Original Article

Level of Knowledge of Bedside Nursing Staff Regarding Phlebitis of a Tertiary Care Hospital, Karachi

Muhammad Hasnain Shaikh1*, Rizwan Ali1, Tufail Ahmad2, Ahsan Manan2, Ismail Khan2, Muhammad Jehangeer Khan2 and Afsha Bibi2

1Horizon School of Nursing and Health Sciences, Karachi, Pakistan
2Faculty of Nursing and Midwifery, Ziauddin University, Karachi, Pakistan

ARTICLE INFO

Key Words:
Asses, Phlebitis, Bedside, Nurses, Knowledge

How to Cite:

*Corresponding Author:
Muhammad Hasnain Shaikh
Horizon School of Nursing and Health Sciences, Karachi, Pakistan
hasnainasif9011@gmail.com

Received Date: 2nd August, 2023
Acceptance Date: 28th August, 2023
Published Date: 31st August, 2023

ABSTRACT

Phlebitis is the inflammation of the vein's inner layer, venous tunica intima called phlebitis. The complications that commonly occur due to phlebitis are erythema, pain, swelling, and palpable thrombosis of the cannulated vein. Objective: To identify the current knowledge of bedside nursing staff regarding phlebitis. Methods: A cross-sectional study was carried out to find knowledge regarding phlebitis among nurses through self-administered questionnaires with 100 bedside nurses working in different wards of a Private Tertiary Hospital in Karachi, Pakistan, by a convenient sampling technique. Data were collected and analyzed by the SPSS software version-22. Results: The result of this study showed that among 100 participants, 50% participants have inadequate knowledge regarding phlebitis, 44% had average, and 6% had good knowledge regarding phlebitis. Conclusions: This study concluded that bedside staff nurses have insufficient knowledge regarding phlebitis. This poor knowledge can reduce the effectiveness of nursing care provided to the patient. Therefore, educational sessions and interventional study needed to enhance their knowledge regarding phlebitis.

INTRODUCTION

Health promotion, better results, and the restoration of health and well-being all benefit from nursing care in hospitals. Peripheral intravenous cannula maintenance, monitoring, and care are all included in this [1]. Administration of parenteral medicine is an essential component of intravenous therapy and an integral part of the nursing field. Nursing staff monitor, administer and provide care to the patients prescribed by the clinicians or doctors [2]. Phlebitis is a common, avoidable complication faced by patients during intravenous therapy. In the modern era, Intravenous therapy is an essential and main component in medicine and treatment [3]. Intravenous therapy meets the patient's needs for fluid, nutrients, medicines and blood products [4]. Phlebitis is the inflammation of the vein inner layer of venous tunica intima called phlebitis [5]. The complications that commonly occur due to phlebitis are erythema, pain, swelling, and palpable thrombosis of the cannulated vein [6]. Furthermore, between 2017 and 2021, there were 1.82 instances of phlebitis for every 100 days when a venous catheter was used [7]. A recent study showed that 80 participants (6.1%) out of 1,319 experienced phlebitis.
Reduced mobility (p = 0.015), family history of deep vein thrombosis (p = 0.05), catheterization of veins on the back of the hand (p = 0.012), pain (p 0.01), Amoxicillin-Potassium Clavulanate (p = 0.015), and Omeprazole Sodium (p = 0.029) were all linked to the development of phlebitis [8]. Moreover, phlebitis may classify into four different types on the basis of basic factors [9]. These are mechanical, infectious, chemicals and post-infusion phlebitis [10]. There are some patient factors such as high age, female gender and some diseases conditions (malignancy, immunosuppression and malnutrition) that cause and increase the risk of developing phlebitis [11]. Staff nurses play an essential role in minimizing the rate of phlebitis and the complications of phlebitis in the patients who receive medical care [12]. So, this assesses the current knowledge of nurses regarding phlebitis.

