

## Original Research Article

# Profile of Primary Headache Patients at Tanjung Priok Health Center for the Period of January – December 2023

### ABSTRACT

**Aims:** To find out the profile of primary headache patients at the Tanjung Priok Community Health Center for the period January 2023 – December 2023.

**Study design:** This research is a type of descriptive research with a cross-sectional research design. Data was obtained through secondary data collection, namely medical record data at the Tanjung Priok Community Health Center in the period January - December 2023.

**Place and Duration of Study:** This research was carried out in January 2024 and the data collection location was at the Tanjung Priok Health Center.

**Methodology:** The population of this study were all patients with a primary working diagnosis of primary headache disease at the Tanjung Priok Community Health Center in the period January 2023 – December 2023. Primary headache patients at the Tanjung Priok Community Health Center who met the inclusion and exclusion criteria. The sampling technique that will be used is the Total Sampling technique, namely the number of samples is the same as the number of medical records that will be used in the research.

**Results:** The results obtained from this study were that of the 125 patients diagnosed with primary headache, the most patients experienced tension-type headache, namely 93 patients (74.4%), and migraine with aura was the least experienced, namely 4 patients (3.2%); The gender that experienced primary headaches was women, namely 77 patients (61.6%), while men were 48 patients (38.4%); Primary headache sufferers with an age range of more than 30 years to 60 years are the age with the largest number of patients, namely 64 patients (51.2%), while those aged more than 60 years experienced the least number of primary headaches, namely 6 patients (4.8%); Based on employment, the largest group of patients who did not work was 79 patients (63.2%); Based on the choice of therapy, the majority of primary headache patients were treated medically, namely 113 patients (90.4%).

**Conclusion:** That still are many patients who experienced primary headaches at the Tanjung Priok Community Health Center for the period January 2023 - December 2023, including female patients with an age range of 30-60 years and unemployed. This is of course important for all stakeholders to pay attention to to develop appropriate service programs as an effort to prevent and treat primary headaches, which even though they are categorized as mild illnesses, can have an impact on various things, including a person's daily performance in activities.

*Keywords* Primary Headache, Patients, Migraine

### 1. INTRODUCTION

Headache is one of the most common complaints experienced by all humans and is most often found in medical practice and the field of neurology [1]. Headache is an unpleasant sensation or pain that occurs in the head area, starting from under the chin to the back of the head. (including the occipital area and parts of the nape) [2]. Headache can act as an early

sign or symptom of certain medical conditions, whether intracranial or systemic disorders [3] Headache is a health issue throughout the world, which impacts every individual in various age groups, ethnicities, income levels, and geographical locations. 4 Based on the Global Burden of Disease Research - 2019 (GBD-2019), headaches rank third as the most common cause of disability out of 369 diseases and injuries [5]. A report from the North Jakarta Health Department states that headaches occupy the top 10 positions in the 20 most common diseases in North Jakarta in the last 4-year period. Headaches cause public health problems ranging from hampering daily functioning, causing decreased productivity, increasing financial burden, and limiting social contact, to increasing visits to health services [6].

According to the World Health Organization (WHO), it is estimated that around 50% of the adult population throughout the world experienced headaches at least once in the past year [4]. Based on research conducted in 2022 by Stovner et al, the global prevalence of headaches reached 52% [7] In 2003, in a study conducted in Singapore, it was found that the prevalence of headaches in general reached 82.7% [8]

Headache is a neurological condition that can be caused by primary or secondary disorders. A primary headache is a headache that occurs without any abnormalities in the structure of the head and is not a characteristic or symptom of another disease [9]. According to the International Headache Society (IHS), primary headache consists of migraine, tension-type headache (TTH), pain cluster heads, trigeminal autonomic cephalgia (TAC), and other primary headache disorders [10]

Research in 2010 showed that the global prevalence of primary headaches among those aged 18-65 years was 64%, with around 42% suffering from tension-type headaches (TTH), 11% from migraines, and around 3% from other headaches [11,12]

According to research conducted by the Global Burden of Disease Study (GBD) in 2022, around 14% of people experience migraines, 26% experience tension-type headaches (TTH), and 4.6% suffer from other headaches. Thus making primary headaches a cause of disability-adjusted life years (DALYs). The results of this study are also comparable to the estimates of the prevalence of migraine and TTH carried out by the Global Burden of Disease Study (GBD) in 2019, namely that every day around 15.8% of the world's population suffers from headaches [7].

Research conducted at a large hospital in Palembang showed that of 108 participants, 28.8% experienced migraines, 65.2% of subjects suffered from tension-type headaches (TTH), and 6.1% experienced cluster headaches [13]. The results of the research in one Kendari Community Health Center, 62.7% of the Poasia community experienced tension-type headaches (TTH) [14].

