i>Background</i>	1	7	6	6.42	0.45
<i>Assessment</i>	3	7	4	5.88	0.42
<i>Recommendation</i>	6	5	3	4.25	0.30
Placenta praevia no.=14					
SBAR Domains	Not Confident	Somewhat Confident	Extremely Confident	Mean	SD
<i>Situation</i>	1	7	6	7.2	0.51
<i>Background</i>	3	4	7	6.37	0.45
<i>Assessment</i>	0	6	8	7.2	0.51
<i>Recommendation</i>	1	2	11	7.71	0.55
Teenage pregnancy no.=14					
SBAR Domains	Not Confident	Somewhat Confident	Extremely Confident	Mean	SD
<i>Situation</i>	2	3	9	7.2	0.5
<i>Background</i>	2	3	9	7.2	0.5
<i>Assessment</i>	2	6	6	6.38	0.45
<i>Recommendation</i>	4	3	7	6.2	0.44
Preeclampsia no.=14					
SBAR Domains	Not Confident	Somewhat Confident	Extremely Confident	Mean	SD
<i>Situation</i>	1	5	8	7.22	0.51
<i>Background</i>	1	11	2	5.88	0.42
<i>Assessment</i>	0	8	6	7.11	0.50
<i>Recommendation</i>	5	4	5	5.65	0.40
Abortion no.=14					
SBAR Domains	Not Confident	Somewhat Confident	Extremely Confident	Mean	SD
<i>Situation</i>	0	8	6	7.25	0.51
<i>Background</i>	0	3	11	7.71	0.55
<i>Assessment</i>	3	5	6	7	0.5
<i>Recommendation</i>	6	6	2	4.28	0.30
Postdate pregnancy no.=14					
SBAR Domains	Not Confident	Somewhat Confident	Extremely Confident	Mean	SD
<i>Situation</i>	1	4	9	7.17	0.51
<i>Background</i>	3	7	4	5.48	0.39
<i>Assessment</i>	5	9	0	4.05	0.28
<i>Recommendation</i>	2	6	6	6.12	0.43

Table (4.12) For scenario on. *Premature-early rupture membranes*, participants were more confident in the case *Situation* (Mean = 6.68 ± 0.47), while they were less confident in writing recommendations (Mean = 4.25 ± 0.30). For scenario on *Placenta praevia*, participants were more confident in the case recommendations (Mean = 7.71 ± 0.55), while they were less confident in the case background (Mean = 6.37 ± 0.45). For scenario on *Teenage pregnancy*, participants were more confident in the case situation & Background (Mean = 7.2 ± 0.5), while they were less confident in the case recommendations (Mean = 6.2 ± 0.44). For scenario on *Preeclampsia*, participants were more confident in the case situation (Mean = 7.22 ± 0.51), while they were less confident in the case recommendations (Mean = 5.65 ± 0.40). For scenario on *Abortion*, participants were more confident in the case background (Mean = 7.71 ± 0.55), while they were less

confident in the case recommendations (Mean = 4.28 ± 0.30). Lastly, for scenario on *Postdate pregnancy*, participants were more confident in the case situation (Mean = 7.17 ± 0.51), while they were less confident in the case assessment (Mean = 4.05 ± 0.28).

DISCUSSION OF THE RESULTS

5.1 part I: Demographic Characteristics:

5.1.1Age:

Analysis of nurse's –midwives demographic variables indicate that the highest percentage (52.4 %) of nurse's-midwives age are (21-25) years old, and the lowest percentage (3.6%) of them are in age group (46-50) years old with (Mean \pm SD = 28.89 ± 2.90) table (4.1). This result agrees with the study conducted by (Beydag; 2011), which reported that (60.4%) of nurses –midwives included in his research were in the age group of (20-30) years old. Also agrees with (Collins *et*

al. (2009) who reported that the nurse's-midwives aged were between (25-29) years, and (WHO; 2006) reported that the age of nurse's-midwives will take a minimums of age (25) years in places to have skilled care. Because the nurse work in ward is less stressed than the nurse is working in emergency department and the number of nurses in warders is more than number nurses in emergency with most vital units.

Mi Yu. others; (2015) found in their study in china that all participants 137(92%) there are females nurses with mean age (SD) between (21.6 ± 1.04) years.

Researcher confirmed that the result can be interpreted in a way that due to nature of nursing profession nurse's-midwives were accounted for most the new graduates for nursing staff.

5.1.2. Level of Education:

Regarding the level of education, the highest percentages (47.6%) of the study sample are secondary midwifery school graduate. The study is in agreement with the study conducted by (Rashied; 2014), who reported that total of (68) nurses-midwives according to the level of education, the highest percentage (40%) of the study sample are midwifery school graduates. While a study of (Urase. *et al*; 2011), reported that the level of education of the nurse, most of them have diplomas certificates in nursing as compared to those in a study in Qatar conducted by (Santhirani *et al*; 2017), the highest percentage (49%) of nurse had diplomas and bachelor degrees respectively for a total sample of (102) nurses.

5.1.3. Work- Place:

Regarding the work- place the highest percentage (34.5%) of nurses- midwives working in Maternity Wards. Phung; (2016), stated that the SBAR communication tool when implemented in multiple healthcare settings including hospitals, outpatient clinics, and, obstetric unit showed improved effective communication between healthcare providers, increased quality of care, reduced medical errors, and decreased mortality, the study by (Phung; 2016) agreed with our research working place in health agencies at time of the data collection, and the highest percentage (72.9%) of this working place is in the obstetrics and gynecology ward, also Save.S.J (2011) in their study found that (58.9%) of nurses-midwives are working in obstetrics clinics.

Marie Rosy *et al*; (2015), reported that half of midwives are working in labor and delivery units. Emergency nurses have multiple challenging responsibilities including dealing with overstressed patients and their relatives, critical cases, mentally ill patients, victims etc. They must perform these responsibilities in a short period of time in the busy environment of the emergency department (ED). It is also well known that poor communication can effect patient satisfaction, which is becoming an increasingly

important measure of performance in today's patient-oriented health care system (Pytel. *et al*; 2009).

