

Documentation of Incident Reports by Jordanian Nurses in Accredited Private Hospitals: Types and Causes

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Abstract : Incident reports refer to any unplanned events resulting in or with potential for injury, damage or other loss. The primary aim of this study was to develop a clear data base about the most frequent types of documented incident reports by nurses and to highlight the main causes for the incident reports at Jordanian accredited private hospitals after identifying their perception to incidents. A Cross sectional design has been used to include quantitative research method. The accessible sample is three hundred seventy six nurses and quality managers, quality coordinators /facilitators, head nurses and directors of nurses who are working in Al-khalidi Medical Center, Istiklal hospital, and Esr'a hospital. The results of this study point out that incidents are well identify in Jordanian accredited private hospitals and the perception of incidents are well known. The main incident types reported were patient identification and blood related issues and the main causes of incidents were insufficient / improper use of equipments and lack of experienced staff as a point of reference. These findings suggest that patient safety initiatives should focus primarily on these two domains. Incident reporting represent a key safety tool and incident report data could improve safety and quality of health care in hospitals.

Keywords: incident reports, incident documentation, incident types and causes.

I. Introduction

1.1 Background

Nursing studies in patient safety and incident reporting are still prominent in nursing literature, we believe as nurses that there are many incidents which are related to complex nature of care and interaction of many systems and factors (Hughes, 2008). Incident reports refer to any unplanned events resulting in or with potential for injury, damage or other loss (New South Wales Department of health and Clinical Excellence Commission, 2009).

Currently, instead of relying on mortality rates alone, quality of care is measured by focusing on the occurrence of events that should not have occurred if quality of care were present. Events that should not have occurred are adverse events (Kellogg & Havens, 2003; Kohn et al., 2000).

It has been reported that as many as 44,000 to 98,000 people die annually in the United States as a result of adverse events experienced while hospitalized, and many such adverse events are potentially preventable (Kohn et al., 2000).

Many countries have experienced incidents and adverse events that have highlighted failures in their health care systems and various international studies have highlighted the burden of accidents caused by adverse events within the health and social care settings which significantly impacted patients, families and health care system (Regenstein, 2004).

Patient safety can be measured by many ways at hospital; one of them is monitoring the nursing incident reports. It reflects a serious issues concerning patient care, length of stay at hospital, quality of services and financial cost of the care. Medication errors as an example of incident reports burden patients, organizations, and nurses (Mrayyan, 2010).

Studies suggest that healthcare professionals, particularly doctors, are less likely to report adverse events to a superior and most likely to report an incident to a colleague when things go wrong. Irrespective of outcome for the patient, when the incident involves the policies and procedures at hospital, although the reporting of an incident to a senior member of staff is generally not very likely, particularly among doctors, it is most likely when the incident represents the violation of a protocol with a bad outcome. (Lawton & Parker, 2002).

Most of the international studies were focusing on medication errors as incidents, but few studies address incidents which were reported by nurses in general, no studies compare the perception of health care workers especially nurses to documentation of incidents at accredited private hospitals at Jordan, that's why this study will focus on figuring out the perception of health care workers especially nurses in identifying the most frequent types and causes of incident which usually reported by nurses in Jordanian accredited private hospitals. Patient safety involves the reporting, analyzing, and prevention of medical error that often causes adverse events in health care. Before the 90s, data was under-reported and gained less attention . Based on the report from

various countries at least 1 out of 10 patients around the world had were harmed or had died as a result of medical error (Regendtein, 2004).

The management of incidents requires an acceptance of incidents with consideration given to the relationship between individual human behavior and the factors that influence this behavior (Reason & Hobbs, 2003). In practice, incident management requires that. Organizations learn from their threats to safety, identify the underlying causes, and seek out opportunities for change. This commonly involves the introduction of designated incident reporting systems that enable front-line staff to communicate their safety concerns and experiences of incidents to those responsible for safety and quality. These incident reports then furnish organizations with the necessary information and capacity to make proactive and remedial changes. It is recognized that there are considerable barriers to the successful implementation of incident management and incident reporting systems (Barach & Small, 2000). In the safety management literature, significance is given to the cultural barriers and the need to create a 'safety culture' (Helmreich & Merritt, 2001; Reason & Hobbs, 2003).

Helmreich and Merritt (2001) have shown how safety Management must navigate national, organizational and professional cultures where issues as diverse as individual responsibility, gender divisions, teamwork, competence levels, transparency and punishment interact to shape cultural attitudes towards safety. Considerable significance is given to the fear of blame or the 'culture of blame' that inhibits participation in incident reporting. It is argued that staff is disinclined to be open and honest about their experiences of incidents because of the deep-seated assumption that they will be found at fault and held individually responsible or punished for the event. As such, the fear of blame and retribution are seen as major cultural barriers to incident reporting. This culture of blame arises, in the widest sense, from the primacy accorded to individual autonomy in Western culture and as such individual responsibility for incidents or blame is apportioned when 'things go wrong'. As such there is an assumption that openness and transparency, including forms of incident reporting, make possible the allocation of staff responsibility and therefore serve to distribute blame and possibly secure some form of retribution.

Reason has argued that for incidents management to make a meaningful contribution to safety it is necessary to break free from the "blame cycle" and promote a "reporting culture". Recently the notion of a 'safety culture' has been elaborated to suggest that safety is driven by a "learning culture" "that actively seeks out previous experiences of incidents in an effort to ensure they do not happen again. This is underpinned by a 'reporting culture' where staff routinely document and communicate their experiences of incidents to enable this learning. Accordingly, it is suggested that high levels of reporting are secured through the creation of a 'just culture' that establishes clear expectations of responsibility and does not unfairly or routinely blame or punish those who make incidents.

1.2 Problem statement:

This study will focus on clarifying the perception of nurses to incidents as a member of the health care workers and their documentation of those incidents by types and causes at Jordanian accredited private hospitals.

1.3 Significance of the study:

In Jordan patient safety is an important indicator for quality of care (Mrayyan, 2010). Having a clear idea about nursing perception of incident by types and causes in Jordanian accredited private hospitals can highlight the problem to decision makers.

The main method of detecting incidents has been retrospective review of the medical records (Rubin et al., 2003) for example, the Joint Commission on Accreditation of Health Care Organization (JACHO) has issued sentinel events warnings for key areas identified post-operative complications, medication errors, wrong site surgery, fall, injuries and transfusion errors (JACHO, 2000) .

This study is first study in Jordan that will focus on measuring the nurse's perception of incidents by types and causes and their documentation of such incidents at Jordanian accredited private hospitals, and the results of this study will help in designing an interventional plan for the causes of such incidents in Jordanian accredited private hospitals.

1.4 Aims of the study:

The aims of this study were to develop a clear data base about nurse's perception of incidents as a part of health care workers at their hospitals and to identify the most frequent types of documented incident by nurses and to highlight the main causes for the incident reports, as well as to measure if there is a difference in health care workers perceptions about incidents by types and causes and their designation level, experience level at three Jordanian accredited private hospitals.

1.5 Study Questions:

1. What are the major types of incidents which are being reported by nurses at three Jordanian Accredited Private hospitals?
2. What are the major causes of incidents which are being reported by nurses at three Jordanian Accredited Private hospitals?

