INTRODUCTION

Herpes zoster is an infectious disease caused by the reactivation of the latent varicella-zoster virus, which resides mainly in nerve cells and sometimes in satellite cells of the dorsal root ganglion and sensory ganglion of cranial nerves, spreading to the dermatome or nerve tissue corresponding to the innervated segment.\(^1,^2\) The incidence of herpes zoster increases with age and is rare in children. In the United States, more than 66% of those over 50 years old, less than 10% of those under 20 years old and 5% of those under 15 years old.\(^3,^4\)

Several studies mention an increase in the incidence of herpes zoster. Unvaccinated patients aged around 85 years have a 50% risk of developing herpes zoster, and about 3% of patients require hospitalization. The risk factors for herpes zoster are old age and cellular immune dysfunction. Immuno compromised patients have a 20-100 times greater risk than immunocompetent patients.\(^5\) Immunosuppressed conditions associated with the risk of herpes zoster include HIV (Human Immunodeficiency Virus) infection, history of organ transplantation, leukemia, lymphoma, radiotherapy, chemotherapy, and use of corticosteroids long term.\(^6\) Other factors reported as risk factors for herpes zoster are female sex and physical trauma to the dermatome.\(^7\)

Post-herpetic neuralgia (PHN), or pain that occurs after the lesion has healed, is a complication that can potentially cause long-term problems. Pain can last several months to several years, affecting quality of life. This complication occurs in 10-50% of herpes zoster patients, and its prevalence increases with increasing patient age (especially those over 50).\(^8,^9\)

Based on those mentioned above, this study aims to identify the incidence of herpes zoster and PHN, as well as the distribution based on gender, age, occupation, comorbidities, and location of lesions in patients at the Dermatovenereology Polyclinic at Sanglah Central General Hospital Denpasar from January 2020 to December 2021.

METHODS

The research design used a retrospective descriptive cross-sectional study by taking data from patient medical records at the Dermatovenereology Polyclinic, Sanglah General Hospital, Denpasar. The population in this study were all new patients who came to the Dermatovenereology Polyclinic at Sanglah Central General Hospital Denpasar from January 2020 to December 2021.

ABSTRACT

**Background:** Herpes zoster is an infectious disease caused by the reactivation of the latent varicella zoster virus. One of the complications that has the potential to cause long-term problems is post-herpetic neuralgia. This study aims to evaluate the herpes zoster and postherpetic neuralgia progression rate: an epidemiological study at Tertiary Hospital in Bali, Indonesia.

**Methods:** This is a retrospective descriptive cross-sectional study. The data was obtained from the patient’s medical records in Dermatovenereology Clinic at Sanglah General Hospital Denpasar from January 2020 to December 2021. The samples were all new patients diagnosed with herpes zoster and post-herpetic neuralgia. The variable is sex, age, occupation, comorbid, and location. Data were analyzed using SPSS version 25.0 for Windows.

**Results:** A total of 23 new patients were diagnosed with herpes zoster and the total visit was 132. Most patients were male (52.3% vs 47.7%). The highest age group was more than 65 years old with 12 (51.5%) patients, followed by 45-64 years with 8 (35.6%) patients. The lesion location in most patients was thoracic in 9 patients (38.1%), followed by cervical in 7 patients (29.5%), lumbar in 6 patients (25.8%), and ophthalmic in 1 patient (6.6%). Six patients (26.0%) had comorbid diseases. Ten patients experienced PHN.

**Conclusion:** Most herpes zoster patients in Dermatovenereology Clinic, Sanglah Hospital from January 2020 to December 2021 were more than 65 years old, predominantly male sex, with the most common location of herpes zoster in the thoracic region 9 patients (38.1%), and 10 patients (43.5%) had PHN.

**Keywords:** Herpes Zoster, Post-Herpetic Neuralgia, Varicella Zoster Virus.


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**Keywords:** Herpes Zoster, Post-Herpetic Neuralgia, Varicella Zoster Virus.
General Hospital Denpasar. The research sample included new patients diagnosed with herpes zoster and post-herpetic neuralgia. The variables studied included gender, age, occupation, comorbidities, and location. Data were analyzed using SPSS version 25.0 for Windows.

RESULTS

Based on research conducted at the Dermatovenereology Polyclinic at Sanglah General Hospital Denpasar for the period January 2020 to December 2021, 23 new patients were diagnosed with herpes zoster with a total number of visits of 132.

The majority of patients are male. The number of female patients was 11 (47.7%) and 12 (52.3%) male patients. The highest age group was over 65 years with 12 (51.5%) patients, followed by 45-64 years with 8 (35.6%) patients. The location of the most common herpes zoster lesions in patients from 2020 to 2021 was the thoracic section, namely 9 patients (38.1%), followed by the cervical section, namely 7 patients (29.5%), lumbar 6 patients (25.8%), and ophtalmic 1 patients (6.6%). Based on co-morbidities, 6 (26.0%) patients had co-morbidities. Meanwhile, out of a total of 23 patients, 10 patients experienced PHN (Table 1).