Communication skills can be summarized as sensitivity to verbal and nonverbal messages, effective listening and responding despite the views which support that communication skills are innate and intuitive, many studies have proven that various components of communication techniques can be learned and teachable. Although the expectation is that communication skills are acquired by nursing staff during nursing duty critical care (Buckman; 2001).

5.1.4. Years of Experience:

Regarding the years of experience the highest percentage (39.3%) of the nurses-midwives were employed for (1-5) years with $Mean \pm SD = (8.71 \pm 2.03)$.

This result agrees with (Moosa, .2012) who reported that the (57.1) of the nurses-midwives were employed between (19-30) years in obstetric units (Hunges. Fraser (2011) stated that, it is important for new midwives to have the opportunity to work in maternity units where they supported by an experienced colleague.

This result disagrees with (Santhirani. colleagues; 2017) who they are found that their ages, 23.5% of the participants were 30 years of age, while the majority (29.4%) were 36-40 years old. The average age of that study population was 36.2 ± 5.7 years, and their ages ranged from 28 years to 52 years.

5.1.5. Working Shifts and Vacation (Duty):

Regarding about works in shifts and vacation (duty), is the highest percentage (82.1%) of the nurses-midwives working in morning and evening shift, and only (17.9%) of them working in the morning shift. This study is in agree with the study done by (Jaber; 2012) who has reported that the highest percentage (55.8%) of their study sample is working in morning and evening shift. (Chunyi. colleagues; 2009) in China reported in their study that the midwives providing continuity of care did not have fixed working hours and all participants had experience of working continuously for 16 hours or so hours or so and they described their feelings of fatigue and lack of sleep when being with women.

5.1.6. Courses in Nursing Documentation in and Outside Hospital:

Regarding the No. of courses in nursing documentation in and out hospital, the highest percentage (56%)(54.8%) respectively have only one course, while the lowest percentage (1.2%) for both in and outside have six and seven courses.

Among the programs of the Education and Development Unit, it has organized in-service training

courses and nursing documentation courses, some within the hospital or in the training and development center.

Part II.

5.2. The Nurses – Midwives Knowledge –Practice in Pre-Post SBAR:

The result of the present study as show in table (4.2) indicates that there is low mean scores and relative sufficiency in pre test SBAR period in items (7, 12, 13, 17, 18, 20) (7-The information is transferred to the doctor or other duty team without mentioning the name of the nurse being an already record, 12-The SBAR guarantees the rights of the nurse of her work, 13-The verbal conversation ensures the patient privacy, 17-The document ensures my presence, 18-We receive the case ready without the need for my observations, 20-Equipment and tools document more priority from head nurse more than Nursing documentation).

Moderate mean scores and relative sufficiency in items (2, 3, 4, 5, 6, 8, 11, 16, 19) (2- SBAR is easy to use, 3- SBAR summarizes the time and effort, 4- SBAR communication reduces maternal mortality, 5- The patient situation information preferable to be comprehensive and more detailed regarding social status, 6- SPAR contains all the necessary information, 8- SBAR recognize mal practice easily, 11-The patient is more comfortable in the conversation, 16- case sheet field of nursing notes space is Enough, 19- Regular documentation ensures continuity of health care for patient) respectively.

High mean scores and relative sufficiency in items (1, 9, 10, 14, 15) (1-The nursing documentation is important to improve the ability of nursing practice, 9-Serious conversation is faster to describe the case health, 10- The SBAR is less time consumer, 14-Shortness of evening shift lead to a difficulty record, 15- When in waiting room I observe only the cases and will wait doctor's instructions).

While in posttest period there is moderate and high mean scores and relative sufficiency in all items except items (12, 13, 17, 18, 19, 20) (12-The SBAR guarantees the rights of the nurse of her work, 13-The verbal conversation ensures the patient privacy, 17-The document ensure my presence, 18-We receive the case ready without the need for my observations, 20-Equipment and tools document more priority from head nurse more than Nursing documentation), presented low mean scores and relative sufficiency in both periods (pre and posttest period).

The SBAR guarantees the rights of the nurse for work (item 12) shows low mean of scores in both periods (1.52, 1.46), and this because it is new program that needs more than a session and more than Scenario and more time to gain the confidence of the nurses -

midwives and health organizations. In addition, the major number sample has less than 5 years' experience.

Phung; (2016) stated that there are three common themes identified during the interview from both behavioral health workers.

First, they did not have previous experience with the SBAR communication. This tool was new to them. One of the behavioral worker stated that it took her a couple of times to remember the order of SBAR and its information.

Second, both felt that prior to the initiation of the SBAR tool, the collaboration and teamwork was not so strong in terms of making effective treatment plan.

Third, they both felt that they received adequate and organized information about referred patient from the primary care providers who used SBAR format. After the implementation of SBAR tool, one of them found that the SBAR tool improves the communication with the primary care providers. However, the other community health worker did not feel any benefit from using the SBAR too.

Blom. L. *et al.* (2017) stated that the majority of nursing staff described that SBAR was "very helpful" and provided a good structure to use in oral reporting on patients' conditions. Some respondents felt that they have already reported in a similar manner already before, so the introduction of SBAR was not seen as something new.

With the second low means of score (item 13), the verbal conversation ensures the patient privacy (pre: 1.654, post: 1.523). The communication is more useful than writing, but does not guarantee the continued health care discussed. (Leonard.*et al.*2004) stated that SBAR provides a framework for communication between members of the health care team about a patient's condition, and has been found to facilitate both the collection, organization, and exchange of information as well as be an effective strategy to develop teamwork.

Many Studies show that there are many advantages for using a standardized model such as SBAR when communicating regarding patients care (Whittingham. Oldroyd; 2014. Novac. Fairchild; 2012 Beckett. Kipnis; 2009). Novac. Fairchild. (2012) stated that, it provides an opportunity to maintain focus in the information transfer and to keep the information concise, accurate and easy to understand patient safety.Brindley (2010) stated that human errors are the most common reason for planes to crash, and of all human errors, communication errors are number one evidence suggests the same for adverse outcomes in critical care medicine.