3. Is there a difference in health care workers perception of documenting incidents by types and causes and their experience level at three Jordanian Accredited Private hospitals?
4. Is there a difference in health care workers perceptions of documenting incidents by types and causes, and their designation level at three Jordanian Accredited Private hospitals?

II. Literature review

2.1 Introduction:

This review will focus on most updated literature's nationally and internationally which focus on identifying incidents by types and causes as well as the difference in perceptions of incidents between health care providers mainly nurses and the importance of Accreditation in improving the culture of patient safety and minimizing incidents .

There are too many Incidents, near misses, and sentinel events at health care institutions, but the question is how many of these incidents, near misses and sentinel events are being reported? What actions that have been taken for correction and prevention?

2.2 Theoretical definition of terms:

Incident /Adverse event: "An unanticipated, undesirable, or potentially dangerous occurrence in a health care organization". (JCIA 5th edition, p263-274).

Sentinel event: "An unanticipated occurrence involving death or major permanent loss of function". (JCIA 5th edition, p263-274).

Accreditation: "An evaluation of an organization to assess its compliance with applicable standards and to determine its accreditation status. Which include : Evaluation of documents provided by organization staff that show compliance , verbal information about the implementation of standards or examples of their implementation that enables compliance to be determined , on-site observations by surveyors , tracking of patients through the care process by the tracer methodology , education about standards compliance and performance improvement ".(JCIA 5th edition, p263-274).

Medication error: "Any preventable event that may cause inappropriate medication use or jeopardize patient safety". (JCIA 5th edition, p263-274).

2.3 Operational Definition of terms:

Incidents: are unintended, unplanned errors that lead or potentially may lead to patient's harm or injury. Sentinel events: unintended or unplanned errors that may lead to permanent loss of organ function or even death, not related to original disease process.

Accreditation: a process of adopting nationally or internationally standards that meant to enhance the patients care at health care organizations.

Medication error: Any preventable event that may cause inappropriate medication use or interrupt patient safety.

2.4 Accreditation, documentation and communication:

Learning from incident reports in the Australian medical imaging setting to determine the type and nature of incidents occurring within medical imaging settings which focused on handover and communication in the radiology events .They found that handover of patient's clinical information to and from medical imaging is full of error, often compromising patient safety and resulting in delayed communication or wrong diagnoses, unnecessary radiation exposure and a waste of limited resources. Problems occurred more frequently during patient preparation 34%, at the time of request for medical imaging 27% and when communicating a diagnosis 23%. The majority of incidents included in the analysis were reported by radiologists 70% inpatients accounted for just over half of the patient types 55%. (Hannaford et al., 2012).

Nursing accreditation system and patient safety study was conducted in Taiwan; results showed that nursing accreditation level is positively related to patient safety indicators. Patient safety is critical to the provision of health services , greater patient safety helps in reducing the lengths of hospital stays, expenses and mortality. The study found that higher nursing accreditation levels may improve patient safety, indicating that nursing accreditation level may be a novel means of improving patient safety. (Teng et al., 2012).

Study which was conducted in England about which method is more appropriate for hospital staff to detect adverse events and potential adverse events, they found that: Record review detected 26 adverse events (AEs) and 40 potential adverse events (PAEs) occurred during the admission. In contrast, in the same patient group, incident reporting detected 11 PAEs and no AEs. Pharmacy surveillance found 10 medication errors all of which were PAEs. They suggested that one way of reporting adverse events or potentially adverse events is considered not adequate assessment of clinical adverse events and that this method needs to be supplemented with other more systematic forms of data collection, like Structured record review which is carried out by

clinicians, provides an important component of an integrated approach to identifying risk in the context of developing a safety and quality improvement program. (Sisse .Olsen,et al ,2006).

One study was conducted to measure hospital progress in reducing error: the impact of external interventions, two or more quality improvement methodologies were being implemented by many of the hospitals, to compare the effectiveness of accreditation in reducing medical errors, the Total Quality Management (TQM) methodology was identified in 80 hospitals, Six Sigma methodology in 26 hospitals and the Baldrige methodology in 14 hospitals. The International Standard ISO 9000 methodology was not identified by any of the hospital administrators. The survey results indicated that (45%) of the hospital administrators used quality improvement methodologies other than TQM, Six Sigma, or Baldrige. In 22 of these cases, the other methodology was used in conjunction with TQM, Six Sigma, or Baldrige (Hosford, 2006).

2.5 Types and causes:

One study was conducted at Jordanian hospitals to measure the most frequent types and causes of adverse events, most of the causes were related to, workload and inadequate staffing, technical performance, negligence, poor ethics, poor management, psychosocial job demands, and not clear written guidelines. The major types of adverse events were medication errors which were reported by 56 %, then, wrong diagnosis, infections, bedsores and fall. Wrong diagnosis was reported by 21.3%, infections were reported by 21.3%, bedsores were reported by 16% and falls were reported by 8% of participants. (Hayajneh et al., 2010).

In Jordan one study was conducted to describe issues related to medication errors from the nurses' point of view among a sample of 799 nurses. They found that nurses recalled on average 2.2 medication errors per nurse. The main reason for medication errors was related to poor medication labeling and packaging. (Mrayyan et al., 2006). According to the American Nurses Association Survey, inadequate staffing was reported by nurses as the top reason for the decline in quality of nursing care. In addition, Oulton, the chief executive officer of the International Council of Nurses states that 'Inadequate staffing leads to tens of thousands of preventable injuries, infections, and deaths each year. According to the Institute of Medicine increased infections, bleeding, cardiac and respiratory failure is associated with inadequate nurse staffing. Furthermore, inadequate staffing frequently leads to a stressful work environment with an increased potential for AEs to occur. Another Study was conducted on 14 major Athens hospitals to discuss factors impeding nurses from reporting adverse events, the main causes for not reporting incidents were: fear of the press, the licensing board, the difficulty in handling incidents, confidence about bringing up incidents and the complaints by patients (Oumtzoğlu et al., 2009).

Study on Incident Reporting at a Tertiary Care Hospital In Saudi Arabia revealed that the most common major categories of incident reports were procedural variances (37%) followed by behavior and communication incidents (34%) and hazardous and safety incidents (10%). In the ICU, the most common major categories were behavior and communication incidents (31%), followed by procedural variances (21%), hazardous and safety incidents (13%), medication errors (13%), needles and sharps injuries (8%), equipment incidents (7%), and intravenous complications (6%). There were no reported incidents related to falls or security variances in the ICU. (Arabi et al., 2008). One of Canadian study was conducted to measure the "Adverse events among medical patients after discharge from hospital revealed that the most common adverse events were therapeutic errors 16% and nosocomial infections 11%. Out of the 76 patients, 38 had an AE that was either preventable or amenable. The AE severity ranged from symptoms only 68% or symptoms associated with a nonpermanent disability 25% to permanent disability 3% or death 3% (Forster, et al., 2004) .

Another study discussed the general practice errors in United Kingdom (UK): development of an error classification and pilot study of a method for detecting errors, study was conducted on June 2002, results were very optimistic regarding measuring the type of errors in general practice which results in classifying errors in 6 categories, prescriptions, communication, appointments, equipment, clinical care, and "other". Prescription error count 42.2% and only 6% of these errors were related medication errors, and 2.6 % clinical errors, and overall rate of errors among general practice was 75.6 /1000 appointment. Five doctors, one nurse, one pharmacist, and 11 administrative staff participated and 65 events were recorded in eight of the ten notebooks. Feedback from practice members was generally positive. It was noted that some errors occurred frequently and it was difficult to know how to describe some events accurately. There was agreement that a simple error form listing the most common errors would be a better method of recording errors and would make sure most events were recorded. Staff members were not reporting many incidents because of holidays and a lack of enthusiasm from some of the doctors. Suggestions were made about the wording of the categories and classification and new error recording form was produced. (Rubin et al., 2002).

