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Characteristics Of Herpes Zoster Patients At The Dermatology And Venereology Outpatient Clinic Of Wangaya Regional Hospital From January 2021 - December 2024

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ABSTRACT

Introduction: Herpes zoster (HZ) is a clinical condition resulting from the reactivation of the varicella zoster virus (VZV), typically presenting as painful, unilateral vesicular eruptions. Its incidence tends to increase with advancing age and in individuals with compromised immune systems. **Objective**: This study aims to describe the demographic and clinical characteristics of patients diagnosed with HZ at the Dermatology and Venereology outpatient clinic of Wangaya Regional Hospital. **Methods**: A retrospective, descriptive study was conducted using a cross-sectional design. Secondary data were obtained from medical records of patients diagnosed with HZ between January 2021 and December 2024. A total sampling method was applied, including 56 eligible patients. **Results**: The highest proportion of patients was in the 61–80-year age group (30.36%), followed by those aged 41–60

years (28.57%). Females accounted for 53.57% of cases. Vesicular and/or bullous lesions were the most common presentation (89.28%), with the thoracic dermatome being the most frequently affected region (44.64%). A majority of patients (60.71%) had no comorbidities; however, hypertension was the most prevalent comorbid condition (27.28%). Most patients (80.36%) received combination therapy comprising oral antivirals and topical agents. Post-herpetic neuralgia (21.43%) was the most commonly reported complication. **Conclusion**: Herpes zoster predominantly affects elderly individuals, particularly involving the thoracic dermatomes. Early diagnosis and appropriate management are crucial in minimizing complications.

Keywords: Herpes zoster, characteristics, thoracic dermatome, varicella zoster virus (VZV)

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INTRODUCTION

Herpes zoster is a condition resulting from the reactivation of the varicella zoster virus, which remains latent in the dorsal root ganglia following primary infection. It is typically characterized by a localized, unilateral, painful vesicular rash that follows a specific dermatome.[1] Reactivation is commonly associated with advancing age and immunosuppressed states. The incidence ranges from 2–5 cases per 1,000 person-years, increasing to 8–12 per 1,000 in older individuals. Comorbid conditions such as diabetes mellitus, hypertension, and HIV infection are known to increase the risk.[2]

In Indonesia, the prevalence of herpes zoster continues to rise, in line with the aging population and an increasing burden of chronic illnesses. This study aims to describe the clinical and demographic profiles of HZ patients who received treatment at the Dermatology and Venereology Outpatient Clinic of Wangaya Regional Hospital between January 2021 and December 2024.[2]

METHODS

This study employed a descriptive, cross-sectional design using retrospective data collected from medical records of patients diagnosed with herpes zoster at the Dermatology and Venereology Outpatient Clinic of Wangaya Regional Hospital. The study period covered January 2021 to December 2024. A total sampling method was used. Patients were included if their medical records were complete; those with unreadable or incomplete records were excluded. Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS), and results were presented in the form of frequencies and percentages.

RESULTS

A total of 56 patients met the inclusion criteria. The largest proportion of patients (30.36%) were aged between 61 and 80 years, followed by those aged 41–60 years (28.57%). Females constituted 53.57% of the sample. The most frequently observed type of lesion was vesicles and/or bullae (89.28%). Lesions were most commonly located in the thoracic dermatome (44.64%). A majority of patients (60.71%) did not have any comorbidities. Among those with comorbid conditions, hypertension was the most prevalent (27.28%). Most patients (80.36%) were treated with a combination of oral antivirals and topical antibiotics and/or antivirals. The

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most commonly observed complication was post-herpetic neuralgia (21.43%), followed by herpes zoster ophthalmicus (8.93%) and Ramsay Hunt syndrome (1.78%).

Table 1. Characteristics of Herpes Zoster Patients at Wangaya Regional Hospital

Variable	Amount (N = 56)
Age	
<20 years old	7 (12.50%)
21-40 years old	15 (26.79%)
41-60 years old	16 (28.57%)
61-80 years old	17 (30.36%)
>80 years old	1 (1.78%)
Gender	
Male	26 (46.43%)
Female	30 (53.57%)
Lesion Form	
Vesicles/Bullae	50 (89.28%)
Pustules	3 (5.36%)
Crusts	3 (5.36%)
Lesion Location	
Trigeminal	13 (23,21%)
Cervical	3 (5.36%)
Thoracic	25 (44.64%)
Lumbal	8 (14.29%)
Sacral	3 (5.36%)
More than one dermatom	4 (7.14%)
Number of Comorbidities	
No Comorbidity	34 (60.71%)
One Comorbidity	9 (16.07%)
Two Comorbidities	6 (10.72%)
More than Two	7 (12.50%)

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Variable	Amount (N = 56)
Type of Comorbidities	
Kidney related diseases	1 (3.03%)
Hypertension	9 (27.28%)
Type II Diabetes Mellitus	5 (15.15%)
Cardiovascular Disease	7 (21.21%)
Lung related diseases	1 (3.03%)
Urinary tract related diseases	1 (3.03%)
Diseases related to skin disorders	1 (3.03%)
HIV	4 (12.12%)
Thyroid related diseases	2 (6.06%)
Geriatric syndrome	2 (6.06%)
Therapy	
Oral Antiviral + Topical Antiviral and Antibiotic	45 (80.36%)
Oral Steroid + Topical Antibiotic	1 (1.78%)
Oral Antiviral + Oral Steroid + Topical Antiviral and Antibiotic	10 (17.86%)
Complication	
Without Complication	38 (67.86%)
Post-herpetic Neuralgia	12 (21.43%)
Herpes Zoster Ophthalmicus	5 (8.93%)
Ramsay Hunt Syndrome	1 (1.78%)