While Contrell. *et al*; (2011) stated that verbal communication during crises is a major determinant of outcome, whether in critical care medicine. Optimizing crisis communication is of paramount importance for patient safety. It is, therefore, a vital topic that deserves immediate attention.

Regarding (item 17), the document ensure presence, another low means of score (pre: 1.821, post: 1.547). In our health institution, confirmation of attendance or the presence for the nurse - midwife in their work areas is not on the patient's report or documentation, but on the fingerprint for the credibility of the daily attendance.

Santhiran. *et al*; (2017) stated that, routinely nursing endorsements or handoffs occur three or more times a day, according to shift changes and as necessary. Moreover, nurses are legally liable and accountable for reporting essential information during handoffs. Effective communication has been recognized as a significant factor in maintaining patient safety, promoting a professional attitude, and facilitating collaboration between healthcare providers. The evidence from this study confirms that SBAR is a simple and effective intervention for improving communication and patient safety. In general, nurses have positive perceptions regarding the use of SBAR during handovers.

Cornell. *et.al*; (2013) discussed the need to utilize a tool that concentrated on patients' needs while prioritizing the information shared between caregivers. Nurses desire a structured way to deliver reports with the assurance that any essential information will be conveyed in a timely, effective manner. A structure-based handoff communication process not only helps in the delivery of information about the patient but also keeps the healthcare provider focused on the content being exchanged. Nurses communicated that it was necessary to exchange essential information to ensure patient safety and quality of care.

With (item 18) we receive the case ready without the need for my observations (pre-1.988, post -1.345). In the system of our hospitals nursing role is very limited and the specific process of reception and diagnosis is the first duties of the doctor only, and may enter the patient transferred from the private clinic or the other wards with all the report, and first diagnosis. But in some cases, especially in the delivery room, the nurse intervenes to provide primary care, especially for the expertise in dealing with urgent cases in obstetrics and since the number of midwives constitute the largest number in our sample.

Anne. *et.al*; (2010) stated that the SBAR-based check list allows for the nurse, as the frontline caregiver in the best position to assess patient condition, to organize and present the situation while recommending

to the doctor a course of action in succinct, clear and concise terms.

James; (2012) stated that SBAR structures communication around four components: The first component is the situation, which includes communicating the sender's name and the current status or problem of the patient. The second component is the background; this provides information about the patient's admission diagnosis, pertinent medical history, treatment to date, and change in condition since admission. The third component is the assessment, which includes the patient's vital signs, whether the patient is on oxygen, the patient's pain level, and any change in the assessment since the most recent communication. Finally, the recommendation, providing information about what action the sender suggests be taken, and specifies precisely when the next communication will take place. Additionally, SBAR dictates that the nurse compile the patient's chart, list of medications, laboratory test results, and code status before engaging in communication.

Regarding (item 19) regular documentation ensures continuity of health care for patient (pre-1.988, post -1.345). As a result of the weakness in nurses-midwives work is the deficit in documentation, which is a weak point in the continuity of care, (the nurse-midwives works more and less document).

Beckett. Kipnis (2009) stated that, the situation, background, assessment and recommendation (SBAR) model has been suggested as a means to facilitate effective communication between health care professionals. White *et.al* (2011) stated that a nursing audit is a method of evaluating the quality of care provided to clients. A nursing audit can focus on implementation of the nursing process, on client outcomes, or on both in order to evaluate the quality of care provider. The nursing audit is follow-up evaluation that not only evaluates the quality of care of patient but also provides an evaluation of overall care given in that health care facility. During a nursing audit, the evaluators look for documentation of all five components of the nursing process in the client records. Each health care facility has an ongoing nursing audit committee to evaluate the quality of care given. The nursing audit committee reviews client records after discharge of the clients. The client's record is a permanent document, and information should be charted in ink or printed out from a computer.

With (item 20) Equipment and tools document takes priority from head nurse, more than nursing documentation (pre: 1.5, post: 0.940). The duties of the nurse in our health institution are to care for the patient and to satisfy his / her health needs. But there is also for reporting and documenting, and receipt, delivery and exchange of furniture and medical equipment, as well as the patient care priority.

Handoff communication is a focus of attention for the World Health Organization (WHO). WHO, in collaboration with the Commonwealth Fund, has created the high 5's Project designed to create solutions for five communications-based patient care issues—one of which is handover communication. (The other four focus areas are prevention of wrong-site surgery, continuity medication errors, high-concentration medication errors, and hand hygiene.) The receiver of handoff information has an opportunity to review relevant patient historical data, including previous care, treatment, and services (Kurt *et al*; 2007).

Communication as SBAR was designed to do desirable or necessary competent nursing shift change handoff communication (Ann, 2010).

Part: III

5.3. Paired Samples Differences for Pre-Posttest Period for SBAR Program:

The finding of result for the two matching related to SBAR tool application on nurse –midwives knowledge (table 4-3) shows that there is a high significant statistical difference in the communication level over time in all items (p-value 0.01 - 0.000) respectively, significant statistical difference in items (10, 11, 15, 20) with p-value 0.015, 0.037, 0.018, 0.028), except for items (12; The SBAR guarantees the rights of the nurse of her work, and 13; the verbal conversation ensures the patient privacy) shows no significant statistical difference. This indicates that program has a positive influence on participants' communication skill.

Marcia. *et.al.* (2015) assured that the nature of nurses' work is vital to ensure patients' safety as it routinely involves patient surveillance and coordination of care. Patient safety continues to be the responsibility of all working in healthcare, but the reality is that nurses are the most frequent reporters of adverse events by virtue of their proximity to patients. However, historically nurses have suffered when they have attempted to take a stand on issues of patient care or inadequate standards the profession contemporary patient safety thinking suggests that unreported errors will result in lost opportunities in terms of lessons to be learned, with similar avoidable errors occurring as a consequence.