2.6 Nurses vs. physician reporting incidents:

Study was conducted to identify adverse events and barriers in reporting adverse events in public hospitals of Shiraz, Iran; study was conducted in 13 hospitals. Cross-sectional, analytical design was conducted. The most relevant factors that influenced the reporting of adverse events in the hospitals were identified. Most

of the medicine errors (MEs) in the hospitals were associated with nursing practice 67.3 % , Since nursing is integral to patient care, nurses make up the majority of healthcare personnel in most settings, and they spend 8 to 12 hours at patient bedside per shift, fatigue and burnout may have led to adverse events. These results were in line with those of the study by Pham et al. indicating that nurses were responsible for 54 % of the adverse events. Therefore, decreasing nurses' workload, holding training workshops, and preparing safe working environments may decrease nurses' errors. The results showed that 55 % of the errors had occurred in the morning shifts in each of the three groups (physicians, nurses, and services). This might be due to the fact that the personnel's workload is higher and they are forced to do their tasks faster at this time. Individuals and organizational factors were considered as the barriers to reporting the MEs. (Khammarnia, 2013).

Observational study was conducted in Netherlands in 2006 till 2007 to identify nature, causes and consequences on unintended events in surgical units, results were shown 33% were related to medications while 15.6 % were related to equipments. Most accidents had no physical harm consequences on patients but they result in suboptimal care. Most common causes of incidents were human related, but also some were related to organizational and technical issues. 90 % of incidents were reported by nurses and only 8% were reported by other medical staff (Nivel, 2007). Study was conducted to measure the Attitudes of doctors and nurses towards incident reporting, they found Nurses reported more habitually than doctors due to a culture which provided directives, protocols and the notion of security, whereas the medical culture was less transparent, favored dealing with incidents and was less reliant on directives. Common barriers to reporting incidents included time constraints, unsatisfactory processes, and deficiencies in knowledge, cultural norms, inadequate feedback, beliefs about risk, and a perceived lack of value in the process. (Kingston et al., 2002).

A Study which was published in the Joint Commission Journal on Quality and Patient Safety and was conducted between August 2000 till December 2005 to compare errors reporting between nurses and physicians , the hospital portal was well equipped with reporting system accessible for whoever privileged to access the web site showed that errors which were reported by physicians were very little (1.1%) comparing to errors which were reported by nurses (45.3%) , nurses report errors which caused either no harm or temporary harm to their patients , while physician report errors which caused permanent harm or death .(Rowin et al., 2005).

2.7 Individuals Vs organizational attitude and perception toward incident reports:

Another Study was conducted to measure the Brazilian registered nurses perceptions and attitudes towards adverse events in nursing care and to describe the perceptions and attitudes of registered nurses (RNs) towards adverse events (AEs) in nursing care. Interviews were conducted with nine Intensive Care Unit RNs. Results showed that: The occurrence of AEs is inherent to the human condition but provokes a feeling of insecurity. The occurrence of AEs indicates the existence of failures in health care systematization .The professional's attitudes towards AEs should be integrated to ethical principles. The priority regarding AEs should be the mitigation of harm to patients. Decisions regarding the communication of AEs were determined by the severity of the error. The various subjective perspectives related to the occurrence of AEs require a health care systematization with a focus on prevention. Ethical behavior is essential for the patient's safety. Implications for nursing management Activities aimed at the prevention of AEs should be integrated jointly with both the professionals and the health care institution. A culture of safety, not punishment, and improvement in the quality of care provided to patients should be priorities. (De Freitas et al., 2011).

A Study was conducted to measure the feedback from reporting patient safety Incidents at NHS trusts hospitals, showed that there are variations in the feedback systems across many of the NHS hospitals. All NHS trusts disseminate risk awareness through newsletters, meetings and training. Staff need to be encouraged to report incidents and to be acknowledged especially when incident are serious and they are expecting to be informed about the change , Information fed back to frontline staff should include examples of changes resulting from the investigation of their incident reports, mainly when their incidents have direct impact on patient safety Organization should track the impact of feedback and ensure lessons are learnt to improve safety by reporting and investigating incidents. One-third of NHS hospitals didn't get any feedback after they wrote incidents while two-thirds of hospitals get feedback to those who reported adverse incidents to tell them how the issue is being handled.(Wallace, 2010).

Another study was conducted in Netherland to find the perception of health professionals' perceptions of patient safety is related to figures on safety incidents or not? they found that All health professions felt that 'communication breakdowns inside the practice' as well as 'communication breakdowns outside the practice' and 'reporting of patient safety concerns' were a threat to patient safety in their work setting. They found little association between the perceptions of health professionals and the number of safety incidents. The only item with a significant relation to a higher number of safety incidents referred to the Perception of 'communication problems outside the practice' as a threat to patient safety. Which indicate that assessment of professional perception can be complementary to safety incidents? In some measures of patient safety, near-misses are incompletely reported and recorded in hospital records (Potylycki et al., 2006); however, these offer good

lessons for improving patient safety (Berntsen, 2004). Thus, both adverse events and near-misses should be included when assessing patient safety. (Martijn et al., 2009).

In health services, nurses may perceive patient safety threats better than health-care organization leaders (Vogelsmeier et al., 2010), indicating that nurses are critical to the assurance of patient safety. Patient safety has been frequently associated with nurse staffing (Spetz et al., 2008; Schubert et al., 2009; Van den Heede et al., 2009), particularly in high-dependency critical care (Shuldham et al., 2009). Another studies showed that patient outcomes are positively associated with nurse numerical skills (McMullan, et al. 2010), nurse educational level and unit tenure (Aiken et al., 2003; Kane et al., 2007; Chang & Mark, 2009). Evidence also suggests that greater nurse turnover reduces patient safety and increase adverse events. (Bae et al., 2010).

2.8 Summary:

Some of the studies showed that physicians are reporting incidents more than the nurses while many studies showed that nurses are very close to their patients who are spending most of the time with them, so they are more concerns about safety issues and they report the incidents more. Identifying the most frequent types of incidents and the causes behind them is one of the most important aspects of maintaining patient safety at hospitals. Documentation, Communication and Accreditation are positively associated with improving patient safety which can be measured by decreasing the incidents at hospitals. Many studies were focusing on types of incident and some of them focused on identifying the causes behind these incidents. In Jordan only one study which focused on measuring both types and causes of incident reports in general, other studies related to medication errors also were identifying the types and causes, but up to the researcher knowledge no studies were conducted in Jordan to measure the nurses perception of incidents as one of the health care workers who are working at accredited private hospitals and their documentation of incidents types and causes. Since most of the Non Accredited Jordanian private hospitals were not tracking the incident reports and they were not measuring the frequency before having the Accreditation. No data available regarding documentation of incident reports in most of the non accredited Jordanian hospitals.

