Awareness of Community Health Nurses on Legal Aspects of Health Care

Hepsibah Sharmil

MMM College Of Nursing, (A Unit of the Madras Medical Mission).

ABSTRACT

The study on awareness of community health nurses on legal aspects of health care was conducted to analyze the nurses knowledge on the laws related to the health care. Health care laws serve as a hallmark in maintaining the equilibrium in the delivery of health care services. It goes without saying that this particular field of activities calls for a sound technical and legal knowledge. In the current scenario the nursing service is widened and deals with various issues on legal aspects of health care.

To keep abreast with such developments and to face the changing challenge, it is essential that the nurses are equipped with updated knowledge on laws related to health care. This will enhance safe health care delivery in an unbiased standardized way.

Therefore this study was conducted to determine the awareness of nurses in public health sector on legal aspects of health care. Using non-experimental descriptive research design, with the objectives 1. To determine the level of knowledge on legal aspects among nurses, 2. To associate the level of knowledge score of nurses with the variables such as (a) age (b) academic education (c) work experience (d) exposure to in-service education.

Comparing the private and government health care sectors, the government health centers has meager turnover of nurse than the other private health care centers. Thus the consistency of the samples would be maintained. Via convenient non-probability sampling technique 180 community health nurses were selected as samples. To measure the awareness of nurses’ knowledge on legal aspects, the researcher developed a questionnaire after a wide search of literature and with the experts’ opinion. The syllabus of the student nurses was also perused. The context validity, the reliability of the tool was measured using Test and Retest method.

Generally health care system is governed by the laws, rules, regulations and other jurisprudence that cover a wide range of legal concerns, from healthcare law, mental health, public health, technology and medical care, to medicine, and the entire healthcare field, including specific laws governing the health industry: physicians, nurses, hospitals and health systems, health maintenance organizations, health insurers, managed care companies, nursing facilities, home care providers, social services and the relationship among them and patients. So, to cover all the aspects of health care laws, the investigator classified the legal aspects into four headings, they are 1.Sources of Law. 2. Laws on Health care Personnel. 3. Laws on Information management and 4.Laws of Protection in health care sector.

The study revealed that among the nurses in the assessed public health care areas, only 11.7% nurses had the expected adequate level of knowledge on Legal Aspects of Health Care while the remaining 88.3% nurses had a moderate level of knowledge.

Therefore, the result shows that nurses have moderate knowledge on legal aspects of health care, and they need more enhancement of knowledge through continuing nursing education and by maximum utilization of the library.

INTRODUCTION

Research Background

Nurses deal with the most fundamental human events like birth, death and suffering, they encounter many legal issues surrounding these sensitive areas. Accountability is an essential concept of professional practice. Nursing practice is surrounded by many legal aspects because nurses are accountable for their professional judgments and action.

Nursing takes place in a variety of public and private settings and includes disease prevention, health promotion, health protection, surveillance, education, maintenance, restoration, coordination, management and evaluation of care of individuals, families and populations including communities. The knowledge of legal responsibilities is integral with the expanding clinical role, and a logical application of the planned, systematic, and focused care, which should be the goal of Modern Nursing (Shaw 1998).

For the implementation of high quality of nursing practice in the world of latest medical and technological advances a good knowledge of legal aspect of health care is a necessity. Nurses are subject to a plethora of legal and professional duties. Today health care delivery system is more dynamic and has progressed a lot in the last past years. The health services and needs are becoming complex and advanced and the health professional
services have also advanced due to changing public need and awareness.

According to Satish Tiwari (2000) in this era of specialization the focus of nursing and medical profession is progressing from noble to a commercial one. The increasing cost of medical education, equipment and construction of hospitals to some extent is responsible for this commercialization. Patients are also now more interested in facilities and quality of care. In this scenario litigation related to medical and nursing practice is on the rise.

The workforce shortage results from a complex set of factors such as fewer young people entering the profession, declining nursing school enrollment, the aging of current nurse workforce, and uncomfortable working conditions in which nurses feel pressured to “do more with less” (Bloom, 2002).

The role of nurses and professional nursing has expanded rapidly which expects specialization, autonomy and accountability from legal perspective. This expansion has focused new concerns among nurses and heightened awareness of legal principles. Charlotte M.C.Daniel (1996) in his study regarding knowledge explosion and technological advancement has resulted in consumer awareness which leaves for standardization of care providing quality care which is the overall goal of health care industry which sometimes leads to contain legal issues or dilemma. In order to strengthen the quality care Consumer Protection Act (CPA) came into light which saves the patient and the nurses from negligence and malpractice.

Nurse’s role in CTA is to provide good quality care within the limits of practice so that she avoids legal liability. In health care, legal litigations are focusing towards protection of patient and the nurse. The two parallel values that dominate the delivery of medical care to the patient are first decision on the care rendered and second the independent right on medical care. Patients are helpless and more dependent on nurses for decision making. Many times nurses have to make decision collaboratively in matters like withdrawing or withholding life saving measures.

Lowden.J (2002) in his article attempts to highlight patient’s right to be complex and inconsistent. They are not taken up so seriously as of patient’s inability to understand and consent of health care treatment. Inconsistency and ambiguity persist in the law and its interpretation which requires better understanding of patient and experiences. Hence patient care calls for more legal attention.

Along with other professionals nurses are also required to keep abreast of such developments, keep pace with the changing needs and situations by equipping themselves with information on the modern trend and system which calls for tilt towards legal complication. For the implementation of high quality of nursing practice in the world of latest medical and technological advances requires a good knowledge of laws in health care is a necessity.

In India the Supreme Court has confirmed that the patients receiving deficient services from the medical practitioners, hospitals and health care centers are entitled to claim damages under Consumer Protection Act 1986 (Yawad.B.S. 1996).