Hanna. *et.al.* (2014) stated that the SBAR reporting method improves the effectiveness of information transfer especially in acute situations, thus improving patient safety. SBAR also provides a basis for a checklist which further aids in improving the quality of communication. In the clinical setting SBAR has the potential to improve the ability of staff to collate and deliver critical information, improve the ability of staff to receive and interpret critical information, and improve safety by reducing errors occurring during referral and carding.

Kaiser Permanente (2010) Communication errors have great consequences in a health care setting. The Situation-Background-Assessment Recommendation (SBAR) protocol has been theorized to improve communication by creating a common language between nurses and physicians in acute care situations. This practice is going acceptance across the healthcare field. However, there has been little investigation of the ways in which SBAR may have an impact on how health care professionals operate beyond the creation of a common language.

James (2012) study suggests that the SBAR protocol has implications beyond structuring verbal discourse and reducing communication errors. SBAR may also facilitate other possible outcomes for nurses and reify changes occurring in the broader nursing profession.

Cornell. *et.al.* (2011) stated that the skilled leader also understands the limits of verbal communication For example, although communication can motivate and focus a team, it cannot actually complete a task. As such, skilled communicators also need to confirm what has and has not been done.

Part: IV

5.4. The Relationship between Pre-Posttest SBAR Program and the Socio-Demographic Characteristics:

No significant statistical differences were found between pre, and posttest periods with the socio-demographic characteristics, except for work place shows significant differences in pre, and posttest periods at (P-value : 0.001-.040) respectively, table (4-4).

Emergency care is a broad specialty. Emergency nurses have an increasing part to play in its delivery, wherever it occurs. Emergency nurses require a depth and breadth of knowledge and skill to care for patients with undifferentiated and undiagnosed problems. SBAR use is a relatively new phenomenon and this may have played a role in the low usage because nurses may not know the positive aspects of a structured handoff.

Richards. K. (2010) found that SBAR can be used in any setting but can be particularly effective in reducing the barrier to effective communication across different disciplines and between different levels of staff. When staffs use the tool in a clinical setting, they make a recommendation that ensures the reason for the communication is clear. This is particularly important in situations.

Ouslander. *et al.* (2014) found that the SBAR format did not make a difference in nurse communication with clinicians or resident transfer. In

order to understand our findings, our focus group data gave us perspective about how nurses may be thinking about using or not using the SBAR.

Manojlovich. M.(2010) stated that emergency nursing has drawn nurses from many backgrounds and specialties. The focus is on broad clinical knowledge, excellent skills, flexible and adaptable approach, and strong interpersonal and teaching ability. A good emergency nurse continues education and training throughout the care. Nurses' thinking is driven by the need to understand experiences through the words we write.

Joffe *et al.* (2013) stated that mnemonic handoff tools such as Situation, Background, Assessment, and Recommendation (SBAR) were designed to ensure information was not missed when nurses communicate with clinicians about changes in resident condition. However, failure to routinely use this type of tool in clinical settings continues.

RiesenbergLeitzsch & Cunningham (2010) stated that Communication quality is shaped by the event necessitating information exchange as well as the shared meaning created among clinicians. Quality of communication is enhanced through the use of handoff mnemonics.

Compton & others (2012) identified handoff mnemonics, that SBAR is designed to provide consistent communication with similar understanding of the message between nurse and clinician. Although the SBAR mnemonic is meant to improve the quality of communication between careers.

De.Meeustr. *et.al.* (2013) found completion of SBAR sections increased following SBAR training. Completion was equated with increased communication effectiveness and quality. Nurses using SBAR for communication are thought to be better prepared for calling clinicians and formulating recommendations based on clear, targeted, and relevant assessments.

Part: V

5.5. Comparison between the Two Pre-Posttest Periods (SBAR program) on Overall Domains:

There are significant different correlations between two variables pretest and posttest because the value of the correlation is equal to 0.416 therefore there is significant different means between pre-post in SBAR program. So, that mean different result response about SBAR compounds pre-posttest for practices nurses –midwives applying SBAR in daily work, the null hypothesis is rejected because the p-value is equal to 0.000; in this case it is significant statistical difference between the two periods ($\bar{x}_1 = 41.7619$, $\bar{x}_2 = 50.5595$).

This study agrees with Liu, Chin-Liang (2016) study which Aimed to analyze the group performance differences immediately in the implementation of SBAR in the handoff system. The research hypothesis: hypothesized a significant difference between the experimental groups (with SBAR intervention). Basic stages named as education and implementation stage. The education stage lasted for four weeks, educating caregivers about how to use SBAR tool in their handoff, and during the period of SBAR implementation, they continued to train the new and unfamiliar caregivers by the same course. After the education stage, they observed and screened the handoff's process, whether they followed the protocol in their handoff. If the expectations were not met, the training course was again given to those teams that didn't do well in handoff via administration order. This evaluation and education were performed once every half year. In the experimental group, under the committee of SBAR implementation, the education and evaluation work were carried out in each care-providing team member and support staff, ensuring the completeness of SBAR work.

While Phung (2016) found by using hypothesis test by (Wilcoxon Matched-Pairs Test for Question). That are not difference in the median score of team member's satisfaction between the pretest and posttest groups ($p=.102$). In conclusion, the result of collaboration questions and two satisfaction questionnaires showed no statistically significant different between the pretest and posttest group. There was not enough data to evaluate the improvement of communication using SBAR tool, but a trend toward increased satisfaction was noted.

Cornell.*et al.* (2017) expect that SBAR report tool would keep nurses more focused and would lead to shorter reports, whereas their time on task improved (54% to 66.4%) the overall duration was unchanged.

Part: VI

5.6. Evaluation Variable in (SBAR program) by Using Chi-Square Test on Overall Domains:

The table depicted that there is significant statistical differences in all domain, so we reject the nil (H_0) hypotheses and accepted the alternative one (H_1). Because that is calculated value, is greater than table value for each degree of freedom (3, 4) that corresponding the table value (7.816, 9.488) respectively. The means are not equal for all in chi-square distribution and in the corresponding degree of freedom as it is illustrated in table (4-6).At the end of the program, participants were given an assessment consisting of 29 questions and five levels of response to determine the satisfaction of the program participants and the importance of SBAR in daily nursing work. The responses satisfied the program, thus gaining the satisfaction of participants from their nursing work. As well as possible to be applied during the daily work,

because all participants have a certificate of nursing work in addition to that they have years experience work between 1-5 years.