III. Methodology

3.1 Introduction:

The purposes of this study were to develop a clear data base about the most frequent types of documented incident reports by nurses and to highlight the main causes for the incident reports at Jordanian accredited private hospitals as well as to see if there is a difference in the nurses perception of incidents at three Jordanian accredited private hospitals. This section focus on design, sample size, data analysis, setting and ethical considerations.

3.2 Design:

A Cross sectional design has been used to include quantitative research method.

3.3 Study population and Setting:

Target population are nurses and quality department staff and other health care workers who are working in Al-khalidi Medical Center, Istiklal hospital, and Esr'a hospital which are Jordanian accredited private hospitals locating in Amman city, the capital of Hashemite Kingdome of Jordan.

3.4 sampling procedure:

The accessible sample is three hundred seventy six nurses and quality mangers, quality coordinators /facilitators, head nurses and directors of nurses who are working in the previously mentioned hospitals .Inclusion criteria are nurses and quality mangers, quality coordinators /facilitators, head nurses and directors of nurses, being employed at hospitals more than 3 months. List of all eligible participants were obtained from Human resources; participants were randomly selected, based on sample size and design.

3.5 Instrument:

This study used a structured questionnaire which was developed by the researcher based on experience and literature search, insurance of validity and reliability of instrument was maintained by showing it to 7 experts in the fields of teaching and quality and they suggest some of the corrections and it was done according to their recommendations. Reliability was maintained by measuring internal consistency of the questionnaire for each section of the questionnaire separately and for the whole questionnaire. Reliability scores presented in Table (1). Validity was also maintained by measuring the correlation between each section of the questionnaire and the whole questionnaire. Results presented in Table (2).

3.6 Ethical consideration:

Approval was obtained from ethical and research committees and from Institutional Research Board (IRB) at Applied Science Private University, and approval from AlKhalidi Medical Center, Istiklal Hospital and Esr'a Hospital was obtained as well. Anonymity and confidentiality of the respondents were ensured throughout

the study. Collected data was secured correctly, saved in researcher's personal laptop, with hard copy in a secured locked cabinet.

To ensure an unbiased response, anonymous questionnaires, which included demographic information in addition to the 31 key statements, were distributed directly to Jordanian accredited private staff in three hospitals. Researcher ensured that key areas at each site were visited and included in the distribution. Questionnaires were coded with letters to ensure confidentiality, and no one other than the researcher has access to the data. Full disclosure for respondents was conducted to inform them of their right to participate in, or withdraw from the study voluntarily without any consequences. The questionnaires were accompanied by a cover letter which clarifies the purpose of the study, the rights of the participants, and the confidentiality of the information, researcher contact number for further communication if required. The cover page of the questionnaire contained information describing the purpose of the study, the confidentiality of all answers in the questionnaire. Participants were asked to identify their age group, designation, educational level, and experience, then they were asked to rank their agreement level with the statements into five parts, 1- strongly disagree, 2- disagree, 3- neither agree nor disagree, 4- agree, 5- strongly agree.

3.7 Data collection:

Data was collected from the distributed questionnaires, all questionnaires were distributed to the three hospitals by the researcher, assigned assistant from each hospital who is quality coordinator or education coordinator was appointed to provide support to the participants if they have any query about any statements in the questionnaire.

3.8 Data Analysis:

The statistical package for social science (SPSS) version 20 was used in data analysis. Descriptive statistics were used to describe means, standard deviation, frequency and percentages of sample characteristics. Inferential statistics were used to measure p-value, 2 Way ANOVA Analysis test were used as well.

3.9 Summary:

Cross sectional design was used to study the perception of health care workers toward incidents by types and causes at Three Jordanian Accredited Private hospitals special questionnaire was used, questionnaires were distributed to four hundred twenty staff, questionnaires collected were three hundred seventy six, sample was included nurses in all levels, quality staff, and other hospital staff.

IV. Results

4.1 Introduction :

Purpose of this Study which was conducted to measure the health care workers perception of incidents by types and causes and documentation of incident reports by nurses at Jordanian accredited private hospitals, and to identify if there is significant difference in health care workers perception to incidents by types and causes and their designation, experience level at Three Jordanian Accredited Private Hospitals.

4.2 Sample Characteristics and Responses:

Response percent were varying from one hospital to another, Table (3) highlights the difference in hospital response. Four hundred twenty questionnaires were distributed to the three hospitals included in the study, and Overall response rates were acceptable, with total percentage of the responses for the questionnaire of 89.7%.

Table (3) Percentage of hospital Response Rates

	Frequency	Questioners distributed	% of Response
ISTIKLAL HOSPITAL	137	140	97.8 %
ESR'A HOSPITAL	118	130	90.7 %
AL KHALDI HOSPITAL	121	150	80.6 %
Total	376	420	89.7 %

4.3 Participants Designation level:

To have a clear picture about participants designation frequency and percent in the study, Table (4) point out the results. The majority of respondents were nurses (269), and there were other 10 designations which included: safety and safety officer, infection control staff and infection control practitioner, midwife and one case not specified.

Table (4) Professional Designations percent and frequency of Response

	Frequency	Percent	Valid Percent	Cumulative Percent
Director of nursing	6	1.6	1.6	1.6
Head nurse	61	16.2	16.2	17.8
Nurse	269	71.5	71.5	89.4
Quality Facilitator / Coordinator	29	7.7	7.7	97.1
Quality manger	1	.3	.3	97.3
Others	10	2.7	2.7	100.0
Total	376	100.0	100.0	

4.4 Participants Educational level:

To identify the participants Educational level, Table (5) show the results. The educational level for participants of the study were vary , 69.1% of the participants were holding bachelor degree , 24.7% of the participants were holding diploma degree , while only 6.1% of the participants were holding postgraduate degree .

Table (5) Frequency and percentage of participant’s educational level

	Frequency	Percent
Diploma	93	24.7
Bachelor	260	69.1
Postgraduate	23	6.1
Total	376	100.0

4.5 Participants Experience level:

To identify the participants experience level, Table (6) show the results .The experience level for participants of the study were vary , 49.2 % of the participants experience level were ranging between 1-5 years , while 6.9 % of the participants experience level were between 11-15 years .

Table (6) Frequency and percentage of participants experience level

	Frequency	Percent
1-5 years	185	49.2
6-10 years	122	32.4
11-15 years	26	6.9
15 years and above	43	11.4
Total	376	100.0

4.6 Participants Age group:

To identify the participant’s Age group, Table (7) shows the results. The majority of participant’s age group was between 25-29 years (38.6 %). While the other categories of age group are fluctuating in their frequency and percentage, but the participants whom age between 35-39 years were the least frequent of the participants (8.5 %) of the participants.

Table (7) Frequency and percentage of participant’s Age group

	Frequency	Percent
20-24 years	83	22.1
25-29 years	145	38.6
30-34 years	80	21.3
35-39 years	32	8.5
40 years and above	36	9.6
Total	376	100.0

4.7 Participants Designation. Experience .Education level per hospital:

To have clear idea about the participant’s designation level, educational level and experience level per each hospital of the three hospitals which were included on the study, Table (8) show the results. There were variations in the three hospitals participants in regards to designation, education and experience levels.

