

Real-world Management of Prurigo Nodularis: Epidemiological Data and Disease Burden in China

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INTRODUCTION

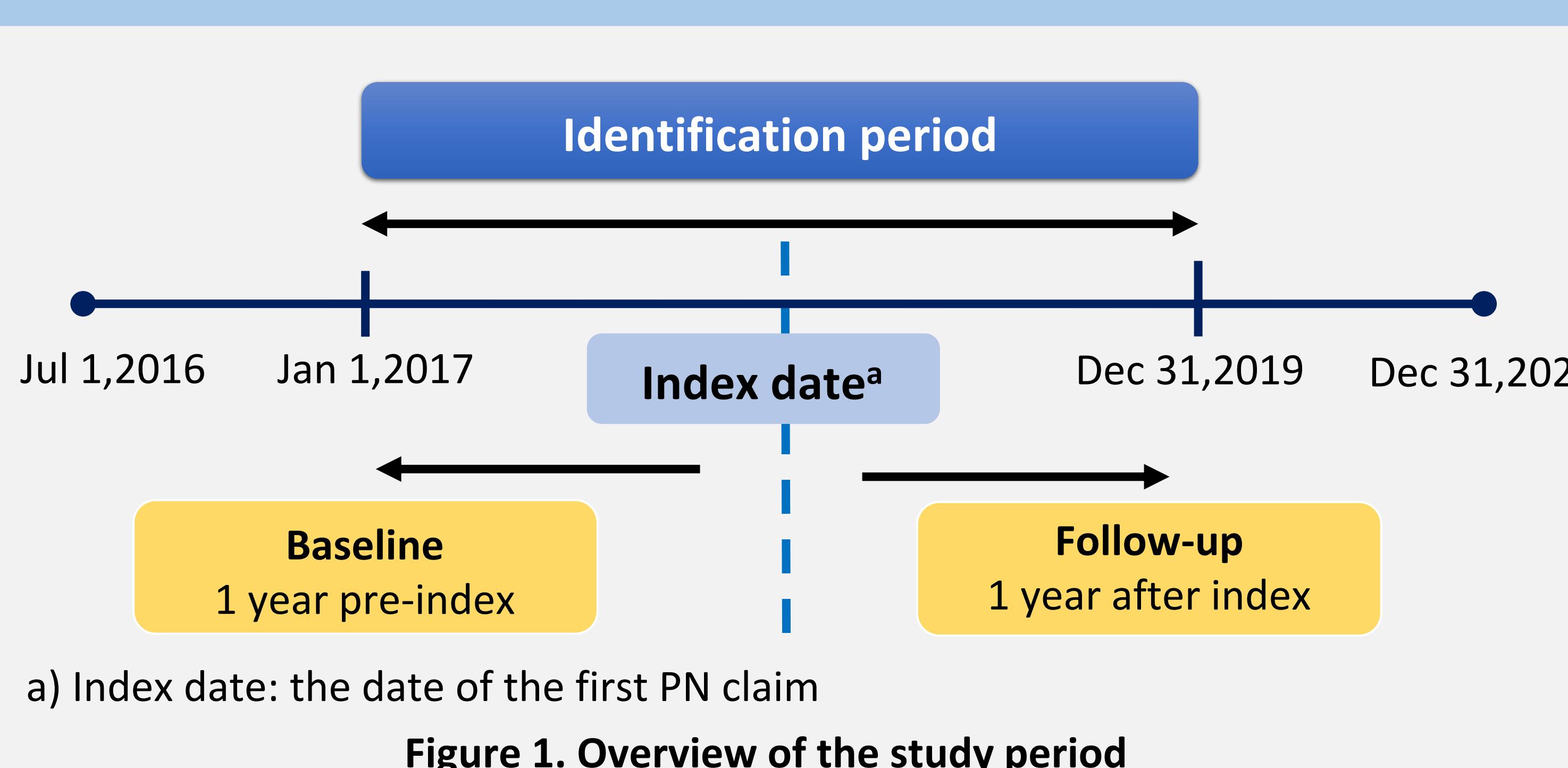
- Prurigo nodularis (PN) is a chronic dermatosis characterized by extraordinarily itchy nodules. PN patients often carry a significant disease burden with a higher risk of psychiatric disorders and systemic illnesses¹. The annual prevalence of PN was reported to be 6.52-72 per 100,100 people worldwide, respectively².
- However, the epidemiology and disease burden of PN were still unknown in China. Better understanding of the real-world clinical characteristics and economic burden of PN is important to improve the disease management in China.