Santhirani. *et.al.* (2017) demonstrated that the SBAR communication technique provides an organized logical sequence and improves communication that has been proved to ensure patient safety. The quality of information associated with the use of SBAR was reported to be good. Of the members of staff, 91.2% expressed satisfaction with the use of SBAR. Also, 53.9% of the nurses stated that they would always recommend the SBAR framework in other areas.

Gage (2013) found that nurse's communication is necessary to exchange essential information to ensure patient safety and quality of care. In addition, the development of a handoff tool was shown to enhance communication between nurses and patients. This study also revealed that the SBAR communication tool was an efficient tool and that it followed a logical sequence. It was interesting to note that, though around half (55%) of the nurses indicated that they completed handover communication using SBAR within 5 min.

Kostoff. *et.al* (2016) in their study showed that participant felt the simulation was a valuable experience (mean Likert score 54.2). Additionally, results showed that participant plan on using the SBAR communication tool as (mean Likert score 54.5).

Randmaa.(2018) stated that SBAR facilitates communication between professions and increases safety as well as decrease the negative effects that is professional hierarchy may have on communication. The results also showed that implementation of the communication tool SBAR resulted in significant improvement over time in staff members' perceptions between-group communication accuracy and safety climate as well as a tendency towards improvement within-group communication accuracy. Furthermore, the proportion of incident reports due to communication errors decreased significantly, from 31% (36 of 116) to 11% (23 of 208), in the intervention group compared with a non-significant decrease, from 25% (6 of 24) to 19% (6 of 32), in group study.

Part: VII

5.7. Association between Evaluation Variable (practice) in SBAR Program and their Socio-Demographic Characteristics:

The result presents no significant differences between evaluation variable (practice) in SBAR program with the socio-demographic characteristics, except for work place shows significant differences at (P-value : 0.000).

There is a difference after receiving the critical cases between the emergency unit and any parts of the hospital. The emergency is considered to be a critical

area because it deals with the critical condition directly and is directly assisted. Therefore, need critical thinking, quick making decision, clear documentation, and correct communication with specialists are among the priorities of nursing work in the emergency unit. Things SBAR achieves through the special sheet

These results in consistent with (Santhirani *et.al.*2017) analyzed, association between nurses' demographic characteristics and their perception about using SBAR tool shows that there are not statistically significant difference between the overall perception scores observed among participants with differences in age group, gender, the total number of years of experience in nursing, and the amount of expertise using (χ^2 df *p*-value test).

Ho Siew Eng *et al.* (2017) their study's socio-demographic data of the respondents were analyzed using descriptive statistics, and independent t-test to identify the association between socio-demographic data with the effects of SBAR usage on the nurses' communication skills. All the results presents significant differences, except there is minimal difference in mean and standard deviation in the respondents' ward placement with scoring slightly higher (M = 25.92, SD = 7.87) than the specialty nurses with no significant difference (t = 0.745; p value > 0.05) (M = 25.01, SD = 7.89).

Part: VIII

5.8. Self-Evaluation

Correlation between the four tools in SBAR program and the relation between them in pre - post Periods shows that there is high correlation between the assessments if we compare the four tools as they shown in table (4-8) that these items indicate if the correlation is very high between any two variables that imply no statistical differences between them. While association of evaluation assessment variables in (SBAR) program with their properties using one sample T test shows that there is no significant statistics between every two tools from SBAR program because the correlation is very high (Post researcher - Post Participant) because the approximation or similarity of means between the researcher and the participants' evaluation shows in Table (4.9).

Correlation between the researcher student evaluation and the participant's evaluation scores for the four SBAR domain indicated that there is no significant correlation between the evaluations for student researcher with participant table (4-10).

A study conducted by (Adib-Hajbaghery *et al;* 2012) assess the correlation between clinical skills self-assessment of nursing internship trainees their teacher's evaluation it found that self-evaluation can allow the participants to attain higher goals and try harder to recognize these goals Self-appraisal also improves the

participant's judgments about their professional prospect and enhances their knowledge.

Another study by Delaram. Tootoonchi (2010) have also compared students' self-assessments of midwifery students to teachers' evaluations in an obstetrics course and reported that no significant difference was observed between the mean score of evaluation by instructors and the mean score of students' self-evaluation. In dissimilarity, a study of self, peer, and teacher's evaluation in the process of midwifery clinical skills evaluations, revealed that there was a major difference among these three methods of evaluation.

Spiller. (2012) reported that benefits of self-assessment is the feedback from students that the self-assessment prerequisites made them return regularly to the criteria as they were working on the assignment and kept them examining their own performance.

Adib –Hajbaghery. *et al.* (2012) stated that nursing faculties have an accountability to review their own performance capability and so. Midwives should be provided with opportunities for self-appraisal during their academic program in order to build up and improve their ability.

According to Andrade. Du (2007) "Self-evaluation is a practice of formative appraisal during which students replicate on and evaluate the excellence of their work and their learning, critic the degree to which they reflect explicitly affirmed goals or criteria, recognize strengths and weaknesses in their work, and modify accordingly".

Thomas, Bertram. Johnson (2009) stated that SBAR is available for all forms of communication between healthcare professionals and hence provides a standard composition to transfer vital information. Also it helps participant to sort out their judgment prior to calling physicians, during handover to another healthcare provider, and when shifting patients to other organizations or levels of care.

Adib-Hajbaghery *et al*; (2012) stated that self-evaluation checklists can help learners develop meta-cognitive skills, enhance their learning strategies, and assist them in order to be independent, confident learners.

Machado. *et.al* (2008) compared self, peer and teacher assessment they are reported that self-assessment might be reliable but may not be valid in courses with problem-based teaching methods.