DISCUSSION

In this study, the samples taken were all new case patients with a clinical diagnosis of herpes zoster who came for treatment at the Dermatovenereology Polyclinic, Sanglah General Hospital, Denpasar, for the period January 2020 to December 2021 based on medical records. The number of patient visits from January 2020 to December 2021 at the Dermatovenereology Polyclinic at Sanglah General Hospital Denpasar was 132 patients, and 23 (17.42%) of them had just been diagnosed with herpes zoster.

The incidence of HZ is determined by factors influencing the host-virus association, and one strong risk factor is older age. The incidence of HZ ranges from 1.2-3.4 cases per 1000 population, but an increase of up to 3.9-11.8 cases per 1000 population occurs in patients older than 65.10,11 HZ is said to be more common in people over 50 years of age and in women. In several studies, it was found that the proportion of female patients ranged from 55.9%-64%. It is not known exactly why the incidence is more common in women, but in general, women seek treatment for their disease more often than men and have more frequent contact with their children who are infected with varicella.12,13 In this study, the proportion of female and male patients did not differ much.

The age group above 65 years in our study was found to have the highest proportion compared to other age groups. This is in accordance with the literature, which states an increase in herpes zoster in old age.14,15 In addition, aging also causes a decrease in cellular immunity, which is the main factor causing reactivation.

One of the most disturbing complications of shingles is PHN. PHN is a persistent painful condition in the affected dermatome 3 months after the herpes zoster eruption has disappeared. The incidence of PHN ranges from 10-40% of cases of herpes zoster.13,18,19 In this study, 43.5% of patients had PHN.

PHN patients will complain of continuous pain (burning, aching, throbbing), intermittent pain (throbbing), and pain triggered by stimuli such as allodynia (pain triggered by normal stimuli such as touch). The risk of PHN increases at the age of 50 years, which is 27 times. In addition, in the elderly, it usually causes longer or more severe prodromal pain such as the skin eruption is more severe (wide and lasts longer), or the intensity of the pain is more severe.6,9 Other risk factors are ophthalmic distribution, anxiety, depression, lack of life satisfaction, women, and diabetes.13,18,19

CONCLUSION

From the results of research conducted at the Dermatovenereology Polyclinic at Sanglah General Hospital, Denpasar, for the period January 2020 to December 2021, it can be concluded that there were 23 (17.42%) new cases diagnosed with herpes zoster. Herpes zoster was mostly found in the age group over 65 years, male, with the location of herpes zoster in the thoracic area in 9 cases (38.1%), and 10 cases (43.5%) experienced PHN.

CONFLICT OF INTEREST

The author declares no conflict of interest in writing this study.

ETHICAL CONSIDERATIONS

This study has following COPE and ICMJE protocols regarding the publication ethics as well as ethics approval from the Faculty of Medicine, Universitas Udayana, Bali, Indonesia with number 3415/UN14.2.2.VII.14/LT/2022.

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Table 1. Distribution of Patient

<table>
<thead>
<tr>
<th>Variables</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (Years)</td>
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</tr>
<tr>
<td>25-44</td>
<td>3 (12.90)</td>
</tr>
<tr>
<td>45-64</td>
<td>8 (35.60)</td>
</tr>
<tr>
<td>≥65</td>
<td>12 (51.50)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>11 (47.70)</td>
</tr>
<tr>
<td>Male</td>
<td>12 (52.30)</td>
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<tr>
<td>Comorbidities</td>
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<tr>
<td>Yes</td>
<td>6 (26.10)</td>
</tr>
<tr>
<td>No</td>
<td>17 (73.90)</td>
</tr>
<tr>
<td>Location</td>
<td></td>
</tr>
<tr>
<td>Thoracic</td>
<td>9 (38.10)</td>
</tr>
<tr>
<td>Cervical</td>
<td>7 (29.50)</td>
</tr>
<tr>
<td>Lumbar</td>
<td>6 (25.80)</td>
</tr>
<tr>
<td>Ophtalmic</td>
<td>1 (6.60)</td>
</tr>
<tr>
<td>Post-herpetic neuralgia</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10 (43.50)</td>
</tr>
<tr>
<td>No</td>
<td>13 (56.50)</td>
</tr>
</tbody>
</table>

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FUNDING
This study did not receive funding from third parties.

AUTHOR CONTRIBUTIONS
All authors have made the same contribution, from preparing ideas analyzing, and writing this manuscript.

REFERENCES