KNOWLEDGE OF NURSES REGARDING ASSESSMENT OF LIFE THREATENING ARRHYTHMIAS

Ahsan Ullah[1], Syed Muhmmed Junaid[2], Abdul Rahim[3], Shah Zareen Khan[4], Shabbir Orakzai[5], Hidayatullah[6]

ABSTRACT:

OBJECTIVES:

The objectives of this study were to assess the knowledge of nursing staff those who are working in critical care unit in Hayatabad Medical Complex, Peshawar.

METHODOLOGY:

A cross sectional study design was used. The participants were recruited through convenient sampling technique that was working in Intensive Care Unit (ICU) and Critical Care Unit (CCU) from last 6 months. Data were collected through life-threatening arrhythmias questionnaire and analyzed on SPSS version 22.

RESULTS:

Majority of participants were diploma holder and graduated staff. 46% participants received Basic Life Skill (BLS), 14% Advanced Cardiovascular Life Support (ACLS) and 32% didn't get any training. Most of the participants didn't have knowledge related to the life threating arrhythmias i.e., 86%.

CONCLUSION:

We observe in our study that majority of nursing staffs were unable to identify life-threatening rhythm of patients. Nursing staff needs to improve academic and ECG training in critical care unit to increase knowledge of staff and directly effect on hospital mortality rate.

KEYWORDS: Arrhythmias, Knowledge, Nurses, Critical Care, Intensive Care Unit

Correspondence

[1]Ahsan Ullah, Nursing Officer, Saidu Group Hospital, Swat
☎: +92-344-2754675
✉: Ahsanfcs@gmail.com
[2]Medical Officer, CMH, Peshawar
[3]Director Nursing, Quaide Azam Nursing College, Swabi
[4]Vice Principal, Quaide Azam Nursing College, Swabi
[5]Medical Officer, CMH, Peshawar
[6]Lecturer, KMU INS, Peshawar

INTRODUCTION:

Arrhythmias are one of the common presentations to critical units after ischemia or electrolytes imbalance, any rhythm apart from sinus rhythm is called arrhythmia. Timely interpretation of arrhythmia saves life mostly of the person who is the first responder to CCU, or ICU setup, which are the nursing staff. Patients either come with arrhythmias or they develop abnormal rhythm while on monitor or ECG[1,2]. If the nursing staff identifies the abnormal and able to differentiate between critically dangerous rhythms, timely manage accordingly the rhythm, it directly affects life saving. An abnormal rhythm of heart is called arrhythmias due to disturb heart conduction system and may lead to death when not managed timely. Arrhythmias directly effect on pumping of

heart outcome to decrease cardiac output. The only immediate tools to detect this rhythm on ECG or cardiac monitor. As in many literatures review this arrhythmias may be ventricular fibrillation, atrial fibrillation, and ventricular tachycardia or complete heart block is the commonly seen arrhythmias in critical unit, which is markedly lead to life threatening situation[3-5]. Cardiac arrhythmias require quick management for saving life[6]. Among the arrhythmias ventricular fibrillation is the leading arrhythmias, which cause sudden cardiac death[7]. Sudden cardiac death around the world is caused by cardiac arrhythmias; a thousand of lives declared death by cardiac arrhythmias and this are the most common cause of mortality in the index society by 2020[7]. Pakistan in South Asia has one of the high trends with heart disease and mortality by heart disease[8]. Co-factors of heart disease are tobacco, obesity, alcohol, and gender factor[9-12]. Other factors such as rheumatic heart disease and Ischemia[13,14], in this condition nursing staff in critical units are significant and key person to save the life by identification of life threatening arrhythmias and cardiopulmonary resuscitation (CPR)[15]. Resuscitation knowledge and skill varies in developing countries especially in South Asia[16,17]. The effective CPR procedure is highly significant to markedly improve mortality rate, and this will be improved by continuous medical education or hospital capacity building programs[12]. Now at the present era ECG tracing is the most common tool to detect arrhythmias[18,19]. The nurses almost involves with this condition to save the life so ECG interpretation of life threatening arrhythmias is very significant for nursing staff in critical units for decreasing mortality rate in hospitalized patients.