Rafiee *et al* (2014) stated that clinical evaluation is one of the difficult tasks for faculty and health instructors and a challenge for nursing and other health professions Significance of clinical evaluation

lies in identifying areas of strengths and weaknesses in knowledge and practice simultaneously, and reflecting on them through modification of the course contents or the delivery method.

Thomas. Dixon (2012) stated that there were no studies evaluated student's clinical skills using SBAR, it was recommended that, SBAR as one of the effective tools to standardize recommendation communication. SBAR tool can be used for prompt and proper communication of patient information.

Labson (2013) stated that Situation describes the state of the patient clearly and briefly; Background includes background information relevant to the situation; Assessment comprises statement of the professional conclusion and Recommendation explains what intervention will be recommended.

Saied Hala (2011) study aimed at assessing the relationship between nursing students' self-evaluation and their faculties' evaluation of clinical skills using SBAR format. Highly statistically significant positive correlations at $P < 0.001$ were found between self and faculty evaluations for all of the SBAR domains ranging from .48-.80. Accordingly, students' self-evaluation mirrored those of the faculty. Situation 0.54**, Background 0.80** Assessment 0.69** Recommendation 0.48** (** $p < 0.01$; * $p < 0.05$).

Part VIII

5.9. Applications of SBAR Training Tool:

5.9. 1.SBAR Training Feedback

Participants were extremely confident in applying scenario no. (2 & 5) for Placenta praevia, and Abortion (Mean± SD= 6.564± 0.468) respectively, then followed by scenario no. (3) For Teenage pregnancy (Mean± SD = 6.533± 0.466), then followed by scenario no. (6) For Postdate pregnancy (Mean± SD= 6.128± 0.437), then followed by scenario no. (4) For Preeclampsia (Mean± SD = (6.15± 0.439), and the last scenario no. (1) For Premature-early rupture membranes (Mean± SD = 5.814± 0.415) Table (4.11). On a scale of 1 to 10 (with 1 not confident at all and 10 extremely confident), Chips, 201(*Inter-professional Communication SBAR Module*). (Health Cases) were selected from the annual mortality report of the Iraqi Ministry of Health 2016.

Hoseini BiBi *et al*; (2013) held a workshop and sessions (vaginal examination, Leopold maneuvers, Fetal Heart Rate (FHR) Auscultation) in training for group about evaluation in general. The study was sample number size (67). A student evaluation form filled by the instructors. The student and instructor had a mutual interaction in students' scoring sheet was assessed by the instructor at the end of training period. After students' self-evaluation, if there were any amendable notes, the score would be modified. On the last day of training, the students completed self-

evaluation column in “documentation form” and instructors completed “student evaluation form” in students’ presence, and eventually, the instructor provided the final score, which covers the weaknesses, to promote the students’ satisfaction with clinical evaluation methods in a perfect manner and finally to promote clinical competency of midwifery graduates.

Inanloo *et al*; (2017) study was conducted to investigate the impact of using a standardized method called SBAR on work shift delivery report in ICUs hoping to take an effective step in solving existing problems in the field of reporting during the work-shift delivery of nurses in ICUs. The third part contains vital signs, pain status, airway status and respiratory pattern of the patient, hemodynamic status, patient’s skin condition, and patient’s received intravenous fluid, connections to the patient, performed patient’s tests, along with reports of patient’s abnormal findings. As well as follow-ups to be has by the nurse of the next shift. The checklist estimated to be 0.95 (R = 0.95) based on correlation coefficient of scores obtained from 10 completed. Checklists recorded by two observers. The results show that nurses’ performance improved after work shift delivery report training using SBAR tool. Paired t test results indicate that the performance score and all its areas showed significant statistical difference before and after the intervention and the score has increased after the intervention in general performance and all areas ($P < 0.001$).

5.9.2. Descriptive Statistics for Detailed Applied Scenarios practice.

Premature-early rupture membranes, scenario the participants were more confident in the case *Situation* (Mean = 6.68 ± 0.47), while they were less confident in writing recommendations (Mean = 4.25 ± 0.30). For scenario on *Placenta praevia*, participants were more confident in the case recommendations (Mean = 7.71 ± 0.55), while they were less confident in the case background (Mean = 6.37 ± 0.45 .) For scenario on Teenage pregnancy, participants were more confident in the case situation & Background (Mean = 7.2 ± 0.5), while they were less confident in the case recommendations (Mean = 6.2 ± 0.44). For scenario on Preeclampsia, participants were more confident in the case situation (Mean = 7.22 ± 0.51), while they were less confident in the case recommendations (Mean = 5.65 ± 0.40). For scenario on Abortion, participants were more confident in the case background (Mean = 7.71 ± 0.51), while they were less confident in the case recommendations (Mean = 4.28 ± 0.30). Lastly, for scenario on Postdate pregnancy, participants were more confident in the case situation (Mean = 7.17 ± 0.51), while they were less confident in the case assessment (Mean = 6.12 ± 0.43) Table (4.12).

This review contributes to the literature by bringing awareness to differences in communication styles as well as expresses frustrations of nurses and

physicians with each other. Nurses have historically served in a subservient role to physicians which are disempowering and can lead to a lack of confidence. Nurses also view the patient from a holistic perspective which is complex, systems-oriented and steeped in emotional intelligence. There was an intentional focus on SBAR, nursing, and simulation as the purpose behind the review was to gather information to improve education efforts in a school of nursing.

Beckett (2007) stated that nurses and physicians are taught different communication styles in their educational programs. That study implemented the SBAR Collaborative Communication Education (SBAR) intervention. A convenience sample of 215 staff and 30 physicians working in a pediatric/perinatal services department in a 271-bed community hospital located in northern Arizona was asked to participate in a pre/post intervention survey to determine the effectiveness of the intervention. There are five units within the department: Obstetrics, Labor/Delivery, Special Care Nursery (Neonatal Intensive Care), Pediatrics, and Pediatric Intensive Care. Education was presented during the physician department committee meetings through handouts and discussion. The content provided identical to the SBAR- however, the timeframe was limited by the pediatrics/perinatal physician department committees to 20 min. The DVD was available on the units. Physicians were asked to participate in the pre/post intervention surveys after informed consent was provided. Pre/post intervention groups were analyzed for group differences in the teamwork and safety climates items. Significance levels were $p < 0.05$ for all items.