The nurses as practitioners’ must keep pace with the changing needs and situations by equipping themselves with adequate information. These may include information management in hospitals and community health centers in treatment and follow up care organ transplants, genetic manipulation, artificial insemination, euthanasia, sex-determination or amniocentesis etc.

**Identified Problem**

“Awareness of Community Health Nurses on Legal Aspects of Health Care”

**Need For Study**

Nursing patient in community setting is unique. When the patient is sick he or she will lack self power to take care of his wellbeing. The nurse needs adequate skill and knowledge to enhance the health care delivery. While rendering patient care, the health workers need to be more legally alert to prevent issues and dilemmas. Mostly in the field of community, in family visit there are more chances for legal issues as nursing practice is independent. Nursing professional’s of today need to be competent in all dimensions. Nurses need to improve and keep up to date knowledge and be in power with the changing trends. It is mandatory for every nurse to have sound knowledge on legal aspects of health care and practice nursing safely and efficiently.


According to a data bank, among the 253 complaints registered between1995 – 2001 were due to negligence and 60% of them from acute care settings, 18% from long term care facilities, 9% from advanced practice nurses, 8% from Psychiatric facilities, 2% each from physicians and home health agencies. The nurse’s numbers are increasing who make malpractice payments. The non-specialized registered nurses pay the most malpractice payments. Sources say that every 2001 year in America 40,000 to 48,000 people are harmed due to negligence.

To provide quality care and avoid liability, the nurse needs to be familiar with various
consumer rights in health care system. It is vital to know the laws protecting the patient and the health care deliverer in this regard and also to be aware of the legal status as registered nurses.

Nurses are risk takers while rendering care towards patient and in procedures like taking over, handing over, handling life saving equipments and management of ventilated patient in case of electricity failures at the Hospital. All these are challenges for nurses and could also end up as legal problems. Each patient will present a different legal, ethical or professional question and no two situations will or should be dealt with in the same way as each patient is an individual (Dickinson 2002). Nurses as partners of health care providers they may expect legal proceedings from the health care consumers.

The curriculums of both Diploma and Degree nursing programs have a chapter on legal concepts and its application on practice. Thus, the nurses in their learning and training period itself have reasonable and significant opportunity to learn about laws related to health care. Henceforth, after their graduation nurse are expected to have a concrete knowledge and desirable attitude to practice diligently.

The most vulnerable group of nurses to meet the legal issues frequently are those working at intensive care unit, emergency department and at community field, where the patients health decisions are taken by the patient himself or spouse or guardian. Hence, nurse’s need more critical thinking and judgment skill to handle the situations which calls for more judicial knowledge.

In the area of community health independent nursing is demonstrated which requires more vigilant observation in early detection and wakefulness in prevention of certain disease condition, so this provoked the investigator to assess the awareness of community health nurses on knowledge regarding legal aspects of health care when they face legal dilemmas.

**Objectives**

1. To determine the level of knowledge on legal aspects among nurses.
2. To associate the level of knowledge score of nurses with the variables such as (a) age (b) academic education (c) work experience (d) exposure to In-service education.

**Scope**

To protect the rights and safety of patients, a variety of legal aspects have been put in place to regulate the practice of nursing. When a nurse get a situation that involves the use of some special skill or competence, then the test as to whether there has been negligence or not is the standard of the ordinary skilled man exercising and professing to have that special skill.

It does not follow that simply, to fail to follow the accepted practice is in itself an evidence of negligence since there may well be very strong reasons, why the usual properly accepted practice was not followed in a particular case. This is where professional and legal implication would come into play, it may not be practical to deal with a situation in the properly accepted way and therefore a nurse must exercise her professional judgment and consider legal issues that arise out of the exercise of that judgment.

In addition to the care and legal responsibility of the community health nurses delivered care to the welfare of the patient. The principle duty rests with the doctor but the nurses are mostly liable. The nurse acts along with other health care professionals and must follow lawful instructions from her employer. Despite being answerable to her employer, she is a member of a team and carries her own professional duty and responsibility. The nurse must exercise the skill and competence significantly at the expectation as a nurse by profession. She must follow the accepted standard practice in the nursing profession. She must follow the Code of Professional Conduct for a Nurse. She must keep up to date with the literature and training. She must observe all safety precautions. There are also professional guidelines (protocols) on how a nurse must deal with a particular situation and should never do a mistake or neglect it.

But, in-case if a patient under care has suffered harm, through an error in treatment or for any other reason; as per the protocol the nurse should act immediately put matters right, if that is possible and to put it in incidental report at the earliest. It must be explained fully and promptly to the patient what has happened with the possibility of long- and short-term effects. When appropriate an apology should be offered.

**Deliverables**

As a nurse and particularly in community it has become an important necessity to be aware of the legal aspects of health care associated with caring and helping people in the health industry today. To take up nursing as a profession unfortunately, in the field of nursing the more and more negligence cases in suit there are the less and less people want to get into the health care field fearing legal aspects and the inevitable law suites. The first nursing law created was that of nursing registration in 1903 and they have only evolved and expanded over the years to create a thick book which must be studied today by aspiring nurses.

In order to protect nurses from malpractice suits, nurses must take as many precautions as they can during their daily shifts. Recording,
documenting and reporting your daily routines and decisions is one of the most common ways to make sure you are on track with your patience and in the right. Nurses learn in school and college that proper care of a patient is not only making the right decisions but maintaining and organizing their medical records and reports efficiently. Any nurse who is not able to provide written proof of their decisions and why that decision was reached will no doubt be charged with nurses' negligence and risks being seen in front of a court.

The legal aspects of health care are taught and expected to be kept up on throughout every nurse's career. Employment as a nurse does not only require a nursing degree but knowledge of the medical and health care laws that will apply to you should there is a misunderstanding or challenge by a patient or their family. A high profile nursing job is something many young people aspire to but without the legal knowledge behind them, many hospitals, health care units and community centers will not hire them now that legal issues are becoming more and more problematic.

