

Characteristics and Treatment Patterns of Patients Diagnosed with Nasopharyngeal Carcinoma in Indonesia: A Descriptive Study Using the National Health Insurance Database

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Conclusions

- This is the first nationwide study to explore the demographic and clinical characteristics, along with treatment patterns, of patients diagnosed with nasopharyngeal carcinoma (NPC) in Indonesia
- Our results reveal that a high proportion of newly diagnosed patients with NPC did not receive treatment and that there is also a potential gap in treatment. While patients in advanced disease stages typically require a combination of chemotherapy and radiotherapy for effective management, our data show that most patients received either chemotherapy alone or radiotherapy alone
- A significant number of patients had multiple comorbidities, which posed a substantial clinical burden alongside NPC
- Given that Indonesia has one of the highest mortality rates for NPC in the world, it is essential to enhance efforts toward improving early diagnosis and treatment accessibility



Background

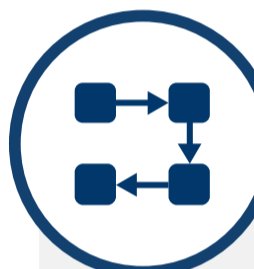
- The 5-year overall survival (OS) rate in Indonesia is 35% for patients with NPC,¹ which is lower than that reported from surrounding endemic Asian countries, such as 38% in Malaysia,² and 55% in China³ during the same study period (Table 1)
- A hospital-based study in Yogyakarta found that 93% of patients were diagnosed at advanced stages of NPC (Table 1)¹

Table 1. NPC Staging and 5-year OS of Patients in Indonesia and Surrounding Endemic Asian Countries

	Indonesia ¹	Malaysia ²	China ³
Follow-up period	2007-2016	1998-2007	2000-2007
Sample size, N, region (data source)	759, Yogyakarta (hospital database)	134, Kelantan (hospital database)	3359 (national registry)
Distribution of patients, NPC Stage (%)	I-II (7.1) III-IVB (77.5) IVC (15.5)	I (3.0) II (9.8) III (39.1) IV (40.6)	Localized (11.7) Regional (59.8) Distant (20.3) Unknown (8.2)
5-year OS, %	35	38	55

OS, overall survival; NPC, nasopharyngeal carcinoma.

- Considering Indonesia's notably high mortality rate for NPC, a better understanding of real-world treatment patterns and outcomes is required
- To date, few studies have comprehensively examined the treatment patterns of NPC in Indonesia. The objective of this study was to describe the patient characteristics and treatment patterns of patients with NPC in Indonesia, using the national health insurance (Jaminan Kesehatan Nasional [JKN]) data



Methods

Data Source

- An observational study was conducted using the JKN database, which contained administrative claims information of 267 million Indonesians in 2023, representing approximately 96% of the population
- Patients were included if they:
 - Were newly diagnosed with NPC based on International Classification of Disease, Tenth Revision (ICD-10) code 'C11' between 2019-2022
 - Were aged ≥ 18 years
 - Had at least 2 medical visits related to NPC
- Descriptive analyses were conducted to evaluate the demographic characteristics of patients with NPC at the first visit associated with NPC (index date)
- The Charlson Comorbidity Index (CCI) was calculated based on medical history over a 1-year period before and after the index date, while treatment patterns were assessed over a 1-year period after the index date
- Characteristics and treatment patterns were summarized descriptively using mean, standard deviation (SD), median, and interquartile range (IQR) for continuous variables, as well as frequency and proportion for categorical variables