Woodhall *et al* (2008) found that physicians had reservations about nurses giving recommendations prior to the physician’s examination of the patient. The authors described using an SBAR intervention to improve communication in a tertiary care center resulting in dramatic improvements. Staff stated they liked the template to streamline information. “An experienced nurse shared, ‘In the emergency room, the SBAR tool has eliminated errors due to assumptions.

Foronda *et al* (2013) revealed the following outcomes resulting from simulation: “confidence/self-efficacy, satisfaction, anxiety/stress, skills/knowledge, and interdisciplinary experiences”. They suggested that educators use “evaluation instruments dually as grading rubrics for student assessment and mechanisms for curriculum evaluation”. Several studies have documented the difficulty nursing students have exhibited in performing inter professional communications in simulation.

Foronda.*et al* (2015) Standardized communications, such as the SBAR tool, provide a method to provide structured, organized and integrated communication that better reflects the care provider’s

true narrative and creates a shared mental model for mutual understanding using in her study for area remains a serious problem and following are a set of recommendations for faculty members as well as staff educators to assist with efforts to improve inter-professional communication training

Beckett & Kipnis (2009) reported one-hour educational session for the intended uses of the SBAR tool in their facility, a similar teaching method for the SBAR group study and, education component in relation to standardized handoff tool usage in their systematic review. Then they evaluated the effectiveness of the SBAR tool for best practice, using the teamwork and safety climate survey with a reliability of 0.94, statistical significance was safety factors using a confidence interval of 95%.

Study by Chaharsoughi, *et al.* (2014) found that role playing and simulation were more effective tools in teaching SBAR than traditional lecturing. Therefore, at the conclusion of the traditional lecture and power point presentation, students were led in a simulation activity. Each participant randomly selected a hypothetical patient situation that had been previously prepared, and presented it to the group. The other participants then identified appropriate communication responses, utilizing each element of SBAR. All participants were required to support their answers with rationales and explanations.

CONCLUSION AND RECOMMENDATIONS

6.1. Conclusions:

The study concluded that there are:

1. Improvement in the mean scores of nurse – midwives knowledge and practices in Posttest period after implementation of SBAR tool program.
2. There is a high statistical significant difference in the communication level over time in all items (p-value 0.01 - 0.000) respectively, except for items (12; 13; 17; 18; 19; 20). This indicates that program has a positive influence on participants' communication skill.
3. No significant differences between pre, and posttest periods knowledge and evaluation variable (practice) with the socio-demographic characteristics, except for work place shows significant differences in pre, and posttest periods.
4. There are significant different correlations between pretest and posttest because the value of the correlation is equal to 0.416 therefore there is significant different means between pre-post in SBAR program. So, the null hypothesis is rejected because the p-value is equal to 0.000; in this case it is significant statistical difference between the two periods ($\bar{X}_1 = 41.7619$, $\bar{X}_2 = 50.5595$), in other word the means are not equal.

5. There is significant statistical differences in all domain, so we reject the nil (H_0) hypotheses and accept the alternative one (H_1). Because the calculate value greater than table value for each degree of freedom (3, 4) that corresponding the table value (7.816, 9.488) respectively. The means are not equal for all in chi- square distribution and in the corresponding degree of freedom.
6. There is high correlation between the assessments in comparing the four tools (Situation, Assessment, Background, and Recommendation). So, this item indicates that if the correlation is very high between any two variables which imply that there are no statistical differences between them.
7. There is no significant statistics between every two tools from SBAR program because the correlation is very high. (Post researcher - Post Participant) due to the approximation or similarity of means between the researcher and the participants' evaluation.
8. Participants were extremely confident in higher percentage with Placenta praevia, and Abortion (57.1%), while not confident in higher percentage with Premature-early rupture membranes (21.4%).
9. That is on a scale of 1 to 10 (with 1 not confident at all and 10 extremely confident).
10. For SBAR sheet Applying scenario, participants were higher mean score in the part *Situation* found with case Abortion(mean 7.22. ± 0.51), participants were higher mean score in the part *Background* found with case Abortion(mean 7.71 ± 0.55), participants were higher mean score in the part *Assessment* found with case Preeclampsia (mean 7.11. ± 0.50), participants were higher mean score in the part *Recommendation* found with case *Placenta praevia* (mean 7.71. ± 0.55).

6.2. Recommendations:

1. SBAR assessment on quality of care: Future research will have to address the following, including the need for refresher education within team members after initial SBAR education; the need for formal physician -nurses midwives to be educated about SBAR use, and the possibility of conducting annual competency validation of the utilization of SBAR. Research should also examine the effect of SBAR on quality of care and patient outcomes in controlled trials.
2. A coordination with Ministry of health in Iraq-Nursing and Health to:
 - Guide book or information forma should be printed and distributed to nurse –midwives clarifying information about SBAR specific in critical ears to improve critical thinking using in Daly work.
 - To activate SBAR forma put with in nursing curriculum.
 - Encouraging nurse –midwives to attend workshop, conference training programs and review nursing care related to SBAR.