OBJECTIVES

- To investigate the epidemiology and disease burden among patients with Prurigo nodularis (PN) in China.

METHODS

- Data were obtained from Tianjin Urban Employee Basic Medical Insurance database (2016-2020), which covered 7.31 million enrollees and represented 52.7% of registered Tianjin residents.
- Adult patients (age ≥ 18 years) with ≥ 1 claim with a diagnosis of PN (ICD-10 codes L28.1) supplemented with Chinese descriptions were identified between Jan 1, 2017 and Dec 31, 2019, and followed over 12 months (Fig 1).
- Patients were required continuously participate in insurance one year before and after the index date.



- Epidemiological characteristics were described by annual incidence rate, annual prevalence rate and clinic attendance rate.
- Patient demographics were recorded on the baseline period, with comorbidities selected based on associations with PN in previous literature and clinical experience.
- All-cause, dermatologic and PN-specific direct medical costs were estimated during the follow-up period..

RESULTS

1. Epidemiological characteristics

- In 2020, 2338 PN patients were identified with 413 of them were newly diagnosed, corresponding to annual prevalence rate of 0.13% and annual incidence rate of 0.02%. The average clinic attendance rate was estimated as 28.6%.
- The prevalence was higher among males than females (0.15% vs. 0.12%, $p < 0.001$), and a positive correlation was seen between prevalence and age ($R = 0.95$, $p = 0.0003$).