LITERATURE SURVEY

Review of Literature

For the purpose of logical sequence this is divided in to 3 sections

Section I: Literature related to importance of legal aspects in health care sector

Section II: Literature related to various legal aspects in health care

Section III: Literature on nurses’ knowledge on legal aspects

Section I: Literature related to importance of legal aspects in health care sector

Amanda Bog (2010) in her article says that, in order to protect you from malpractice suits, nurses must take as many precautions as they can during their daily shifts. Recording, documenting and reporting your daily routines and decisions is one of the most common ways to make sure you are on track with your patience and in the right. Nurses learn in school that proper care of a patient is not only making the right decisions but maintaining and organizing their medical records and reports efficiently. Any nurse who is not able to provide written proof of their decisions and why that decision was reached will no doubt be charged with nurses' negligence and risks being seen in front of a court.

Taunda Edwards (2010) suggests that he Nurse Practice Act lists all of the duties and role of a nurse. If these duties and regulations are not followed, the nurse is at risk of losing his license and facing a malpractice suit. Nurse as Patient's Advocate has a legal obligation to act as the patient's advocate in case of emergency. The nurse is to act as the liaison between the patient and the health care provider, such as a physician. The nurse will monitor the patient, ensuring that if any complications or abnormalities arise, a physician notified immediately. The nurse is legally obligated to keep the personal data and information of the patient private; not doing so is a violation of the code of ethics for nurses.

Henry Berry, Nightingale's Healthcare News, October 15 (2006), in discussing how legislation and regulations affect the solvency and effectiveness of government-provided healthcare, the authors offer insight into the much-publicized and much-discussed issue of runaway healthcare costs. But healthcare reimbursement policies are not the cause of this, the authors argue. To make their case, they explain how the laws and regulations in different areas of the Medicare and Medicaid programs create processes that are largely invisible to the public, but make the programs difficult to manage financially. The processes are not well thought out nor subject to much quality control, with the result that fraud is chronic and considerable.

Raymond, B. and C. Dold (2002), explicit that the Tort Law is the legal aspects of the law that most nurses are more familiar with. This is the law that involved malpractice and negligence cases which many nurses take the time to learn inside and out as this is one of the biggest fears in the medical community. Basically a Tort is a wrongful act which produces harm, whether it is unintentional or intentional. Malpractice is a specific type of Tort where the standards of care are not met. This is one of the most common and familiar laws to nurses and something that nurses and doctors alike must be familiar with in order to continue their care efficiently.

Roberto J Rodrigues (2000) explains on many inadequacies concerning national and international controls and legislation, especially regarding the issue of jurisdiction; and urgent need for an internationally accepted policy framework that addresses basic rights and responsibilities of users and providers. Freedom of access to information and expression and the protection of users' data security and privacy are especially critical topics. Decisions and initiatives related to cyberspace law and ethics issues in health and healthcare must necessarily involve experts from a variety of knowledge domains involving civil and criminal law, medical ethics (bioethics), computing ethics, medical computing, and legal medicine.

Lawers Directory (2001) says Health Care and Social Law is governed by the law, rules, regulations and other jurisprudence that cover a wide range of legal concerns, from healthcare law, mental health, public health, technology and medical care, to medicine, and the entire healthcare field, including specific laws governing the health industry: physicians, nurses, hospitals and health
systems, health maintenance organizations, health insurers, managed care companies, nursing facilities, home care providers, social services and the relationship among them and patients.

A nurse acting at par with professional standards while practicing, many of these risks and dangers can be averted. Nurses must know the law that governs her profession to avoid law suits against her. The knowledge of legal responsibilities is integral with the expanding clinical role, and a logical application of the planned, systematic, and focused care, which should be the goal of Modern Nursing (Shaw 1998).

Pope (1995) cites that all nurses should be able to demonstrate knowledge of the role of advocacy (case and class), ethics, and risk communication in client care and community intervention with respect to the potential adverse effects of the environment on health. Nurses must also understand the policy framework and major pieces of legislation and regulations related to environmental health.

Section II: Literature related to various legal aspects in health care

According to Encyclopedia: Health law from Wikipedia (2010) Health Law is the federal, state, and local law, rules, regulations and other jurisprudence affecting the health care industry and their application to health care patients, providers and payors, and vendors to the health care industry, including without limitation the relationships among providers, payors and vendors to the health care industry and its patients; and delivery of adequate and appropriate health care.


Gunter, T.D. and Terry, N.P. (2005) in an article on the implementation of electronic health records (EHR), insist that EHR can help lessen patient sufferance due to medical errors and the inability of analysts to assess quality. EHR systems are claimed to help reduce medical errors by providing healthcare workers with decision support. Fast access to medical literature and current best practices in medicine are hypothesized to enable proliferation of ongoing improvements in healthcare efficacy. Improved usage of EHR is achieved if the presentation on screen or on paper is not just longitudinal, but hierarchically ordered and layered. During compilation while hospitalization or ambulant serving of the patient, easing to get access on details is improved with browser capabilities applied to screen presentations also cross referring to the respective coding concepts.

Brussels Bar, KULeuven (2008) on Health Law says that E-Health describes the application of information and communication technologies across the whole range of functions that affect the health care sector. E-health attracts a growing interest on the European level that highlights the sharp need of appropriate regulatory framework able to ensure its promotion in the European Union. Some Directives constitute a step in this direction. Both the Data Protection Directive, the E-Commerce Directive, the Medical Device Directive and the Directive on Distance Contracting are some of the most important European legal achievements related to e-Health. Although the directives are not adopted especially for e-health applications, they are indirectly very important for e-Health. The new e-Health applications like electronic health records, e-health platforms, health grids and the further use of genetic data and tissue involve new legal challenges. Several member states are introducing electronic health records or e-Health platforms. The use of electronic health records that contain data of several health actors poses new risks with some legal consequences. Recently, grids are being used in some ambitious medical and healthcare applications. In order to be truly effective such grid applications must draw together huge amounts of data from disparately located computers - which implies data sharing across jurisdictions and the sharing of responsibilities by a range of different data controllers. E-Health will also enhance the further use of human tissue and genetic data.