Table number (8) Designation level, Educational level and experience level per hospital

Istiklal hospital participants		Designations	education	Experience
	N	137	137	137
	Mean	1.8321		1.7299
	Std. Deviation	0.60109		1.00370
Esr’a Hospital participants		Designations	education	Experience
	N	118	118	118
	Mean	1.7881		1.8559
	Std. Deviation	0.52055		.88940
Al Khalidi Hospital participants		Designations	education	Experience

	N	121	121	121
	Mean	1.8512		1.8430
	Std. Deviation	0.51090		1.07244

4.8 Percent of Sections of the Questionnaire:

Researcher calculated the percentage weight for six questionnaire sections, Table (9) showed that the main six sections of the questionnaire has different means which range from (3.36 to 3.55) and Std. Deviation range from (0.56 to 0.71) and percentage weight which range from (67% to 70%), and the lowest percentage weight for section number 1(Perceived consequences of admitting to a mistake) which equal 67%. The highest percentage weight for sections number 4 and 6 (Management attitude to mistakes and Characteristics of the incident reporting system) which equal 70%. Individual attitude to incidents has got high scores which indicate that the incidents types are not only in their control , but organization is sharing it with them , and this perception encourage incident reporting .

Management attitude to incidents has got the highest scores which indicate that the management is not considering the incidents in the control of staff alone but it has open doors for discussion and the management assumes that incidents are being caused by system rather than staff. Perceived consequences of admitting incidents has got high scores which indicate that staff are not worried from admitting incidents because they know it will not be against them , either in their appraisal or working history. Organizational sharing of experience has got high scores which indicate presence of experience sharing between the hospitals regarding incidents types. Organizational response to incidents has got high scores which indicate organization are giving their staff feedback about their incidents and showing to them that they are following it and caring for it .Characteristics of incident reporting system has got also the highest scores and this indicate incident reporting system at the three hospitals are effective in identifying the types of incidents and in identifying the causes of incidents and offering solutions.

Table (9) Percentage weight for each section of the Questionnaire

	N	Mean	Std. Deviation	Percentage weight
Perceived consequences of admitting to a mistake	376	3.3644	0.62247	67 %
Individual attitude to mistakes	376	3.4043	0.69915	68 %
Organizational sharing of experience	376	3.4830	0.70875	69 %
Management attitude to mistakes	376	3.5489	0.66272	70 %
Organizational response to problems	376	3.4814	0.80394	69 %
Characteristics of the incident reporting system	376	3.5479	0.71500	70 %
Total	376			

4.9 Results in relation to the study questions:

4.9.1 Question Number One: What are the major types of incidents which are being reported by nurses? To answer this question, researcher calculated the mean, Std. Deviation for each type of the incidents included in the questioner, and Table (10) shows the results. Results showed that the mean of the six types of incidents range from (2.98 to 4.51) and the std.Deviaton range from (1.52 to 1.80) , also we can see that patient identification got the highest mean equal to 4.51 and std.Deviaton equal to 1.80 , while communication related has got the lowest mean equal to 2.98 and std.Deviaton equal to 1.57 , and the means for the four remaining types were (blood related , documentation related , injury related and medication related were : 4.08 ,3.47 , 3.42 ,3.002) respectively . Two participants of the study added another two types of incidents , one related to bed sore and one related to maintenance issues, which are not significant because they were 2 out of 376 participants which equal to 0.0053, and regarding the total mean for all types of incidents it was equal to 3.6 , with std.Deviaton equal to 0.5 .

Table (10) Mean, std.Deviaton for each type of incident N=(376)

	medication related	injury related (patient or staff)	communication related	documentation related	blood related	patient identification
N	376	376	376	376	376	376
Mean	3.0027	3.4229	2.9814	3.4787	4.0878	4.5133
Std. Deviation	1.59415	1.52470	1.57723	1.57466	1.61005	1.80956

Types of incidents:

To identify the types of incidents per nurses, researcher calculate mean, Std. Deviation of the nurses to six types of incidents at Jordanian accredited private hospitals, and Table (11) show the results. The mean for incident types from nursing point of view were compatible with overall results of the study, mean range from (2.89 to

4.53) and Std. Deviation range from (1.49 to 1.82) , also we can see that the highest mean for incident types is patient identification which equal 4.53 , and the lowest mean for communication related type which equal 2.89 . Also we can notice that the variations of Std. Deviation values was very small , which indicate nurses are consistent in identifying the types of incidents.

Table (11) Mean, Std. Deviation for incident types from nurse’s perception N=(269)

	Medication related	Injury related	Communication related	Documentation related	Blood related	Patient identification	Others
Valid	269	269	269	269	269	269	0
Mean	3.1078	3.4833	2.8959	3.4238	4.0260	4.5390	
Std. Deviation	1.59275	1.4952	1.55387	1.59018	1.61940	1.82114	

Designations = nurse

To calculate percentage of each type of incident per hospital, Table (12), show the results.

Table (12) Percentage of incident types per hospital

Type of incident	Istiklal	Esr’a	Al Khalidi
Medication related	53%	45%	50%
Injury related /patient of staff	54%	55%	61%
Communication related	49.6%	49.6%	49.6%
Documentation related	59%	58%	55%
Blood related	67%	67%	69%
Patient identification	72%	74%	79%

We can see from table number (12) that there is variation in the percentages of each type of incidents per hospital except for communication related incidents which has the same percentage in three hospitals equal 49.6% , and we can see also that not all of the three Jordanian accredited private hospitals are consistent in ranking the other five types of incidents (patient identification , blood related , documentation related , injury related , medication related) , for example Istiklal hospital and Esr’a hospital staff were almost consistent in ranking the six types of incidents , while AlKhalidi hospital staff has different perception of ranking the types .

4.9.2 Question Number Two:

What are the major causes of incidents which are being reported by nurses? To answer this question, researcher calculated the mean, Std. Deviation for each cause of the incidents obtained from the questionnaire, and Table (13) show the results.

Table (13) mean, std.Deviaton for each cause of incident

Causes	N	Mean	Std. Deviation
Insufficient / improper use of equipments	376	3.9229	1.39977
lack of experience staff as a point of reference	376	3.4787	1.19536
Insufficient training and education	376	2.9495	1.16852
Insufficient knowledge	376	2.5160	1.32051
Insufficient number of staffing	376	2.3564	1.40499

From the Table number (13) we noticed that the mean of the incident causes range from (2.35 to 3.92) and the std.Deviation range from (1.16 to 1.40) , also we can see that insufficient / improper use of equipments got the highest mean equal to 3.92 and std.Deviaton equal to 1.39 , while insufficient number of staffing has got the lowest mean equal to 2.35 and std.Deviaton equal to 1.40 , and the means for the three remaining causes were (lack of experienced staff as a point of reference , insufficient training and educational programs , insufficient level of knowledge were : (3.47 ,2.94 ,2.51) respectively .

Causes of Incidents: To identify the causes of incidents from nurses perception , study calculate mean, std.Deviaton of the nurses to five causes of incidents at Jordanian accredited private hospitals, Table (14) show the results.