DISCUSSION

Based on the findings of this study, most herpes zoster (HZ) cases occurred in the 61–80-year age group (30.36%), followed by the 41–60-year group (28.57%). These results are consistent with research by Noviani et al. conducted at Dr. Moewardi Hospital, Surakarta (2018–2022), which reported that 63% of HZ patients were over 50 years old.[3] Similarly, a study by Wibowo et al. at Ulin Banjarmasin Hospital (2017–2021) showed that 24.7% of patients were aged between 56 and 65 years.[4] Several studies suggest that the incidence of HZ increases

with age due to a decline in cellular immunity, which plays a key role in preventing viral reactivation. In addition to age, other contributing risk factors include immunocompromised states such as HIV/AIDS, cancer, the use of immunosuppressive therapy, and post-organ transplantation conditions.[4]

In this study, females represented a slightly larger proportion of cases (53.57%) than males. This finding is similar to Noviani et al.'s study, which reported that 65% of cases were female.[3] However, in contrast, Ashwin Budihal et al. in India found that 69% of HZ cases occurred in males. While Western literature generally suggests a higher prevalence in females, variations may reflect differences in health-seeking behavior, demographics, and healthcare access—rather than biological factors.[5] It is believed that women are more likely to seek medical care promptly, contributing to their higher recorded incidence.[6]

Our study aligns with research by Fayssal Farahat et al. in Saudi Arabia, which found that the majority of HZ patients presented with grouped vesicles and/or bullae (87.4%), followed by pustules and crusts.[6] Similarly, a study conducted at Ulin Banjarmasin Hospital reported that 66.7% of lesions were vesicular or bullous.[4] This suggests that most patients seek medical attention during the early eruptive stage due to the severity of pain and the appearance of skin lesions. Conversely, patients with pustules or crusts may have received prior inadequate treatment or presented late due to unresolved symptoms.

With regard to lesion distribution, the thoracic dermatome was the most frequently affected area in this study (44.64%), followed by the trigeminal dermatome (23.21%) and lumbar region (14.29%). An analysis by Martin et al. (2024), based on 11 studies from Southeast Asia, found that thoracic dermatomes were the most commonly affected (39–64%), followed by lumbar dermatomes (10–23.5%).[7] Similarly, Ramdhani et al. (2024) reported consistent findings, with thoracic and trigeminal (ophthalmic branch) dermatomes as the most affected.[2] Kornia et al. (2020) in Sanglah Hospital, Bali, found thoracic involvement in 32.1% of cases, with ophthalmic and facial dermatomes being next in frequency.[8]

Although the precise reason for the predominance of thoracic involvement is unclear, it is hypothesized to relate to the proximity of thoracic spinal nerves to the dorsal root ganglia and the extensive sensory nerve distribution across thoracic

dermatomes. Additionally, the thoracic region contains 12 vertebrae, offering the broadest dermatomal surface area.[2,4] Ophthalmic involvement, recorded under the trigeminal dermatome (V1), also appeared significantly in this study. This may be due to the critical nature of ocular lesions, prompting quicker referral to specialists compared to other anatomical regions that might be managed initially in primary care.

In terms of comorbidities, 39.29% of patients had at least one underlying condition. Most had a single comorbidity (16.07%), followed by patients with more than two (12.5%) and two comorbidities (10.72%). Hypertension was the most common (27.28%), followed by cardiovascular diseases (21.21%) and type II diabetes mellitus (15.15%). These findings align with Farahat et al. (2025), who reported hypertension (38.9%) and diabetes mellitus (37.7%) as dominant comorbidities. Chronic illnesses and immunosuppressive conditions are major contributors to HZ susceptibility due to impaired cell-mediated immunity.[3]

Regarding treatment, most patients in our study received oral antivirals which combined with topical antiviral and antibiotic (80.36%), while a smaller proportion received additional oral steroids (17.86%). This corresponds with Noviani et al.'s study, where 69% of cases received antivirals and 15% received steroids. Antiviral therapy is the main line treatment for herpes zoster and is most effective when initiated within 72 hours of symptom onset. It remains beneficial thereafter if new lesions are still developing or complications are imminent. The choices of antiviral therapy that can be given are acyclovir, valacyclovir, and famciclovir.[8] Acyclovir was given to all samples in our study due to the availability of the medicine.

As for complications, 67.86% of patients did not experience any. However, 21.43% developed post-herpetic neuralgia (PHN), 8.93% had herpes zoster ophthalmicus (HZO), and 1.78% experienced Ramsay Hunt syndrome. These results are in line with studies in Saudi Arabia, where PHN was the most prevalent complication (17.6%), and a systematic review in Southeast Asia reporting PHN in 10.2–21.2% of HZ cases.[7] Kornia et al. also identified PHN (14.3%) and ocular involvement (7.1%) as the most common complications.[9] PHN, the most common chronic complication of HZ, results from damage to peripheral nerves and ganglia,

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leading to persistent and often debilitating pain. Risk factors include advanced age (>50 years), severe acute pain, extensive lesions, ocular involvement, prodromal symptoms, and immunocompromised status. In some cases, PHN can persist for months or even years, significantly affecting quality of life.[7, 10]

CONCLUSION

Herpes zoster predominantly affects elderly individuals and is most commonly manifested by vesicular lesions localized in the thoracic dermatome. A slightly higher incidence was observed among female patients. The absence of comorbidities was noted in most cases; however, hypertension was the most frequent comorbid condition. Oral antiviral therapy remains the cornerstone of treatment. Post-herpetic neuralgia (PHN) emerged as the most prevalent complication. Enhancing early detection and promoting timely therapeutic intervention are critical strategies to reduce complications and improve patient outcomes.

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