The Court of Appeal has held that it was a matter of facts in each case whether an employer had constructive knowledge of a serious risk, so as to trigger its duty of care towards employees (Doherty et.al; 2004). In the case itself they was agreed that the employer did not have actual knowledge of this risk nor at that time was it reasonable to expect the employer to have constructive knowledge of the risk.

Section III: Literature on nurses' knowledge on legal aspects

Bog (2010) in a review says that as a nurse it has become an important necessity to be aware of the legal aspects associated with caring and helping people in the health industry today. Unfortunately, the more and more negligence cases there are the less and less people want to get into the health care field fearing legal aspects and the inevitable law
suites. The first nursing law created was that of nursing registration in 1903 and they have only evolved and expanded over the years to create a thick book which must be studied today by aspiring nurses.

M. Hakan Özdemir (2009) in the study to determine the level of awareness of patients’ rights among midwives and nurses working in the third and fourth largest cities in Turkey. Cross-sectional descriptive survey conducted among participants working in university hospitals, state hospitals and village clinics. Questionnaires were distributed to 150 midwives and 350 nurses working in university hospitals (n=200), state hospitals (n=100) and village clinics (n=100); 60% (n=298) of the forms were returned. Fifty-one per cent (n=152) of midwives and nurses stated that they had not read any legislation related to patients’ rights. Seventy-five per cent (n=222) of respondents were aware of the legal arrangements. Only 34% (n=74) of participants who knew of any legal basis for patients’ rights said that legislation was in the form of a directive. No significant differences were observed in midwives’ answers compared with nurses’ answers. Violation of patients’ rights and health professionals’ ignorance of appropriate practice means that there is an urgent need to reconsider how to approach this issue. It should be included in continuing education programmes at both graduate and postgraduate midwifery and nursing schools, and also demands more research.

Studd (2003) suggests that the employer’s duty is to provide all reasonable care of the employee from reasonably foreseeable violence or abuse. What is reasonable depends upon the actual circumstances of the reasonably foreseeable violence. There are examples of what some employers have provided: ambulance staff in London are being issued with anti-stab for occasions when they enter addresses on a high risk list.

Bennette et.al (1999) provides advice on handling stress. They emphasize the importance of looking at the work environment and personal skills as part of any stress management strategy for nurses and other health care professionals. In other words, like any other situation of health and safety in the work place, employees are entitled to rely upon the four elements in any negligence action. That is duty owed by the employer to safeguard the health and safety of the employee, breach of the duty, causation and harm.

Barnabas, Seema (2004) in the “study to assess knowledge of legal responsibilities in patient care among nursing graduates”. A descriptive comparative approach was adopted for the study, with a Structured questionnaire schedule. Data from a sample of 91 nursing graduates was obtained. The major findings of the study according to the objectives revealed that, (A) The Nursing Graduates’ overall knowledge of legal responsibilities was good. The over all nursing graduates’ legal responsibility knowledge score (LRKS) was good in the areas that were directly related to patient care i.e., fundamental duties, safe environment, maintaining professional confidence, negligence and admission, transfer discharge and property (ATDP). The Nursing graduates need a well-conceived education programme on specific areas of legal aspects such as legal terms, basic rights, legal control and medico-legal cases because their knowledge was low in these areas. (B) The B.Sc. Nursing graduates exhibited better (Mean% = 71.43) legal responsibility knowledge score than the Diploma graduates (Mean % = 68.5). (C) Age, as a variable does not seem to have effect on knowledge, as revealed by this study. The B.Sc. Nursing graduates in the age group 20-30 years scored higher mean (50.18) than diploma graduates (47.73). But in the category of age above 30 years comparison could not be possible due to negligible (n=1) number of samples. Comparison within the Diploma graduates revealed that the sample having higher age (> 30 years) had better (mean = 49) knowledge score than the sample of 20-30 years (47.73). But it was not statistically significant. (D) Level of academic qualification does not influence knowledge of legal responsibility, though the mean scores of Diploma and B.Sc. (N) graduates in the (B.A. / B.Sc. pass) category was higher (50.44 & 53.50 respectively) as compared to 10 2 pass (47.48 and 49.79 respectively). (E) There was no significant difference in knowledge of legal responsibilities among nurses with varying years of experience. (F) The In-service education does play an important role in the enhancement of knowledge. But the relationship of LRKS with In-service education was not statistically significant because a full-fledged programme is not their for the graduates while in service.

Research Gap
The study is confined to one particular Community Health Centers at Chennai India. The study has taken into consideration on specific health care workers (i.e.’ Nurse). The project has taken in to account only to assess the knowledge domain of laws related to health care sector. It didn’t study about its implication in practice.

METHODOLOGY

Type of Project
The study proposes to use Descriptive Research Technique. Descriptive research also known as statistical research, describes data and characteristics about the population being studied. The Study proposes the following research methodologies, in sequence. This section deals with specifically the matter in which the study would be done, data type that would be used,
population frame, and sample size, procedures for data collection, analysis, interpretation, schedule and budget.

**Design Technique**
The research design chosen for the study was non-experimental descriptive design which helps to provide factual information about existing phenomena and correlation between study variables.

According to Polit and Hungler (2007) the purpose of this approach is to observe, describe and document the aspects of the situation. Since the investigator decided to study the awareness on legal aspects of health care among nurses. This approach was considered appropriate to explicitly elicit the need B. Target respondents

**Setting of the Study**
The study was conducted at the Community Health Care Units, at Chennai, India. These are government health sectors rendering health care. The government health sector was chosen since their turnover of nurses is meager.