Although the cause of primary headaches is still unclear, stress, smoking, changes in sleep patterns, anxiety, poor posture, certain foods, weather, and electronic media can trigger primary headaches. Stress factors and physical activity are the biggest triggers for primary headaches, while the least trigger factor is sunlight [15].

Based on findings from many studies and expert opinions, primary headaches have a negative impact both physically and psychologically on people who suffer from headaches, but the research that has been conducted is still limited, especially in Indonesia. During the literature search that the author conducted, this research had never been carried out at the Tanjung Priok Community Health Center, North Jakarta.

Therefore, the author wants to conduct research on primary headache patients at the Tanjung Priok Community Health Center, North Jakarta for the period January 2023 – December 2023. This research is to see the description of the distribution of primary headaches based on the type of primary headache, gender, age, and occupation of the patient. It will also research therapy options given to primary headache patients.

The research problem is what is the profile of primary headache patients at the Tanjung Priok Community Health Center for the period January 2023 – December 2023?

The general purpose is to find out the profile of primary headache patients at the Tanjung Priok Community Health Center for the period January 2023 – December 2023.

## **2. MATERIAL AND METHODS**

### **2.1. Material**

#### **2.2.1. Definition of Primary Headache**

Headache is pain felt in the head which is also known as cephalgia. Headache can be described according to Anatomy[6], namely, the pain felt above the orbitomeatal line and the back of the head, but excluding pain in the orofacial area [16]

Headache is an unpleasant feeling in the head area, not including neck or throat pain (Bahrudin, 2013)

Primary headache is one of the neurological disorders with the highest prevalence that can occur over a wide age range [17]. Primary headaches include tension, migraine, and cluster headaches [16]. Primary headaches that occur without any organic structural causes.

Migraine is a recurrent headache with attacks lasting approximately 4 to 72 hours, with at least 5 attacks, with characteristics of a unilateral location, throbbing pain, moderate or severe intensity and accompanying symptoms of nausea and/or vomiting, or sensitivity to light and sounds (photophobia and phonophobia).

Tension-type headaches (TTH), which were previously known as psychogenic headaches, stress headaches, or muscle contraction headaches, are recurrent episodes of headache that last from several minutes to weeks. This pain generally feels like pressing or tightening, is of moderate intensity, and is located bilaterally, usually not made worse by routine physical activity. Nausea and vomiting are usually not present, but photophobia and phonophobia may be encountered [18]

Trigeminal-autonomic cephalgias (TACs) generally have clinical symptoms of unilateral headache, and often involve prominent autonomic cranial parasympathetic symptoms, are a collection of primary headache disorders including cluster headache, paroxysmal hemicrania, short-term neuralgiform unilateral headache attacks, and continuous hemicrania [19].

#### **2.2.2. Primary Headache Classification**

The classification and diagnostic criteria for headache were issued by the International Headache Society (IHS) in 2013 in the form of ICHD-3 (The International Classification of Headache Disorders 3rd edition). For doctors and health workers, this classification of headaches is a basic benchmark for analyzing and making a diagnosis of the headaches suffered by their patients. By IHS, headaches are grouped into 3 general categories, namely, primary Headaches (Primary Headaches)

1. Migraine
2. Tension-Type Headache
3. Cluster Headache
4. Trigeminal Autonomic
5. Other primary headaches

### **2.2. Methods**

#### **2.2.1. Research design**

This research is a type of descriptive research with a cross-sectional research design. Data was obtained through secondary data collection, namely medical record data at the Tanjung Priok Community Health Center in the period January - December 2023.

#### **2.2.2. Time and Place of Research**

This research was carried out in January 2024 and the data collection location was at the Tanjung Priok Health Center.

### **2.2.3. Research Population**

The population of this study were all patients with a primary working diagnosis of primary headache disease at the Tanjung Priok Community Health Center in the period January 2023 – December 2023.

### **2.2.4. Research Sample**

Primary headache patients at the Tanjung Priok Community Health Center who met the inclusion and exclusion criteria. The sampling technique that will be used is the Total Sampling technique, namely the number of samples is the same as the number of medical records that will be used in the research

### **2.2.5. Research Criteria**

#### ***2.2.5.1. Inclusion Criteria***

Inclusion criteria refer to the conditions that must be met to be used as a sample. The inclusion criteria in this study are:

1. Patients who seek treatment at the Tanjung Priok Community Health Center in the period January 2023 – December 2023.
2. Patients diagnosed with primary headache disease.
3. Patients who have complete medical record data.