Table (14) Mean, Std. Deviation, for incidents causes from nurses’ perception

	Insufficient level of knowledge	Insufficient number of staffing	Insufficient training and educational programs	Lack of experience staff as point of reference	Insufficient / improper use of equipment	others
Mean	2.5836	2.3792	2.9554	3.5613	3.8885	0
Std. Deviation	1.30064	1.43429	1.15814	1.16260	1.43602	0

Designations = nurse

We can notice from the results of Table number (14) that means for incident causes from nursing perception are compatible with overall results of the study, means range from (2.37 to 3.88) and std.Deviaton ranged from (1.15 to 1.436) , also we can see that the highest mean for incident causes is insufficient / improper use of equipments which equal 3.89, and the lowest mean for incident causes is insufficient number of staffing which equal 2.38. Also we can notice that the std.Deviaton variation between the highest std.Deviaton and the lowest one is very small, which indicate that all nurses at three hospitals are consistent on ranking the causes of incidents. To calculate the percentage of each cause of incidents per hospital, Table (15), show the results.

Table (15) Percentage of incident causes per hospital

Causes of incident	Istiklal	Esr'a	Al Khalidi
Insufficient level of knowledge	51%	48%	51%
Insufficient number of staffing	49%	43%	47%
Insufficient training and educational programs	57%	58%	60%
Lack of experienced staff as a point of reference	68%	71%	68%
Insufficient / improper use of equipments	76%	78%	80%

Results in Table number (15) shows that all of the three Jordanian accredited private hospitals were consistent in ranking the five causes of incidents and to choose the Insufficient /Improper use of equipments as the most leading cause while Insufficient number of staffing as the least leading cause of incidents but with different percentages .

4.9.3 Question Number Three:

Is there a difference in health care workers perception of documenting incidents: types and causes and their experience level? To know the difference in health care workers perception to incidents: types and causes and their experience level, researcher conduct 2 Way ANOVA and Table (16) show the results.

Table (16) Difference between health care workers in identifying types of incidents at three hospitals and experience levels

Source	Sum of squares	Df	Mean square	F	Sig.
Hospital	1.483	2	0.742	3.27	0.039
Experience	0.515	3	0.172	0.757	0.519
Error	83.905	370	0.227		
Total	4902.222	376			

We can see from the results in Table (17), F value for mean difference of the types of incidents in regards to experience equal 0.757, with sig.value of 0.519 which is not statistically significant at $\alpha \leq 0.05$. While F for hospital equal 3.27 with significant value equal 0.039 which is statistically significant at $\alpha \leq 0.05$, which means that there is differences in the perception of health care workers experience to the incident types in regards to hospital , and to identify the statistically significance difference researcher did post hoc test using Scheffe test , Table (17) show the results.

Table (17) Post hoc test for health care workers experience and incidents types and hospital

		Mean difference	Standard error	Sig
Istiklal	Esr'a	0.0618	0.0598	0.586
	Al khalidi	-0.1089	0.0594	0.188
Al khalidi	Istiklal	0.1089	0.0598	0.188
	Esr'a	0.1708	0.06161	0.022

We noticed from Table (17) that there is a statistical significant difference between Al khalidi and Esr'a hospitals positively to Esr'a hospital with Sig 0.022, and there is no significant difference between Istiklal hospital and Esr'a hospital with Sig 0.586 or Istiklal hospital and Al khalidi hospital, Sig 0.188.

The researcher measure the differences between three Jordanian accredited private hospitals and causes of incidents in regards to experience , by using 2 Way –ANOVA to identify if there is significant differences between the three Jordanian accredited private hospitals and experience of the participant .Table (18) show the results .

Table (18) Difference between health care workers in identifying causes of incidents at three hospitals and experience levels

Source	Sum of Squares	Df	Means square	F	Sig.
Experience	0.4326	3	0.142	0.917	0.433
Hospitals	0.354	2	0.177	1.143	0.320
Error	57.321	370	0.155		
Total	2483.778	376			

We can see from the results of Table number (18) that there is no statistically significant differences at ($\alpha \leq 0.05$) in the mean of causes of incidents which is being reported by health care workers and their experiences level at three Jordanian accredited Private hospitals , with F value 0.917 and Sig . 0.433, which is not statistically significant.

4.9.4 Question Number Four:

Is there difference in health care workers perception of documenting incidents: types and causes, and their designation level at three Jordanian Accredited Private hospitals? To answer this question and to measure the differences between health care workers perception towards documenting incidents by types and causes and designation levels, researcher used 2 Way- ANOVA, to measure the differences in the mean. Table (19) point out the results, which showed that F value for designation equal 2.017 with Sig.0.076, which is not statistically significant, which means that there is no statistically differences between the perception of the health care workers about documenting of incidents : types and causes at three Jordanian accredited private hospitals and their designation . Results also showed that F value for the hospitals equal 1.51 with Sig.0.220, which is also not statistically significant, which means that there are no core differences between the perceptions of the health care workers about documenting the incidents by types and causes at three Jordanian accredited private hospitals.

Table (19) Difference between the means in regards to designation and hospital.

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Designations	3.081	5	.616	2.017	.076
Hospital	.928	2	.464	1.519	.220
Error	112.441	368	.306		
Total	4637.053	376			
Corrected Total	116.460	375			

To have more clear idea about perception of incidents by types at three Jordanian accredited private hospitals and their participant’s designation level, researcher measure the difference of the means between hospitals and designation level by using 2 Way ANOVA , Table (20) show the results where the F value for designation was equal 1.93 with Sig. 0.089 , which is not statistically significant , which means that all designations levels are consistent on identifying the same types of incidents which are in the questionnaire. Also the result showed that F value for hospital equal 3.53 with Sig.0.030 , which is not statistically significant also , which means that all hospital are consistent on identifying the same types of incidents which are in the questionnaire .

Table (20) Differences of means of perception of health care workers of incident types to designation and hospital

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Hospitals	56.901	2	28.451	3.535	.030
Designations	77.639	5	15.528	1.930	.089
Error	2961.483	368	8.048		
Total	176480.000	376			
Corrected Total	3103.734	375			

To have clear picture of health care workers perception of causes of incidents researcher examined the difference in the means of perception of incidents causes to designation level at the three hospitals, Table (21) show the results. Results of table number (21) showed that F value for designation equal 0.74 , with Sig 0.58 ,which is not statistically significant , which means that all designation levels are consistent on identifying the same causes of incidents which are in the questionnaire .

Table (21) Differences of means of perception of health care workers of incident causes to designation at three accredited private hospitals

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Hospitals	.361	2	.181	1.163	.314
Designations	.581	5	.116	.747	.588
Error	57.167	368	.155		
Total	2483.778	376			

4.9.5 Summary:

We can see from the study results that there is no statistically significant difference between the health care workers perceptions of incidents by types and causes in general at Three Jordanian Accredited Private hospitals and there designation level, but there is statistically significant difference between the health care workers perception of incidents and their experience level in identifying the types of incidents at Three Jordanian Accredited Private hospitals. And no statistically significant difference between the health care workers perception and their experience level in identifying the causes of incidents at Three Jordanian Accredited Private hospitals.

V. Discussion

5.1 Introduction:

This chapter will discuss the results of each question of the study alone, and compare it to the previous studies which were conducted previously, to find which studies' result consistent or not consistent with this study.

5.2 Findings:

This chapter will go through discussing the results of the study according to study questions.

5.2.1 Question Number One:

What are the major types of incidents which are being reported by nurses?