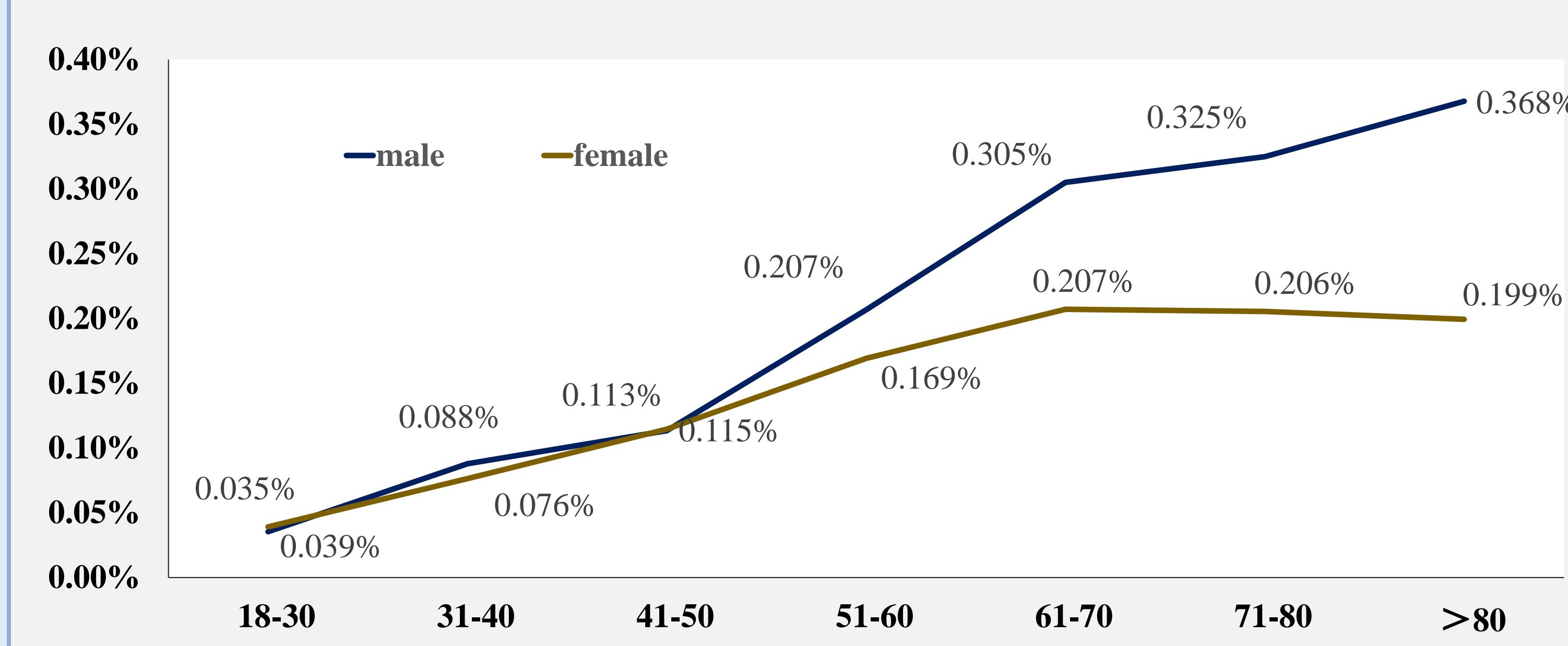


Figure 2. The annual prevalence rate in 2020

2. Demographics and comorbidities

- A total of 1,503 PN patients with mean age 54.4 years, 61.1% male were included during the identification period (2017-2019).
- The mental health disorders, atopic and allergic diseases and cardio- and cerebrovascular diseases are common comorbidities among patients with PN.

Table 1. Associated Comorbidities in Prurigo Nodularis

	PN patients (n=1503)
Dermatologic/allergic, n (%)	
Atopic dermatitis	21 (1.5%)
Urticaria	166 (11.5%)
Asthma	138 (9.5%)
Allergic rhinitis	117 (8.1%)
COPD	27 (1.9%)
Mental health, n (%)	
Sleep disorder	330 (22.8%)
Anxiety disorder	108 (7.5%)
Depression	67 (4.6%)
Other systemic illness, n (%)	
Hypertension	799 (55.1%)
Coronary heart disease	738 (50.9%)
Lipid disorders	559 (38.6%)
Type 2 diabetes	316 (21.8%)

3. Economic burden

- All-cause total direct medical cost of PN was $\text{¥}12,437.5 \pm 21,766.2$ per patient, and dermatologic direct medical cost of PN was $2,402.9 \pm 4,742.3$ per patient.(Tab 2).
- PN-specific total direct medical cost was $\text{¥}812.0 \pm 1,681.3$ per patient, and inpatient cost accounted for 95.6% of the total cost ($\text{¥}776.3 \pm 1,565.0$).

Table 2. Direct medical costs of PN patients

Characteristics	All-cause cost	Dermatologic cost	PN-specific cost
Costs per patient [mean\pmSD]			
Total costs	$12,437.5 \pm 21,766.2$	$2,402.9 \pm 4,742.3$	$812.0 \pm 1,681.3$
Inpatient costs	$8,167.6 \pm 12,893.3$	$1,788.5 \pm 2,090.7$	$776.3 \pm 1,565.0$
Outpatient costs	$4,269.9 \pm 15,711.9$	$614.4 \pm 3,967.5$	$106.3 \pm 1,382.8$
Inpatient costs among hospitalized patients			
Per patient	$26,964.7 \pm 30,821.6$	$18,745.4 \pm 11,957.3$	$15,972.5 \pm 6,127$
Per hospitalization	$14,855.6 \pm 15,079.6$	$13,507.7 \pm 8,453.4$	$15,780.9 \pm 5,847.2$
Outpatient costs among outpatient patients			
Per patient	$8,173.1 \pm 12,895.9$	$1,790.9 \pm 2,091.1$	$787.3 \pm 1,573.3$
Per outpatient visit	303.3 ± 403.1	317.3 ± 288.4	363.5 ± 290.9

- Medication cost was the most important cost component of PN-specific total costs for PN patients (78.1%), followed by treatment (13.3%) and examination costs (5.8%) (Fig 3).