#### ***2.2.5.2. Exclusion Criteria***

Exclusion criteria are certain conditions that, if met, cannot be included in the research sample because they do not meet the specified requirements. The exclusion criteria in this study are:

1. Patients who do not have complete medical record data.
2. Patients who have comorbid hypertension.
3. Diagnosed patients

### **2.2.6. Research Instrument**

In this study, secondary data instruments were used, namely medical records of primary headache patients at the Tanjung Priok Community Health Center for the period January 2023 - December 2023.

### **2.2.7. Data Processing**

#### ***2.2.7.1. Edit Data***

The data that has been obtained is entered and examined into the IBM SPSS version 27 program, where the data will then be edited and complete results will be obtained.

#### ***2.2.7.2. Tabulation***

The data will be grouped and entered into a table and then data analysis will be carried out. The data obtained will be entered into the IBM SPSS version 27 program, in this study using a frequency distribution table.

#### ***2.2.7.3. Data Analysis***

In this research, the data analysis used is a descriptive statistical data method with frequency analysis.

## **3. RESULTS AND DISCUSSION**

### **3.1. Research result**

Data from this study were obtained from primary headache patients who came to the Tanjung Priok Community Health Center in the period January 2023 to December 2023. The study population was 190 patients and 124 patients met the inclusion criteria. Nine patients were excluded because of incomplete medical record data, and fifty-seven patients were

excluded because they suffered from hypertension. Then, univariate analysis was carried out from the existing data using the SPSS version 27 program or software to characterize each variable studied. So that results are obtained in the form of frequency of primary headache types, gender, age, occupation, and therapy options which will be explained further in the following table:

### **3.1.1. Patient Profile Based on Primary Headache Type**

**Table 1. Frequency Distribution of Patients Based on Primary Headache Type**

Primary Headache	Frequency (n)	Percentase (%)
Migraine with aura	4	3.2%
Migraine without aura	21	16.8%
Tension-type headache (TTH	93	74.4%
Cluster type headaches	7	5.6%
Autonomic trigeminal	0	0%
<b>Total</b>	<b>125</b>	<b>100%</b>

Based on the results in table 1, it shows that out of 125 patients, 4 patients (3.2%) experienced migraine with aura, 21 patients (16.8%) experienced migraine without aura, 93 patients (74.4%) experienced tension-type headaches, 7 patients (5.6%) experienced cluster type headaches, and no patients (0%) experienced trigeminal autonomic pain.

### **3.1.2. Patient Profile Based on Gender**

**Table 2. Frequency Distribution of Patients Based on Gender**

Gender	Frequency (n)	Percentage (%)
Male	48	38.4%
Female	77	61.6%
<b>Total</b>	<b>125</b>	<b>100%</b>

Based on the results in table 2, it shows that out of 125 patients, there were 48 male patients (38.4%), and 77 female patients (61.6%).

### **3.1.3. Patient Profile Based on Age**

**Table 3. Frequency Distribution of Patients Based on Age**

Age	Frequency (n)	Percentage (%)
≤ 30 year	55	44.0%
>30 - ≤ 60 year	64	51.2%
>60 year	6	4.8%

<b>Total</b>	<b>125</b>	<b>100%</b>
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Based on the results in table 3, it shows that of the 125 patients, there were 55 people aged less than or equal to 30 years (44.0%), for the age range of more than 30 years to 60 years there were 64 people (51.2%), and for those aged more than 60 years as many as 6 people (4.8%).

### **3.1.4. Patient Profile Based on Occupation**

**Table 4. Frequency Distribution of Patients Based on Occupation**

Job	Frequency (n)	Percentage (%)
Doesn't work	79	63.2%
Student/Students	7	5.6%
Private employees	25	20.0%
State employee	1	0.8%
Self-employed	2	1.6%
Laborer	2	1.6%
Health workers	6	4.8%
Retired	3	2.4%
<b>Total</b>	<b>125</b>	<b>100%</b>

Based on the results in Table 4, it shows that of the 125 patients, 79 patients (63.2%) were not working, 7 patients (5.6%) were students, 25 patients (20.0%) worked as private employees, 1 patient (0.8%) was a state employee, 2 patients (1.6%) were self-employed, 2 patients (1.6%) were workers, 6 patients (4.8%) worked as health workers, and 3 patients (2.4%) were retirees.

### **3.1.5. Patient Profile Based on Therapy Choice**

**Table 5. Frequency Distribution of Patients Based on Therapy Choices**

Treatment Options	Frequency (n)	Percentage (%)
Non medicamentosa	12	9.6%
Medicamentosa	113	90.4%
<b>Total</b>	<b>125</b>	<b>100%</b>

Based on the results in table 5, it shows that 113 patients (90.4%) out of 125 patients were treated medically, and 12 patients (9.6%) were treated non-medically.