METHODOLOGY:

The descriptive cross sectional study was conducted from 01 January 2021 to 20 May 2021 at critical units of Hayatabad Medical Complex Peshawar Pakistan. Total 50 nurses participated in the study. Questionnaires were developed to assess the knowledge of nursing staff related to life threatening arrhythmias in critical units. The study was approved from PGMI Peshawar and HMC cardiology department and informed consent was

obtained from the agreed participants in the study. Descriptive analysis was performed by using SPSS version 22.

RESULTS:

The mean age of participants was 32.62 and standard deviation ±7.49, the maximum age 52 years, and minimum age 22. The overall of percentage for the correct answer of life-threatening arrhythmias was 17.6%.

Table 1: Demographic Characteristics

	Frequency	Percentage
Male	14	28%
Female	36	72%
Education		
Diploma Holder	31	62%
Graduate	18	36%
MSN	01	02%
Working Area		
ICU	21	42%
CCU	11	22%
HDU	18	36%
Types of Training		
None	16	32%
BLS	23	46%
ACLS	04	14%

Table 2: Knowledge Assessment of Nursing Staff for Life Threatening Arrhythmias

	Frequency	Percentage	Cumulative Percentage
Complete Heart Block			
Sinus Bradycardia	08	16%	62%
Second Degree Heart Block	08	16%	78%
Complete Degree Heart Block	16	32%	96%
First Degree Heart Block	18	36%	100%
Cardiac Arrest			
Cardiac Arrest	31	62%	62%
Sinus Bradycardia	08	16%	78%
Complete Heart Block	09	18%	96%
AV Block	02	04%	100%
Ventricular Tachycardia			
Ventricular Tachycardia	26	52%	52%
Ventricular Fibrillation	16	32%	32
Atrial Tachycardia	06	12%	96%
Sinus Tachycardia	02	04%	100%
Ventricular Fibrillation			
Ventricular Tachycardia	30	60%	60%
Ventricular Fibrillation	17	34%	94%
Atrial Tachycardia	02	04%	98%
Sinus Tachycardia	01	02%	100%
Sinus Tachycardia			
Supraventricular Tachycardia	24	48%	48%
Sinus Tachycardia	07	14%	62%
Ventricular Tachycardia	06	12%	74%
Atrial Tachycardia	13	265	100%

DISCUSSION:

A study conducted in 2018 in Tanzania showed that most of the nursing staff has high knowledge and field experience with markedly high score in the form of arrhythmias knowledge and best practices in the critical care[1]. The study published reported 68% participants able to recognize critical rhythm and follow the protocol of defibrillator,[1] while in our study there was 17.6% nursing staff able to recognize the rhythm and 83.4% participants unable to proper recognize the rhythm. In Turkey, the study was conducted at Dr. Suat Gunsel Hospital in 2019 that majority nurses were graduate 93.8%, most of the nurses in critical care undergone in ECG training session and 69% participants recognized correct rhythm in life threatening situation[10]. While in our study the majority of nurses were diploma holder and there is non-ECG training to nursing staff in critical care units. The Trivandrum reported that around 88% nurses able to identify and having high level knowledge of cardiology,[5] while in our study participants there is low to middle level of knowledge of cardiology and that''s why the figure in our participants for correct answer is low. We observed that lack of knowledge pf nursing in the field of cardiac arrhythmias due to overburden on nursing staff, having no ECG session workshop and low academic qualification.

CONCLUSION:

The majority of nursing staff were unable to identify life-threatening rhythm of patients. Nursing staff needs to upgrade academic qualification and ECG training in critical care unit to increase knowledge of staff and directly effect to decrease hospital mortality rate.

LIMITATIONS:

The study was conducted in one public sector teaching hospital. The target population for the study was registered nurses in ICU, CCU and HDU. Shortage of the time, less study hours and huge number of clinical hours was also a limitation of the project.

CONFLICT OF INTEREST: None

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CONTRIBUTORS

1. **Ahsan Ullah** - Concept & Design; Data Acquisition; Data Analysis/Interpretation; Drafting Manuscript; Critical Revision; Final Approval
2. **Syed Muhmmed Junaid** - Data Acquisition; Drafting Manuscript; Critical Revision
3. **Abdul Rahim** - Concept & Design; Drafting Manuscript; Critical Revision; Final Approval
4. **Shah Zareen Khan** - Drafting Manuscript; Critical Revision; Final Approval
5. **Shabbir Orakzal** - Data Acquisition; Data Analysis/Interpretation
6. **Hidayatullah** – Concept & Design; Drafting Manuscript; Critical Revision; Final Approval