**M E T H O D S**

This study was performed to investigate nurses’ current knowledge regarding phlebitis. This study used a cross-sectional, quantitative approach with a sample size of 100 bedside nurses. It was conducted with a convenient sampling technique from December 2022 to April 2023 at a private-sector tertiary care hospital in Karachi, Pakistan. The study population was registered nursing staff who were working in different wards in the hospital. Registered Nursing staff (RN) and graduated nursing staff (BScN) with a working experience of 6 months with voluntary participation are included in the research. Licensed practical nurses, practical nurses, nursing staff not willing to participate and nurses with less than six months of experience were excluded from the study. With a population of 150, the sample size was determined using open EPI version 3 and a 95% confidence interval. The size of the obtained sample is 100. The data were collected by a self-administered questionnaire with 15 questions and demographic characteristics. The knowledge scoring system is 0-2, where 0 means don’t know, 1 means no, and 2 means yes. The total score of the tool is 30, and below 50% is considered low-level knowledge, 50% to 70% is average-level knowledge, and above 70% is considered good-level knowledge. This study data were computed and analyzed in Social Package for Statistical Science (SPSS) software version 22.0. Inform consent was taken from each participant before filling out the questionnaire. We ensured our participants from any potential psychological, physical or social harm. This research was conducted after permission from a selected private tertiary care hospital, and study approval was taken from the Institute.

**R E S U L T S**

The table presents the results of a study involving 100 Nurses. It includes variables such as gender, age, job rank, experience, healthcare setting, and level of education. Among the participants, 74% were female, and the majority fell within the age range of below 30 years (51%). The most common job rank was staff nurse (89%); nearly half of the participants had 1-5 years of experience (49%). The medical setting was the most common (64%), and most participants had the educational qualification of a registered nurse (65%). The table provides a concise overview of the demographic and professional characteristics of the study participants.

<table>
<thead>
<tr>
<th>Name of variable, Response/ Category</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>26 (26)</td>
</tr>
<tr>
<td>Female</td>
<td>74 (74)</td>
</tr>
<tr>
<td>Total</td>
<td>100 (100)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>&lt;30 Years</td>
<td>51 (51)</td>
</tr>
<tr>
<td>30-45 Years</td>
<td>32 (32)</td>
</tr>
<tr>
<td>46 &gt; Years</td>
<td>17 (17)</td>
</tr>
<tr>
<td>Total</td>
<td>100 (100)</td>
</tr>
<tr>
<td>Experience</td>
<td></td>
</tr>
<tr>
<td>6 months - 1 year</td>
<td>25 (20)</td>
</tr>
<tr>
<td>1-5 years</td>
<td>49 (49)</td>
</tr>
<tr>
<td>6-10 years</td>
<td>26 (26)</td>
</tr>
<tr>
<td>Total</td>
<td>100 (100)</td>
</tr>
<tr>
<td>Healthcare Setting</td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>64 (64)</td>
</tr>
<tr>
<td>Surgical</td>
<td>25 (25)</td>
</tr>
<tr>
<td>Maternal child health sections</td>
<td>5 (5)</td>
</tr>
<tr>
<td>Emergency outpatient department</td>
<td>8 (6)</td>
</tr>
<tr>
<td>Total</td>
<td>100 (100)</td>
</tr>
<tr>
<td>Level of Education</td>
<td></td>
</tr>
<tr>
<td>Registered Nurse</td>
<td>65 (65)</td>
</tr>
<tr>
<td>Bachelor</td>
<td>35 (35)</td>
</tr>
<tr>
<td>Total</td>
<td>100 (100)</td>
</tr>
</tbody>
</table>

Table 2 shows the result of the overall level of knowledge among 100 participants; 50% of participants have inadequate knowledge regarding phlebitis, 44% have average, and 6% have good knowledge regarding phlebitis.

**D I S C U S S I O N**

With an incidence rate of 20% in Pakistan, 27.7% in India, and 4% in the United States, phlebitis is a serious public health concern [13]. The nursing team at the patient's
The implementation of this model allows for post- and pre-implementation evaluations of the nurses' compliance with the PVC care bundle [24].

**CONCLUSIONS**

These findings point to a significant knowledge gap among the participants, which can impact patient care and safety. Targeted educational initiatives are required to raise the knowledge and awareness of the bedside nursing staff to provide the best patient outcomes and prevent complications linked to phlebitis.

**Authors Contribution**

Conceptualization: MHS, RA
Methodology: TA
Formal Analysis: TA
Writing-review and editing: AM, IK, MJK, AB

All authors have read and agreed to the published version of the manuscript.

**Conflicts of Interest**

The authors declare no conflict of interest.

**Source of Funding**

The authors received no financial support for the research, authorship and/or publication of this article.

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