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Appendix -

<p>قبل ان تطلبي المساعدة بالاتصال قيمي الحالة اعيدي قراءه الملاحظات المرفقة مع المريضة دونى ملاحظتك بخط يديك وبوضوح</p>	<p>SBAR التقييم في ردهه النسائيه والتوليد لبرنامج سبار خلال 30-60- ثانياه</p>
<p>اسمي.....اتصل بخصوص المريضة اسمهاالتي دخلت عن طريق.... وعمرها..... ساعه الدخول الرجاء من معي... ان المريضة.....هي (حامل - خلال الولادة - النفاس).....اشرحي بأختصار سبب الدخول.....لذلك اسأل.....</p>	<p>الحاله (تشخيص الحاليه) بشكل واضح ومختصر</p>
<p>مصدر التحويل او الدخول..... التاريخ الطبي و الجراحي لها..... التدخلات والمضاعفات التي حصلت لها..... لذك كانت تعاني الان من..... دخلت المريضة بسبب.....(حمل, ولادة, اسقاط بعمر.....اسبوع او بعده بفترة....., فترة نفاس.....اسبوع, عمر الحمل الحالي.....اسبوع) التشخيص السريري والتوليدي كان..... التاريخ الدوائي لهامضادات حياتية...-الستيرويد...-مغنسيوم سلفيت...-انتي دي..... تحسس دوائي.....فحوصات (دم...ادرار...سونار...اشعة.....اخرى.....لا يوجد شيء معها..... Blood groupRh</p>	<p>الخلفيه وصف الخلفيه بناء على ماتملكين من خبره في الحصول على المعلومه بشكل مختصر وواضح حتى وصلت الى هذه الحالة</p>
<p>تقييم الام العلامات الحيوية -.....) تقييم الولادة (توسع عنق الرحم... ونوع التقلصات الولادة وشدتها.....تقدم الولادة..... تقييم وضع الجنين.....وتقييم الاغشية... والسائل السلي.....ومعدل النبض..... انا اعتقد هذه المريضة تعاني..من..... انا غير متأكد بماذا ستصبح عليها حالة المريضة.....ولكن غير مطمئن به خصوص</p>	<p>التقييم (ما هو الاجراء الفعلي التي قمتي به)</p>
<p>بما اني قمت بالاجراءات الضرورية التالية..... اعتقد بانها تحتاج الى..... وانا سوف اقوم.....بعد.....دقيقة</p>	<p>التوصيات (بناء على المعلومات والخبره الشخصيه ماذا تعتقدين تحتاج هذه المريضة)</p>

الاسم.....التوقيع.....والعنوان الوظيفي.....الوقت.....(ق.ظ) (ب.ظ).....التاريخ

Appendix - Checklist if SBAR component includes

Component	Items	yeas	Degree
Situation <i>Give a clear, succinct overview of patient issues</i>	Identifies self	<input type="checkbox"/>	1
	Patient name	<input type="checkbox"/>	1
	Age	<input type="checkbox"/>	1
	Times admission	<input type="checkbox"/>	1
	Date	<input type="checkbox"/>	1
	Patient state (pregnant-labor-postpartum-abortion)	<input type="checkbox"/>	1
	Reason of admission	<input type="checkbox"/>	1
	Briefly describe the current situation	<input type="checkbox"/>	1
	Reason for communicated(whom)	<input type="checkbox"/>	1
	I ask about	<input type="checkbox"/>	1
	Total		10
Background Brief status the patient history What got us to the point?	Types Source admission	<input type="checkbox"/>	1
	Relevant past medical history	<input type="checkbox"/>	1
	Recent intervention for the patient	<input type="checkbox"/>	1
	What problem now	<input type="checkbox"/>	1
	Obstetric history (P---G---A---S--)	<input type="checkbox"/>	1
	Gestation age	<input type="checkbox"/>	1
	Postpartum	<input type="checkbox"/>	1
	Past drugs history (antibiotic, Steroid, magnesium sulfate, Or other -----)	<input type="checkbox"/>	1
	Drugs allergic yes or No	<input type="checkbox"/>	1
	Checkups, Sonar, X-ray, Blood test, Rh	<input type="checkbox"/>	1
	Total		10
Assessment <i>Summarize the facts and give best assessment</i> <i>What is going on?</i> <i>Use best judgment</i>	Maternal vital signs:	<input type="checkbox"/>	1
	In labor: Membranes: Intact/	<input type="checkbox"/>	1
	Rapture:	<input type="checkbox"/>	1
	FHR/CTG: heart.....	<input type="checkbox"/>	1
	Station	<input type="checkbox"/>	1
	Fetal Presentation.....	<input type="checkbox"/>	1
	Fetal Position.....	<input type="checkbox"/>	1
	Cervical dilation	<input type="checkbox"/>	1
	Uterine contraction	<input type="checkbox"/>	1
	I think this patient might have..... “I’m not sure what’s going on with this patient, but I am worried.....	<input type="checkbox"/>	1
	Total		10
Recommendation What action are you asking for? What do you want to happen next?	Explain urgent action	<input type="checkbox"/>	1
	Suggest potential reason for condition	<input type="checkbox"/>	1
	Suggest interventionafter minutes	<input type="checkbox"/>	1
	Repeat back all order	<input type="checkbox"/>	1
	Clearing if needed	<input type="checkbox"/>	1
	Your name	<input type="checkbox"/>	1
	Signature	<input type="checkbox"/>	1
	Career Title(position)	<input type="checkbox"/>	1
	Tim	<input type="checkbox"/>	1
Date	<input type="checkbox"/>	1	
	Total		10

Need assessment sample consisted of (10) Nurses –midwives and the questionnaire is composed of (4) questions.

1. What is SBAR?
2. What are Components of SBAR, and what does it mean?
3. Do you need communication during daily work?
4. Where do you document notes during your duty?

Appendix -Lesson Plan for Education Session

No	Lesson Plan for Education Session	Time
1	Introduce yourself and invite participants to introduce themselves. Consider having some form of introductory activity.	5mint
2	pre-test	5mint
3	Identify the learning objectives for the session	10mint
4	Define, "What is the issue?" Cover the following points: —Communication, patient safety and quality of care —Experiences of participants with communication errors —Underlying causes of communication error	15mint
5	Respond to the communication challenge – introduce the SBAR process Cover the following points: —Background of the SBAR tool —Designing for human factors —Creating a learning environment —Revising the SBAR tool for your practice setting: - Context and reasons for using SBAR - Review and discussion	40mint
6	Self-evaluation by chick list	10mint
7	Summarize the key learning points for the session& post test	15mint
8	Respond to questions and evaluate the session using the evaluation form provided program.	10mint