## **3.2. Discussion**

Based on Table 1, it was found that the majority of 125 patients suffered from tension-type headaches with a total of 93 patients (74.4%), migraine without aura being the second largest number of patients with a total of 21 patients (16.8%), migraine with aura 4 patients (3.2%), pain cluster type head in 7 patients (5.6%). This is in line with research conducted at the Poasia Kendari Community Health Center in the period January – December 2019 that the primary headache most often experienced by patients was tension-type headache (62.7%) [24]. This is also in line with research in 2023 at Haji Adam Malik Hospital. Medan: From 58 medical record data, 42 patients experienced tension-type headaches (72.4%), 10 patients (17.2%) experienced migraines, and 1 patient had cluster headaches (1.7%)[15].

This can occur possibly due to stress, continuous muscle contractions in the head and neck area, hormonal fluctuations, dehydration, and or hunger. The exact etiology is not yet known, but physical factors such as fatigue, overwork, a fixed head position for a long time, being overweight or obese, and so on can be possible causes of tension-type headaches often suffered by many people. It can also be caused by psychological factors such as stress and emotional factors which cause hormonal changes that can cause tension-type headaches [16,17]. Based on Table 2, it is found that women dominate the incidence of primary headaches at the Tanjung Priok Community Health Center in the period January – December 2023, namely 77 (61.6%) patients, while men are only 48 (38.4%) patients from 125 medical record data. This is due to changes in sexual hormones in women, especially the hormone estrogen during menarche, menstruation, pregnancy, and menopause, and also the use of oral and hormonal contraceptives. Apart from that, it is also associated with a greater number of active trigger points (TrPs) or hypersensitivity points in women than in men. This is thought to be caused by innate differences in muscle structure in men and women. The number of active TrPs also increases in line with the anxiety level of patients experiencing TTH, where women have a higher level of anxiety than men [18].

This is also following research data conducted by Sitinjak (2023) that the percentage of primary headache patients who are female is higher, namely 62.9%, while the male gender is 37.9% from 58 medical record data [25]. From the data in Table 3, it can be seen that the highest percentage of age groups experiencing primary headaches is the age group >30 - ≤60 years, namely 64 patients (51.2%) out of 125. This data also follows research conducted by Damayanti et al in 2021 at Dr. Hospital. Saiful Anwar Malang, where the largest percentage of the age group is patients aged 31 – 60 years, namely 23 patients (74%) from 31 existing medical record data [15]. This data is following research conducted by Kharisma in 2015 which stated that pain Primary headache occurs more often in adulthood with initial onset occurring at <20 years of age and peaking at ages 20 and 50 years [29].

Based on table 4, it can be seen that of the 125 medical record data for patients who experienced primary headaches, patients who did not have a job dominated this category, namely 79 patients (63.2%). This is because patients who do not have a job or have not worked tend not to have other activities and pressure from the surrounding environment to immediately get a job, resulting in feelings of worry and thinking about negative views from other people which can cause physical reactions and adjustment problems, thus causing stress.<sup>30</sup> This is also in accordance with Sararino's explanation that stress can give rise to psychological and biological effects, the psychological effects experienced by patients are stress and the biological effects that can arise when someone experiences stress are headaches and other disorders [18].

In contrast to the results of research by Rakiyara (2012) at Pacitan District Hospital, the occupation with the highest incidence was farming, namely 15/40 patients (37.5%) [15]. Different results were also obtained from research conducted by Dr. M. Djamil Padang in 2016 stating that patients who were students were the largest number of primary headache patients who came for treatment to the neurology clinic with a percentage of 32.2% of the 82 research subjects [33]. Based on the studies written above, there are differences in the occupations that dominate in each study. The factors that differentiate the results of these

studies are related to differences in research locations, which are related to the population of people who live in local public health service facilities.

Based on Table 5, it was found that the largest percentage of subjects who chose medical therapy was 113 patients (90.4%) out of 125. In line with the results of research conducted by Damayanti et al (2021) where drug administration was the most frequently used therapy when headaches occurred, namely 28 (90 %) patients from 31 research subjects [15]. This is because the main goal of headache management is to minimize pain and improve the patient's quality of life, apart from that, effective treatment for tension-type headaches is to be treated using analgesics such as paracetamol and ibuprofen and More frequent attacks can be prevented with antidepressants, while initial or first-line treatment for migraine attacks can also use paracetamol or ibuprofen, to stop attacks of cluster type headaches therapy can be given by administering the drug sumatriptan by injection or nasal injection [19,20].

#### 4. CONCLUSION

That still are many patients who experienced primary headaches at the Tanjung Priok Community Health Center for the period January 2023 - December 2023, including female patients with an age range of 30-60 years and unemployed. This is of course important for all stakeholders to pay attention to to develop appropriate service programs as an effort to prevent and treat primary headaches, which even though they are categorized as mild illnesses, can have an impact on various things, including a person's daily performance in activities

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