**Population**
The nurse (Registered Nurses) working at various community health care unit in total 180 in numbers.

**Sample**
180 nurses who full fill the inclusion criteria were selected for the study.

**Sampling Technique**
Non-probability convenient sampling will be used for the selection of the samples.

**Assumptions**
i. The nurses may have some knowledge regarding legal aspects of health care.
ii. Having knowledge of legal aspects of health care promote quality care.

**Limitations**
i. The study is delimited to the registered nurses.
ii. The study is limited to a period of 5 months.

**Proposed Sampling Methods**
The proposed samples are those who are fulfilling inclusion criteria.

**Criteria For Sample Selection**

  **a. Inclusion Criteria**
  - Nurses who has completed Diploma or Bachelor in Nursing.
  - Nurses who are registered under Tamil Nadu Nurses and Midwives Counsel.
  - Nurses who are working in the selected community health care sector.
  - Nurses who are willing to participate in the study.

  **b. Exclusion Criteria**
  - Nurses who are absent during the days of data collection period.
  - Student or trainee nurses working in the community health care field.

**Tools of Analysis And Interpretation Methodologies.**

  **a. Development and description of the tool**
The investigator has developed a structured questionnaire to assess the awareness of the nurses on the legal aspects of health care.

  **b. Format of the Tool**
The tool consists of mainly 2 sections

**Section I**
To collect information regarding demographic variables. It mainly consists of information of demographic variables like age, area of work, and total years of experience as a nurse and area of more experience.

**Section II**
A questionnaire to assess the awareness of legal aspects of health care among nurses. It consists of 20 questions on legal aspects of health care. Each question will be a close ended questions with options of which only one is the correct answer. Hence 1 mark is awarded for each correct answer and 0 for wrong answers. Thus the maximum marks to be scored are 20 marks. The samples are required to read the statements and circle the number against the option.

  The total score was converted into percentage and interpreted as follows:

  - Adequate Knowledge - 67% to 100%
  - Moderate Knowledge - 34% to 66%
  - Inadequate Knowledge - 0% to 33%

**Validity and Reliability**
After the construction of tool. It was sent to experts in the field of Nursing, Medicine and Law. The suggestion incorporated was deletion and modification of an item with few questions added in demographic data.

  To assess the reliability of the tool the investigator used Test-Retest method. The tool was found to have reliability score of 0.82 (positive correlation). Thus the tool was considered to be reliable.

**Tools for Analysis**
The collected data were analyzed using both descriptive and inferential statistics. 

**Descriptive Statistics**

Frequency and Percentage distribution was used to analyze the demographic variables and Knowledge Level.

**Inferential statistics**

Chi-Square test was used to associate the demographic variable with awareness or knowledge of nurses on legal aspects of health care.

**DATA ANALYSIS AND INTERPRETATION**

This chapter deals with the analysis and interpretation of data collected from 60 nurses regarding knowledge on legal aspects of healthcare in selected hospital, Chennai.

Descriptive and inferential statistics were used for analyzing the data on the basis of objectives and organized as follows:

- **Section A:** Demographic variables of Nurses.
- **Section B:** Assessment of knowledge on legal aspects of health care among nurses.
- **Section C:** Association of knowledge with demographic variables.

**SECTION A: Demographic variables of Nurses**

**Table 1**  
Frequency and percentage distribution of Age Group

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. 20 – 29 years</td>
<td>42</td>
<td>23.3</td>
</tr>
<tr>
<td>b. 30 – 39 years</td>
<td>39</td>
<td>21.7</td>
</tr>
<tr>
<td>c. 40 – 49 years</td>
<td>39</td>
<td>21.7</td>
</tr>
<tr>
<td>d. 50 – 59 years</td>
<td>60</td>
<td>33.3</td>
</tr>
</tbody>
</table>

**Table 2**  
Frequency and percentage distribution of Religion

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Hindu</td>
<td>138</td>
<td>76.7</td>
</tr>
<tr>
<td>b. Christian</td>
<td>42</td>
<td>23.3</td>
</tr>
</tbody>
</table>

**Table 3**  
Frequency and percentage distribution of Educational Qualification.

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Diploma in Nursing</td>
<td>117</td>
<td>65</td>
</tr>
<tr>
<td>b. B.Sc., Nursing</td>
<td>63</td>
<td>35</td>
</tr>
<tr>
<td>c. M.Sc., Nursing</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Table 4**  
Frequency and percentage distribution of Advanced Nursing Education

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Nursing Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>b. No</td>
<td>180</td>
<td>100</td>
</tr>
</tbody>
</table>

**Table 5**  
Frequency and percentage of Updation of professional knowledge

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Updating professional knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>b. No</td>
<td>180</td>
<td>100</td>
</tr>
</tbody>
</table>
Statistical Interpretation of Section A
Demographic Variables

These tables on demographic data depict the findings by frequency and percentage distribution. It reveals that the maximum number of subjects 60 (33.3%) belong to the age group of 50 to 59 years, 42 (23.3%) belong to the age group of 20-29 years and the remaining 39 (21.7%) belong to 30 – 39 years and 40-49 years respectively. Considering the religion, 42(23.3%) are Christians and the maximum 138(76.7%) of the subject are from Hindu religious background.

With regard to the Educational Status 117(65%) subjects did Diploma in nursing and 63 (35%) did B.Sc., Nursing. Regarding Continuing Nursing Education, all the subjects 180 (100%) are not updating the nursing knowledge.

In view of total years of experience 117(65%) have more than 10 years of experience. Taking into account on the area of more expertise 159(88.3%) of subjects have gained more “hands on” experience on non-acute care setting and the remaining 21 (11.7%) have got acute care experience.

On addressing the regular updation of professional knowledge all i.e. 180 (100%) of the subjects are not utilizing the education resources at their institution.