The results of this study revealed that patient identification has been ranked as most frequent types of incidents at hospitals which was reported by 75.1 % of the participants , while blood related incidents ,documentation related incidents , injury related incidents , medication related incidents , and communication related incidents were reported by ,68 % ,57.8 % , 57 % , 50 % , 49.6 % respectively .

patient identification has been ranked as most frequent type of incidents at hospitals , results are consistent with JCIA , mission and vision for improving patient safety , JCIA has adopted six international patient safety goals , the first one of them is identify patient correctly because they know the importance of identifying patients correctly and the risks of having gap in patient identification , the first step of patient admission is identification , during hospitalization patients need to be identified correctly whenever there is care offered , till the moments of discharge , patients need to be correctly identified , failure to do correct patient identification can lead to many incidents which can be ranged from mild to moderate or even to sever impact like death or permanent loss of organs (sentinel events) as well as increase the length of stay . Each hospital has its unique identification policy , when any one of the staff need to resign and transfer to another hospital who is using different policy for patient identifications , then incidents will probably happen .

Blood related incidents has been reported by 68 % of the participants and ranked as a second most frequent type of incidents at hospitals , results are consistent with national safety goals which were launched from HCAC for 2014 , which identify three national safety goals , one of them is proper management of blood and blood transfusion , because HCAC leaders has a clear vision of the incident types at hospitals and by developing such goals accredited hospitals has to adhere to standards which are being issued from HCAC in regards to this goals to sustain its accreditation , which will end up in improving the patient care and minimizing the incident at their hospitals .

Documentation related incidents has been reported by 57.8 % of the participants, this is also need to be considered in our health care systems because most of our hospitals don't have computerized system for documentation, by having such technology, many incidents related to documentation will be minimized, for example, illegible hand writing using abbreviations which are not being approved by hospital can led to incidents. By adopting a computerized documentation system, hospitals will decrease the number of incidents which are related to documentation and therefore will improve the communication and make it easily between health care workers.

Injury related incidents has been reported by 57 % of the participants, this is probably because hospitals started taking safety precautions for both patients and staff , which is being evidence based and internationally adopted technology , for example , having sharp containers to minimize nurses needle stick injury , applying the safety labels on the wet floor to prevent slaps of patients and staff also minimize the number of incidents related to injury , having an electronic beds with movable side rails also enhance the patient safety and decrease incidents related to injury , many other strategies . The results of this study is consistent with study which was conducted by Christopher ,et al .2007, which reported harms due to falls were (5) Out of 588 harms reported .

Medication related incidents are very minimal and has been reported by 50 % of the participants, and this is probably due to increase nurses awareness of medications management process , as well as empowering the hospitals with clinical pharmacist who make rounds and review the medical records and answer the consultations from the physicians , results of this study are consistent with the results of study which discussed the general practice errors in United Kingdom , which show that only 6% of these errors were related to medication errors , (Rubin et al., year), but the result of this study is not consistent with the findings of study

which was measuring the adverse events at Jordanian hospitals which showed that the most leading cause for incidents was medication error with 56 % , (Hayajneh et al., 2010). Also the results are not consistent with results of study which was conducted by (Rogers et al., 2002) which showed that more than half of the medical errors 58 % are related to medication errors.

Communication related incidents has got the least frequent type of incidents 49.6 % and this reflect that the three hospitals which were included on the study are having effective communication system between their staff and their patients , they are having inter hospital transfer forms which has full picture of patients condition , they are having special form for transfer patients outside the hospital , they are having special nurses kardex which contain all of the important patients findings , nurses system for communication and hand over is very effective system , but in spite of all of that still we are having incidents related to communications because not all of the staff are following the communication strategy properly .results are not consistent with the finding of study which was done on by (Martijn et al., 2009) which showed that all health professionals agreed that communication breakdown were threat to patient safety .

5.2.2 Question Number Two:

What are the major causes of incidents which are being reported by nurses?

Ranking the five causes of incidents which were on the questionnaire was , insufficient / improper use of equipments , lack of experienced staff as a point of reference insufficient training and educational programs , insufficient level of knowledge and insufficient number of staffing .

Insufficient / improper use of equipments has been reported by 78.4 % of the participants as most leading cause of incidents at hospitals, the results of this study are not consistent with the results of Netherlands study which was conducted by Nivel, on 2007, which showed that 15.6 % of unintended events were related to equipments. The results highlight the importance of considering this cause of incidents and make proper action plan from the leaders of the hospitals to provide their hospitals with all of the new excellent highly technology of the equipments , as well as enhancing and supporting biomedical engineer department to focus more on teaching and guiding hospital staff about proper handling of equipments and focusing more on preventive maintenance to protect the equipments from failure , and keep them in a good condition .

Lack of experienced staff as a point of reference , this cause has been reported by 69.4 % of the participants as a second leading cause of incidents at hospitals , and this was consistent with USA utilizing interviews study which showed that 53 % of the AE's in surgery occurred as a result of in experience or lack of competence in surgical task. This cause was ranked as a second leading cause of incidents because of high percentage of experienced staff turn over to Gulf and other western countries which end up that hospitals doesn't have experienced staff which can be considered as a point of reference for other staff, experienced staff play an important role in educating the others and decreasing the percentage and number of incidents by sharing their knowledge.

Insufficient training and educational programs , this cause was ranked as a third leading cause of incidents at hospital and has been reported by 58.8 % of participant , this is probably because accredited private hospitals are not considering training and educational programs as a major issue for improvements and enhancing their income , unless it is free or with a very minimum cost , sending their staff to participate in quality and patient safety related educational programs are very costly and hospital leaders are reluctant to nominate their staff to participate in such activities .

Insufficient level of knowledge , this cause has been reported by 50.2 % of the participants , which mean it has a value to be considered in minimizing the incidents at hospitals when staff are not fully oriented about their tasks and their job description , or if they are not knowledgeable enough , they will commit mistakes and incidents , her it is important to empower the role of orientation programs in which newly hired staff will be given all of the required knowledge for their working at hospitals , then will be guided by preceptors who are well experienced staff .

Insufficient number of staffing, this cause has been reported by 47 % of the participants as a least leading cause of incidents at hospitals, the results of this study are not consistent with the results of institute of medicine which announce that infections, bleeding, cardiac and respiratory failure are associated with inadequate number of staffing which has a negative impact on increasing AE's. Also the results are not consistent with the results of American Nurses Association Survey which revels that in adequate staffing, especially nurses is the reason for decline in the quality of nursing care which increase the possibility of incidents. Our accredited hospitals are well staffed, that's why participants rank this cause as a least leading cause of incidents, because hospitals are private and accredited, so it's a part of their marketing to have enough number of staffing to satisfy their patients and customers.

5.2.3 Question Number Three:

Is there a difference in health care workers perception of documenting incidents: types and causes and their experience level? Results of the study revealed that there is a difference in experience of participants and their perception of types of incidents at three Jordanian accredited private hospitals. Scheffe test was used to specify to whom the difference refer, results showed that difference were positive to the participants from Esr'a hospital, which indicate that experienced staff at Esr'a hospital are more aware about the types of incidents than the others, and this is normal results because Esr'a hospital staff went through JCIA Re Accreditation recently, 2 months ago, and they are well memorizing the quality culture and their experienced staff more convenient in ranking the types of incidents than other hospitals, because their turn over is low, as well as the mean for experience level at Esr'a hospital in regards to experience is 1.85, and std.Deviation 0.889. But also the results showed that there is no difference in perception of participants in identifying the causes of incidents and their experience level in three Jordanian accredited private hospitals, because the culture of the quality and accreditation is already there and this is normally because their staff are cautious about committing incidents which will end up they are fully aware about incident causes that's why they are not committing it, but the findings are consistent with the finding of a study that was conducted in the USA utilizing interviews reported that 53% of AEs in surgery occurred as a result of inexperience or lack of competence in a surgical task.

