ANALYSIS OF INTERNAL FACTORS (PATIENT FACTORS) RISK CAUSES OF PHLEBITIS IN SOME COUNTRIES IN SOUTHEAST ASIA: LITERATURE REVIEW

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Abstract

Phlebitis is a vein inflammation that occurs due to internal and external factors such as chemical, mechanical and bacterial irritation. Phlebitis can cause inflammation of the blood vessels, pain, swelling, and can discharge pus in the veins. WHO reports that the average phlebitis patient is 8.7% and occurs in Southeast Asia as much as 10.0% such as Malaysia (12.70%), the Philippines (10.10%), Taiwan (13.8%), and Indonesia (9,80%). So it is necessary to analyze the risk factors that cause phlebitis in several countries in Southeast Asia. This study aimed to analyze the risk factors that cause phlebitis in several countries in Southeast Asia. The method is a Literature review research design. Journal criteria were filtered based on literature titles, abstracts and keywords through the Population, Interventions, Comparison, Outcomes, and Study Design (PICOS) system approach. Based on sources from Pubmed, Biomed Central, DOAJ, Garuda, and Google Scholar. The number of articles used is 11 journals. The Result based on the results that have been reviewed by researchers, the risk factors for the incidence of phlebitis in Southeast Asia with the highest percentage are 36.1% in catheter size, and the lowest is a history of disease 13.94% while the most influential are age, gender, and those with no effect on nutrition. and types of dressings. Internal risk factors (patient factors) that cause phlebitis in Southeast Asia are age, gender, size of the intravenous catheter.

Keywords: Southeast Asia, Risk factors, Phlebitis.

Introduction

Infectious diseases related to health services or Healthcare- Associated Infection (HAIs) are one of the health problems that often occur in inpatients and in hospital health services, the most common types of HAIs such as Blood Flow Infections (IAD), Ventilator-Associated Pneumonia (VAP)) Urinary Tract Infection (UTI), Operation Area Infection (IDO) and Phlebitis (Permenkes No 27, 2017).

Phlebitis is an inflammation of the veins that occurs due to internal factors and external factors such as chemical, mechanical, and bacterial irritation. Phlebitis is a condition in which the blood vessels become inflamed, with characteristic redness in the area where the vein was punctured, pain, swelling or tenderness in the puncture area along the vein, and swelling that can drain fluid or pus (Brunner & Suddarth, 2014).

Phlebitis ranks fourth most frequently found in patients with intravenous infections during hospitalization (CDC, 2017). HAIS data for 2008-2013 reported that phlebitis infection is one of the factors causing the increase in morbidity and mortality in patients treated in hospitals, so it can be concluded that this health problem will have an impact on both developed and developing countries. developing countries (Oregon Health Authority, 2013).

Of the four regions, the incidence of phlebitis has varied rates such as Europe (7.7%), Western Pacific (9%), Eastern Mediterranean (11.8%), and Southeast Asia (10%). In developin

countries such as Iran, the incidence of phlebitis is (14.20%), Malaysia (12.70%), the Philippines (10.10%), Taiwan (13.8%), Nigeria (17.5%), and Indonesia (9.80%) (WHO, 2016).

The Indonesian Ministry of Health (2012) said that Indonesia itself has no definite data on the incidence of phlebitis, because research and publications on phlebitis are rarely done and there are only data in 10 public hospitals, 16,435 phlebitis occurred from 588,328 patients (2,3 %) and found as many as 293 cases of phlebitis from 18,800 patients at risk hospitals in 2011 (1.5%). Indonesia in 2013 as many as 744 people (17.11%) public hospitals as many as 50.11% while private hospitals as many as 32.70% (Ministry of Health RI, 2013).

It is recorded that the incidence of phlebitis is still high in some parts of Southeast Asia with a variety of factors that occur, therefore it is advisable to conduct research on the factors that cause phlebitis related to the factors studied such as the location of the stabbing, the skills of nurses in the installation of intravenous infusions. with chemical factors that occur there are several bacterial and patient factors such as nutritional status, area of contamination, age and gender.

Based on the above background, the researcher is interested in conducting a literature review with the title of analyzing internal factors (patient factors) that cause phlebitis in several countries in Southeast Asia.