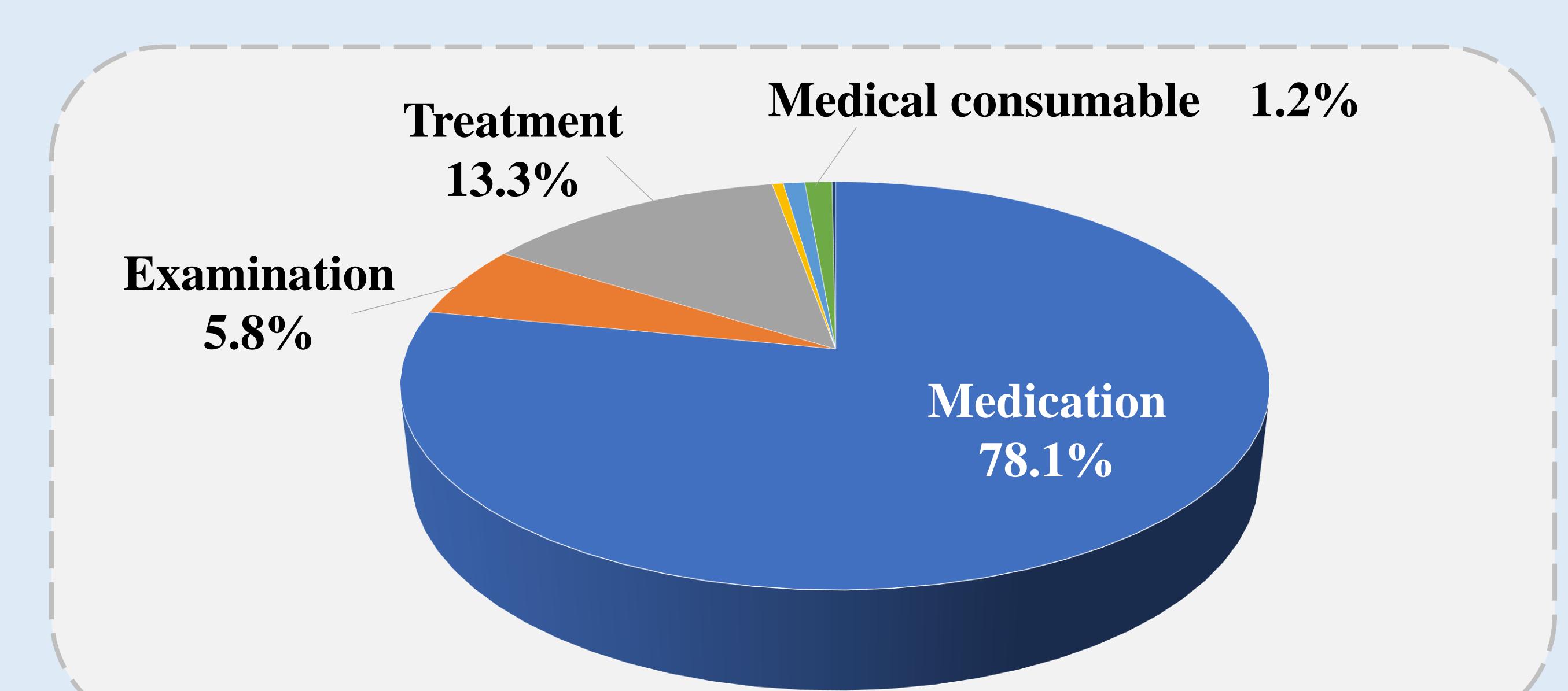


Figure 3. Decomposition of PN-specific direct medical costs

CONCLUSION

- PN is a severe, pruritic disease with increased comorbidities and economic burden, which indicates that effective strategies are needed for better long-term management of PN.

References

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