SECTION – B
Assessment on Knowledge as Legal Aspects of Healthcare

Table 6
Frequency and percentage of level of knowledge and Sources of Law

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Sources of Law</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Inadequate</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2.</td>
<td>Moderate</td>
<td>123</td>
<td>68.3</td>
</tr>
<tr>
<td>3.</td>
<td>Adequate</td>
<td>57</td>
<td>31.7</td>
</tr>
</tbody>
</table>

The above table explains that with regard to the Sources of Law 123 (68.3%) had moderate knowledge and 57 (31.7%) had adequate knowledge. It is nice to know that none of the nurses have inadequate knowledge on sources of Law; which is the fundamentals in legal aspects.

Table 7
Frequency and percentage of level of knowledge and Laws on Personnel.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Laws on health care personnel</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Inadequate</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>2.</td>
<td>Moderate</td>
<td>102</td>
<td>56.7</td>
</tr>
<tr>
<td>3.</td>
<td>Adequate</td>
<td>60</td>
<td>33.3</td>
</tr>
</tbody>
</table>

On laws regarding law’s on health care personnel, 18(10%) nurses has inadequate knowledge, 102 (56.7%) has moderate knowledge and 60 (33.3%) has adequate knowledge. Thus, more number of nurses has moderate knowledge on the laws related to health care personnel.

Table 8
Frequency and percentage level of knowledge and Laws on Information Management

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Laws on Information Management</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Inadequate</td>
<td>78</td>
<td>43.3</td>
</tr>
<tr>
<td>2.</td>
<td>Moderate</td>
<td>102</td>
<td>56.7</td>
</tr>
<tr>
<td>3.</td>
<td>Adequate</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

On laws related to information management 78(43.3%) has inadequate knowledge, and the remaining 102(56.7%) have moderate knowledge. It is crystal clear that none of the nurses have got adequate knowledge on IT Management in health care sector.
Table 9  Frequency and percentage of level of knowledge and Laws on Protection

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Laws on Protection in Health Care</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Inadequate</td>
<td>39</td>
<td>21.7</td>
</tr>
<tr>
<td>2.</td>
<td>Moderate</td>
<td>120</td>
<td>66.6</td>
</tr>
<tr>
<td>3.</td>
<td>Adequate</td>
<td>21</td>
<td>11.7</td>
</tr>
</tbody>
</table>

Table X - while assessing the level of knowledge of nurses with the laws on protection in Health care realm. Most of the nurses 120 (66.6%) have moderate knowledge. 39(21.7%) have inadequate but only 21 (11.7%) nurses have adequate knowledge on the aspects of protection in health care sector.

Table 10  Frequency and percentage distribution Overall knowledge on Legal aspects of Health Care

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Legal aspects of Health Care</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Inadequate</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2.</td>
<td>Moderate</td>
<td>159</td>
<td>88.3</td>
</tr>
<tr>
<td>3.</td>
<td>Adequate</td>
<td>21</td>
<td>11.7</td>
</tr>
</tbody>
</table>

On assessing the overall knowledge on legal aspects of health care, it is found that none of the nurses have inadequate knowledge. Maximum number 159(88.3%) have moderate level of knowledge and 21(11.7%) have appreciate level of adequate knowledge.

SECTION C – Association of Knowledge on Legal Aspects Of Health Care With Demographic Variable.

Table 11  Association between Level of Knowledge and Age.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Age Group</th>
<th>Overall Knowledge</th>
<th>Chi-Square Test</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inadequate</td>
<td>Moderate</td>
<td>Adequate</td>
</tr>
<tr>
<td>1.</td>
<td>20 – 29 years</td>
<td>-</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>2.</td>
<td>30 – 39 years</td>
<td>-</td>
<td>39</td>
<td>-</td>
</tr>
<tr>
<td>3.</td>
<td>40 – 49 years</td>
<td>-</td>
<td>39</td>
<td>-</td>
</tr>
<tr>
<td>4.</td>
<td>50 – 59 years</td>
<td>-</td>
<td>60</td>
<td>-</td>
</tr>
</tbody>
</table>

Whistle associating the level of knowledge with the age, there is significant difference between the knowledge level and the age. As the age increases the level of knowledge on legal aspects has also been increased. This may be due to as the age increases the experience and awareness on legal aspects are increasing. It is found that all the age group of nurses has got moderate level of knowledge age on legal aspects of health care, and in particular the nurses between the age 20 – 29 years have the expected adequate knowledge compared with others.

Table 12  Association between Level of Knowledge and Religion

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Religion</th>
<th>Overall Knowledge</th>
<th>Chi-Square Test</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inadequate</td>
<td>Moderate</td>
<td>Adequate</td>
</tr>
<tr>
<td>1.</td>
<td>Hindu</td>
<td>-</td>
<td>138</td>
<td>-</td>
</tr>
<tr>
<td>2.</td>
<td>Christian</td>
<td>-</td>
<td>21</td>
<td>21</td>
</tr>
</tbody>
</table>

Level of knowledge on legal aspects of health care associated with religion. There is significant difference between the level of knowledge among nurses from Christian background when compared with Hinduism. 21 Christian nurses have adequate knowledge, but 138 Hindu nurses have moderate knowledge. This may be due to awareness of Jehovah Witness and their legal issues could be known little more among Christians when compared with Hindu religion.
Table 13  
Association of Level knowledge and Educational Qualification.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Religion</th>
<th>Overall Knowledge</th>
<th>Chi-Square Test</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inadequate Moderate Adequate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Diploma in Nursing</td>
<td>-</td>
<td>117</td>
<td>14.717</td>
</tr>
<tr>
<td>2.</td>
<td>B.Sc., Nursing</td>
<td>-</td>
<td>42</td>
<td>21</td>
</tr>
</tbody>
</table>

The above table explains that there is significant difference between the level of knowledge among nurses with the educational qualification. It is elicited that nurses who has acquired B.Sc., Nursing possess adequate knowledge compared to the nurses with diploma qualification with just moderate level of knowledge.