Materials and Methods

Search journals in this study using Google Scholar, PubMed, Biomed Central, International Journal Of Science and Research (IJSR), and Garuda with the keywords "Risk Factors Of Phlebitis" and "Risk Factors for Phlebitis". 2020.

Results and Discussion

The relationship between gender and the incidence of phlebitis. Defi's Research (2020) Gender is one of the risk factors for phlebitis. The incidence rate for women is greater than that for men. Where female patients have a risk of 3.176 times greater for phlebitis than male patients with the results of this analysis obtained p-value = 0.033; OR=3,276;95%CL=1,202-8,395. This incident can be concluded that there is a relationship between gender and the incidence of phlebitis, because in women the decrease in the immune system due to menstruation loses a lot of blood so that it can affect on causing risk factors for phlebitis compared to men who have a stronger the immune system. In line with the research of Nito PJB et al (2017) there is a significant relationship between gender and the incidence of phlebitis, p- value = 0.005. Based on the results of the literature review, there were 8 journals regarding the relationship between sex and the incidence of phlebitis where 5 journals said there was a relationship, while 3 journals said there was no relationship.

The relationship between age and the incidence of phlebitis. Research by Nito PJB and Wulandari D (2020) shows that infants and toddlers have a high risk of phlebitis. According to the Research of Risky Wahyu (2016), patients who often experience phlebitis occur in the adult age range as 17 people (46%), the elderly age as many as 17 people (46%), and for the adolescent age range there is no incidence of phlebitis, with a significant effect, namely p -value=0.000. It can be concluded that there is a relationship between the incidence of phlebitis with increasing age because the elderly's immune system becomes less effective against infection defenses in the body, especially in T-lymphocyte cells as a result of aging. In the elderly (> 60 years) the veins

will become brittle, inelastic, and easy to lose or collapse because the elderly experience changes in the structure and function of the skin such as decreased skin turgor and thinning epithelium, as a result, the skin is more prone to abrasion or injury. So that the incidence of phlebitis can be seen from age and is considered a risk factor for phlebitis. Bitencourt SE et al, (2018) states that ages between 0 to 2 years 52.5% (n = 66) are more significantly affected by phlebitis due to smaller veins, this happens because a very young age has a greater risk of phlebitis.

The relationship between nutritional and nutritional status on the incidence of phlebitis. Defi's research (2016) that patients with poor nutritional and nutritional status will experience phlebitis events, in this study stated that there was no strong relationship between nutritional and nutritional status on the incidence of phlebitis with p-value = 0.107 because the categorization of nutritional and nutritional status would affect if the nutritional needs 18.5 kg/m2 and can not affect if the nutritional and nutritional status is normal (18.5 – 22.9 kg/m2). In line with Hartanto Budi's research, (2016) there is no strong relationship between nutritional and nutritional status with the incidence of phlebitis, namely p value = 0.604. And Nishant, (2017) said that there was no relationship between nutritional status and the incidence of phlebitis with p value = 0.252.

The relationship between the history of the disease to the incidence of phlebitis. Defi's research (2020) that there is a relationship between the respondent's disease history and the incidence of phlebitis. The results of the analysis with Chi-square test obtained p-value = 0.044 (> 0.011). This shows that patients who have a history of disease have a 3.265 times greater risk of developing phlebitis compared to patients who do not have a history of disease treatment. Giving intravenous fluids can pose a risk of infection, including phlebitis, This is because there are entrances and exits which are the entry points for microorganisms to enter the body if proper precautions are not taken. Patients with a history of chronic diseases and infections are at higher risk and are more susceptible to phlebitis, for example, in diabetes mellitus (DM) patients who have atherosclerosis, this will result in reduced blood flow to the periphery so that if there are wounds they are prone to infection.

Conclusion

Based on the search in this literature review, it was concluded that the analysis of the risk factors for the occurrence of phlebitis in several countries in Southeast Asia in the analysis of the journals used in this study showed that the influencing factors were skill, duration of infusion, gender, age, disease history.

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Declaration of Interest Statement

The authors declare that they have no conflict of interests.

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