5.2.4 Question Number Four:

Is there difference in health care workers perception of documenting incidents: types and causes, and their designation level at three Jordanian Accredited Private hospitals? Results of this study showed that there are no statistical differences between the perception of the health care workers about documenting incidents types at three Jordanian accredited private hospitals and their designation level. Also there is no significant differences between the perception of the health care workers about documenting the incidents causes and their designation level at three Jordanian accredited private hospitals, and this is probably due to presence of safety culture which is being adopted because all of the three hospitals are being accredited hospitals, the culture of quality and safety is being there that's why all of the health care workers were consistent on adopting the same types and causes of incidents, having one perception for all of the health care workers regardless to their designation level if they are managerial or staff or ancillary, is a normal reflection of accreditation. And the majority of participants holding Bachelor degree and some of them are seniors in their work place. Engaging of nurses in the quality and safety issues is very important to enhance patient safety and to improve the outcome by minimizing the incidents at hospitals after having the accreditation in the hospitals, each department of the hospital has it's own quality representative in quality department, some hospitals name them quality facilitators, other call them quality assistant, other name them quality coordinators, but they are not working directly in quality department, they are facilitating the quality department functions and they are disseminating the quality and safety culture and quality issues at their department and units, and this is consistent with results of study which was conducted by Debra A. Draper, et al. The Role of Nurses in Hospital Quality Improvement, which showed that that nurses are well positioned to serve on the front lines of quality improvement since they spend the most time at the patient's bedside and are in the best position to affect the care patients receive during a hospital stay. Nurses are "the largest deliverer of health care in the U.S.," according to a representative of an accrediting organization.

5.3 Clinical implication of the study:

This study will encourage adopting new strategies for health care management stakeholders and administrators of accreditation body at Jordanian health care system to focus more on the most frequent types of incidents and the causes which will assist policy makers to build up strategies that minimize or prevent the reoccurrence of such incidents in the future by highlighting the incidents and trying to solve its causes. Dissemination of findings from this study will enhance the knowledge base of staff nurses, health care workers and their organizations by identifying any gaps in the perception of incident types and causes. Addressing findings from this study will not only augment developments in clinical practice and organizational management, but this will also ultimately enhance and improve patient care which is a fundamental reason for carrying out this study. Identifying the most frequent types and the causes behind them will also support and motivate staff in their work environment, as well as provide staff with updated knowledge and skills necessary to promote the prevention and control of potential incidents which will impact positively on patient health and quality of life. In terms of implications for clinical practice, appropriate training on proper patient identification, blood related incidents, newly added equipments and assigning special staff to be a reference in case of having incident to guide others on the proper way of management should be provided to all hospital staff. Management should review and improve existing governance support systems to facilitate reporting of incidents.

5.4 Strengths and limitations of the study:

No earlier researches has measured the most frequent types and identified the most leading causes of incidents at private accredited Jordanian hospitals which this study does, however, there are several limitations and firstly this study can't be generalized as it was conducted only in three private accredited hospitals at Amman and not at all over the country. This study provides knowledge to nurses, quality department staff toward reporting incidents and identifying the causes of the incidents. The result of this study will enable the hospital stakeholders to identify the most frequent types and causes of incidents by nurses and recommend the proper action plan to improve patient's safety. The limitations of this study is that inability to generalize the results to all Jordanian accredited private hospitals, since the sampling method and the results are limited to three of accredited private hospitals at Amman City, but the results can highlight the importance for further future studies. Moreover, in some hospitals incidents are being reported and managed immediately especially if they are sentinel and they are being handled in a complete confidentiality where very limited staff is aware of it. Finally, such research need to be conducted on both qualitative and quantitative way to review the medical records, interview the staff and get their feedback, recognizing limitations regarding the estimation of incidents are sensitive to the degree of consensus and confidence among reviewers. Therefore it is possible that reports contained incidents that were not identified in the record. Because of these limitations, the types of incidents and causes that can be detected by nurses might be underestimated.

5.5 Recommendations:

The results of this study showed that there are more focused on patient identification and blood related incident's which have the most frequent incidents, their fore the researcher would recommend: Further research studies to focus on patient identification as it is one of the international patient safety goals for JCI, as well as on blood related incidents as it is one of national safety goals for Health Care Accreditation Council (HCAC) at Jordanians accredited private hospitals. Accreditation Bodies need to be more specific in their standards especially when it come to patient identification and to standardized the identification in their standards where all of the accredited hospitals will be forced to follow to achieve such standards. Hospital managerial positions and stakeholders need to review their hospital equipments and update them regularly, and to make sure that preventive maintenance are being done regularly to make sure that all of the hospital equipments are working properly, as well as to make sure that all of the newly hired staff as well as old staff are familiar with the equipments and how it works. Hospitals Leaders need to assign one staff to be as a reference for the remaining staff in each unit / department to assist other staff in answering their questions or queries, or refer them to proper reference. Hospital Leaders need to encourage training and educational activities by sending their staff to attend workshops and conferences related to their job specification as well as related to quality and patient safety in general, and to support psychologically and financially any initiation from staff to conduct lectures, seminars or workshops.

Further research is needed in this important area, preferably in a prospective design to better understand safety challenges and reporting culture in the country. Further studies needs to be conduct to measure the incidents types and causes because the results of this study contradicting some of the previous studies, and when having another studies to include all of the Jordanian accredited private hospitals can highlight the major gaps in incident reporting at hospitals.

VI. Conclusion of this study

The primary aim of this study was to develop a clear data base about the most frequent types of documented incident reports by nurses and to highlight the main causes for the incident reports at Jordanian accredited private hospitals after identifying their perception to incidents. This study is a first step in a long journey to adequately understand the incident report problems in Jordanian accredited private hospitals. More studies along this line using larger samples and different methods will be needed to allow better understanding of the problem. The results of this study point out that incidents are well identify in Jordanian accredited private hospitals and the perception of incidents are well known. The main incident types reported were patient identification and blood related issues and the main causes of incidents were insufficient / improper use of equipments and lack of experienced staff as a point of reference. These findings suggest that patient safety initiatives should focus primarily on these two domains. Incident reporting represent a key safety tool and incident report data could improve safety and quality of health care in hospitals. Clearly, incident reporting is an important area of patient care, which reflects any inconsistencies that may exist within the routine organizational operations or patient care. Healthcare workers strive to provide high quality of patient healthcare and continually commit to promote improvements in the area of patient safety that can be further assisted by identifying types and causes of incidents, which will promote effective management of such incidents. The main findings of the this study showed that all staff in the three private accredited hospitals are having almost the same perception of incidents at their organizations, and they all agreed on ranking the types of incidents

according to their frequency at their hospitals as : patient identification , blood related incidents , documentation related incidents , injury related incidents either to patient or staff , medication related incidents and communication related incidents , as well as they all have consensus on identifying the causes of incidents at their hospitals from most leading cause to least leading cause as follow : insufficient / improper use of equipments , lack of experienced staff as a point of reference , insufficient training and educational programs , insufficient level of knowledge and insufficient number of staffing .

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