Table 14  
Association between Level of knowledge and Total years of experience

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Total years of experience</th>
<th>Overall Knowledge</th>
<th>Chi-Square Test</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inadequate Moderate Adequate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Less than 5 years</td>
<td>-</td>
<td>21</td>
<td>26.038</td>
</tr>
<tr>
<td>2.</td>
<td>5 – 10 years</td>
<td>-</td>
<td>21</td>
<td>(s)</td>
</tr>
<tr>
<td>3.</td>
<td>More than 10 years</td>
<td>-</td>
<td>117</td>
<td>0</td>
</tr>
</tbody>
</table>

On analyzing the total years of experience with the level of knowledge on legal aspects. Nurses with 5 – 10 years of experience have adequate knowledge where as junior nurses with less than 5 years and more than 10 years of experience have moderate knowledge. At the same time, most of the nurses with more than 10 years of experience have moderate level of knowledge than nurses with less than 10 years of experience.

Table 15  
Association between Level of knowledge and Area of more experience.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>More Expertise</th>
<th>Overall Knowledge</th>
<th>Chi-Square Test</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inadequate Moderate Adequate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Acute</td>
<td>-</td>
<td>21</td>
<td>1.047</td>
</tr>
<tr>
<td>2.</td>
<td>Non – Acute</td>
<td>-</td>
<td>138</td>
<td>(NS)</td>
</tr>
</tbody>
</table>

This table depicts that there is no significant difference between the level of knowledge and the nurses with more experience in acute or non – acute wards. Neither of them have inadequate knowledge on legal aspects of health care. Few of the nurses with more non – acute care experience have adequate knowledge when compared with moderate level of knowledge, among those nurses with more acute care experience.

Deliverables
The study analysis has provided complete information about the present knowledge of nurses on legal aspects of health care. It is clear that nurses are only moderately aware of its influence in delivery of health care. This study also enhanced the self evaluation among the nurses’ themselves and revealed that the nurses are not utilizing the well equipped Library. In the changing health care delivery system, it is essential for every nurse to keep in pace with the evidence based knowledge.

The Laws are like the supporting pillars that will enable the health care professionals to practice in an ethical way. By this study it is explored that as the years of nursing service increases (experience in nursing service), the awareness of legal aspects are also increased. Thus, the skill and knowledge walks hand in hand. Along with the evaluation on the Awareness of Legal aspects of Health Care among public health nurses, the survey would benefit in understanding how this particular knowledge on Laws are perceived among the community health nurses to deliver standardized health care. With this present study which assessed the knowledge of nurses paved way to the start the in-service education in the Community Health Centers like Journal Presentation on updated and evidence based nursing to the felt need of the population. The author presented the first continuing education on the Laws related to the Health Care.

CONCLUSION
Summary of Findings
This chapter concentrates on the findings derived from the statistical analysis and its pertinence to the objectives set for the study. Findings of the study have been discussed based on the objectives

First objective was to determine the knowledge of nurses on Legal aspects of Health Care. On considering the overall knowledge of the nurses on Laws related to health care sector, it is revealed that 159 (88.3%) nurses have moderate knowledge and the remaining 21 (11.7%) of nurses have adequate knowledge. It is quite clear that none of the nurses have inadequate knowledge on laws related to healthcare sector.

The finding contradicts the study done by Sara. T. Fry (2003) to find out the knowledge of nurses working in different areas of clinical practice. Total of 1,363 samples were chosen, of that the maternal and pediatric care was reported to have less level of knowledge.

While closely evaluating the basic fundamentals of the Law i.e. “The sources of law, it is to be appreciated that none of the nurses have inadequate knowledge while 68.3% and 31.7% of nurses have moderate and adequate knowledge respectively. Health care is an interdisciplinary team, where nurses have to deal with other health care professionals. Knowledge of Laws related to Health care Personnel explicates that 33.3% of nurses have adequate knowledge.

Today’s world has a touch of technology in all the fields, as so on Laws related to Information technology in health care industry. It is noticed that 43.3% nurses have inadequate knowledge and the rest 56.7% have just moderate knowledge. This demands for a big wakeup call for the nurses to keep in pace with the technological advancement and its related field.

Second Objective: To associate the level of knowledge score of nurses with the variables such as (a) age, (b) academic education, (c) work experience, (d) exposure to In-service education.

Based on the objectives the demographic variables were associated with the overall knowledge on legal aspects of health care which revealed some interesting findings. On associating the knowledge with the variables with age, religion, academic education, and work experience there is significant difference between the levels of knowledge. As age and experience are increased the knowledge level is also found to be increased. Categorization of age depicts that between 20-29 years of age there is adequate knowledge on legal aspects prevails among nurses. This may be due to the recent fresh knowledge from graduation for younger age group nurses.

The researcher was keen to associate and analyze the level of knowledge among Diploma and B.Sc. Nursing graduates. Since, the Diploma in Nursing course is for 3 years and B.Sc Nursing programme is for 4 years. But, both these nurses at the service side are given same grade of employment as staff nurse and are registered at the State Nursing Council as RN (Registered Nurse).

By statistically analyzing this, it is crystal clear that most of the nurses 117 and 42 from Diploma and Bachelors in nursing respectively have moderate knowledge and especially 21 B.Sc nurses have adequate knowledge. None of these nurses have inadequate knowledge.

This, result now contradicts with a similar study of Barnabas Seema (2004) “study to assess knowledge of legal responsibilities in patient care among nursing graduates”, level of academic qualification does not influence knowledge of legal responsibility, though the mean scores of Diploma and B.Sc. (N) graduates in the (B.A. / B.Sc. pass) category was higher (50.44 & 53.50 respectively) as compared to 10 2 pass (47.48 and 49.79 respectively).