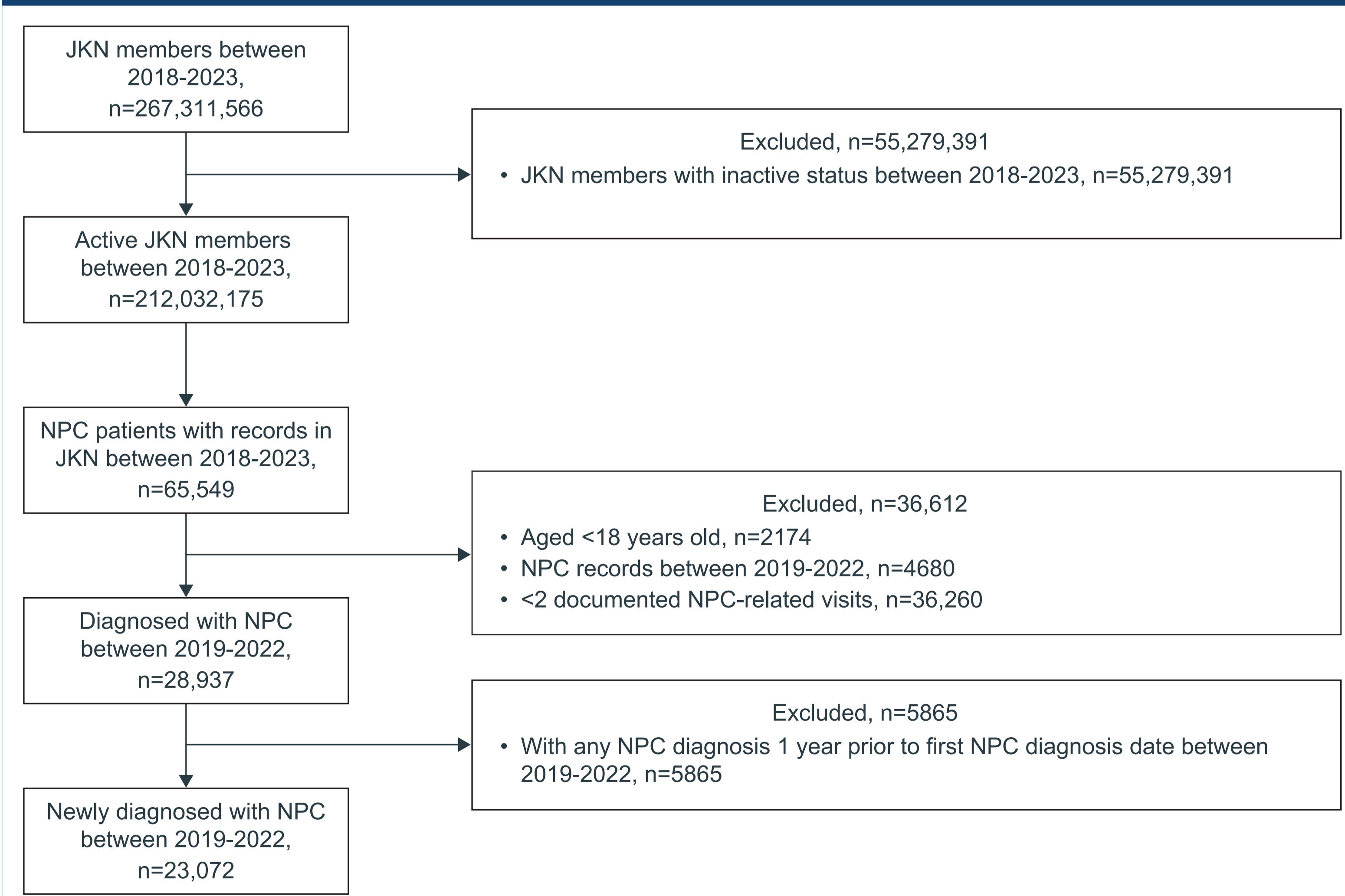


Results

Patient Characteristics

- Of the 267 million members enrolled in JKN, 23,072 patients met the eligibility criteria and were included for analysis (Figure 1)
- Table 2 displays the characteristics of these patients
 - Most patients (68%) were male
 - The mean age at index date was 50.5 (SD=12.9) years; 59% were aged between 45-65 years
 - The majority of patients (62%) were residing in Java, while 20% were in Sumatra
 - Most patients (68%) were diagnosed at public hospitals
 - In total, 42% of patients had at least 1 comorbidity; 16% had a CCI score of ≥ 5

Figure 1. Selection of Patients Registered Under the JKN in Indonesia Between 2018 and 2023



JKN, Jaminan Kesehatan Nasional; NPC, nasopharyngeal carcinoma.

Treatment Patterns

- Approximately 59% (n=13,660) of the patients newly diagnosed with NPC received treatment
- Of those who received treatment, 49% (n=6673) received radiotherapy only, 39% (n=5370) received chemotherapy only, and 11% (n=1556) received both chemotherapy and radiotherapy (Table 3)
- Only 61 (0.45%) patients received surgery

Table 2. Demographic and Clinical Characteristics of Patients Diagnosed with NPC in Indonesia

Characteristics	Total (N=23,072)
Sex, n (%)	
Male	15,638 (67.78)
Female	7434 (32.22)
Age, years	
Mean (SD)	50.45 (12.86)
Median (IQR)	51.00 (17.00)
Minimum	18.00
Maximum	96.00
Age group, years, n (%)	
18-24	901 (3.91)
25-44	6029 (26.13)
45-65	13,520 (58.60)
66-79	2441 (10.58)
≥ 80	181 (0.78)
Marital status, n (%)	
Married	18,888 (81.87)
Not married	2484 (10.77)
Divorced	877 (3.80)
Missing	823 (3.56)
Region of residence, n (%)^a	
Java	14,284 (61.91)
Bali/East and West Southeast Nusa	1441 (6.25)
Sumatra	4604 (19.95)
Sulawesi	1293 (5.60)
Kalimantan	1353 (5.86)
Papua and Maluku	97 (0.42)
Hospital type, n (%)	
Public	15,716 (68.12)
Private	7356 (31.88)
Hospital class, n (%)^b	
A	6934 (30.05)
B	8869 (38.44)
C	6517 (28.25)
D	701 (3.04)
Missing	51 (0.22)
Comorbidities (under CCI), n (%)	
No comorbidity (CCI score 0)	13,319 (57.73)
Mild (CCI score 1-2)	5334 (23.12)
Moderate (CCI score 3-4)	711 (3.08)
Severe (CCI score ≥ 5)	3708 (16.07)

^aRegions represent the major islands in Indonesia.
^bHospital classification is based on the Ministry of Health's categorization, where an A hospital represents the highest level of referral and is considered the top referral center, while a D hospital signifies the lowest level of referral.
CCI, Charlson Comorbidity Index; IQR, interquartile range; NPC, nasopharyngeal carcinoma; SD, standard deviation.

Table 3. Treatment Patterns of Patients Diagnosed with NPC in Indonesia

Treatments	Patients, n (% of subtotal)
No surgery (n=13,599)	
Chemotherapy only	5370 (39.49)
Radiotherapy only	6673 (49.07)
Chemotherapy and radiotherapy	1556 (11.44)
Received surgery (n=61)	
Chemotherapy only	35 (57.38)
Radiotherapy only	21 (34.42)
Chemotherapy and radiotherapy	5 (8.20)

NPC, nasopharyngeal carcinoma.

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Presenter Disclosures

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