Thereby the hypothesis; there is significant difference between the level of knowledge between Diploma and B.Sc Nursing graduates is accepted. As statistically it is proved that there is significant difference between the Level of knowledge on Legal aspects of Health Care between the Diploma and B.Sc(N) graduated nurses.

It is shocking to know that none (0%) of the nurses are updating their professional knowledge. The health care sectors has updated fully fledged library and reference books with in each department, yet it is not been used by the nurses. CNE (continuous Nursing Education) will enhance self and professionalism.

It is also found that there is no significant (p= .304 NS) difference between the level of knowledge when compared with the acute or non-acute care experience in nursing, which means that the level of nursing knowledge among the nurses’ are comparatively similar between both nurses with previous acute and non-acute care experience.

These findings are similar to the finding of Herndon S.P et.al; (1999) knowledge of nurses on acute care area. Findings revealed that there is positive relationship of knowledge with age, education, advanced cardiac life support accreditation, and previous critical nursing care experience.

Suggestions and Recommendations
This study on awareness of nurses on legal aspects of health care assessed the knowledge of nurses regarding laws related to health care sector. This
Even though this might be a time consuming limitations that has been mentioned can be done. Also be appreciated with the omission of the future research in the same awareness study would analyzing the pitfalls of deficient knowledge. The enhancing professional knowledge will aid in analyzing the pitfalls of deficient knowledge. The present study assessed the knowledge of community health nurses regarding Legal aspects and the impact of knowledge on Laws is the power boosters to lead nursing practice in safe path.

**Nursing Practice:** The Nurse needs adequate knowledge towards legal aspects of health care, as it will increase the quality care and also provide legal protection. Since the nurses spend most of their time in practical service it is vital to update professional knowledge through advanced nursing education, journal presentation and annual accreditation manual. Nurses could also be sponsored to participate in National and International Conferences.

**Nurse Educator:** Situation arises where in a nurse needs to act as an educator, while providing health care information to the patient. Therefore there are more chances for her to face legal issues. To make the right decision at the right time, knowledge on Laws is the power boosters to lead nursing practice in safe path.

**Nurse Administrator:** At work at some point of time the nurse will utilize her administrative skill. Standard practice protocols are essential for all her activities. Knowledge on health laws will assist her in making standardized procedure for practice. Funds for health care journals could be allotted for the whole nursing fraternity of the hospital.

**Nurse Researcher:** Knowledge development through research is a core element in the development of the overall nursing profession (Carol et al 2008). The most obvious is that when research is used in practice, that practice is based on a clearly identifiable knowledge base. On updating nursing knowledge and implicating it in nursing service standardized quality care will be delivered. Use of latest technology like computer, internet and intranet facility would make this possible in an advanced level.

**CONCLUSIONS**

The present study assessed the knowledge of community health nurses regarding Legal aspects of Health Care. The results showed that overall knowledge of nurses is moderate. The nurses need more strengthening of knowledge to have a firm foundation of service. Knowledge goes hand in hand with the skill and attitude. Therefore it is mandatory to enlighten the knowledge through educational resources available.

**Directions for Future Research**

It is also recommended that similar study can be conducted among other health care professionals. Research on examining the interventions for enhancing professional knowledge will aid in analyzing the pitfalls of deficient knowledge. The future research in the same awareness study would also be appreciated with the omission of the limitations that has been mentioned can be done. Even though this might be a time consuming studying the awareness on health care laws is worth a study. Instead of just assessing the knowledge, its implication will add value. Comparative study on health care laws can be done between any two health care professionals’ example doctors and nurses.

**ACKNOWLEDGMENT**

I owe my success to Almighty God who blessed me with the necessary will power, strength, courage and health throughout my endeavour. I express my thanks to the Vice Chancellor Dr. Mannar Jawahar, Anna University, Chennai, and my special thanks to Dr. Jayanth Jacob the Coordinator, Distance Education, Anna University, Chennai, who offered me this opportunity to pursue higher study at this esteemed institution.

With high regards I am grateful to the Management Committee Hon. President Dr. Yuhannon Mar Diascoros, Hon. Vice President Mr. Regi Abraham, Hon. Secretary Dr. K. Jacob, Hon. Treasurer Cherian Abraham and Board of The Madras Medical Mission. Special gratitude and thanks to The Chief Executive Officer Brig Joe Curian for his great support in disseminating this research project. Special note of thanks to Dr. A. Judie, Principal, MMM College of Nursing.

I offer my earnest gratitude to my guide Dr. Mu. Subrahmanian, Professor, Vellammal College of Engineering, Chennai. He has taken much effort to go through the project and make necessary corrections when needed. I deeply thank his guidance, supervision and valuable corrections of various documents of mine with attention and care. Without his guidance and support this project would not have materialized. I express my heartfelt thanks to Dr. Henry Suresh David, HOD Pediatrics for his unfailing encouragement, support and elegant direction through the period of study. I acknowledge and appreciate all the nursing staffs who participated in this study.

I am obliged to legendry Dr. Lt. Col. Prema Kumarie, Principal, MCON and Dr. Mahendran, Professor Legal Aspects, CDE Anna University the spark behind this study, for validating the content of the tool and rendering whole hearted cooperation and valuable suggestion. Immense thanks with high regards to Mrs. Glory Prasanth, M.Sc. M.Phil., and Statistician for greatly assisting me in analyzing my data. I extend my earnest thanks to SS Creation for the assistance throughout this study.

I am also grateful to my set of five buddies in class, for their friendship and support throughout the course of MBA.

I at this juncture disclose the measureless, pain-staking strength, security, funding, encouragement, unconditional love, complete support by my mother Mrs. Jeyanth Daniel, my
husband Mr. Francis Jebaraj, adorable sons Jakyim and Beno who helped me transverse all the tribulations to triumph through their patience and love. Words are beyond expression for the heavenly blessings of my darling Dad Late Mr. Sam Daniel.

REFERENCES