

Economic and Humanistic Burden among Patients with Non-radiographic Axial Spondyloarthritis in China

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INTRODUCTION

- ✓ Non-radiographic axial spondyloarthritis (nr-axSpA) is a chronic inflammatory disease that mainly affects the spine and sacroiliac joints. Its prominent feature is low back pain.
- ✓ The prevalence of nr-axSpA in the United States and European countries ranges from 0.03% to 0.35%, and there is no epidemiological data available from China^[1-3].
- ✓ There is limited research on the economic and humanistic burden of nr-axSpA^[4,5]. To our knowledge, there is no research focusing on indirect cost loss and quality of life for nr-axSpA patients.
- ✓ There is no real world nr-axSpA disease management data based on the Chinese population, resulting in a serious lack of objective understanding of the economic and humanistic burden of nr axSpA patients in China.

OBJECTIVE

- ✓ To investigate the real world economic and humanistic burden of Chinese patients with nr-axSpA in China.

METHODS

Data Source

- ✓ Adult nr-axSpA patients were recruited from three tertiary hospitals in Anhui, Chongqing, and Beijing in China in 2022.
- ✓ **Online questionnaires** were used to collect information including basic characteristics, diagnosis, healthcare resource utilization (HRU), costs, and quality of life.

Study Population

- ✓ Include adult patients diagnosed with nr-axSpA by doctors, and exclude patients who cannot complete the questionnaire due to understanding ability, cognitive impairment, and other factors that affect self-evaluation ability.
- ✓ The total cohort was further classified into diagnosis duration < 1 year and ≥1 year subgroups.

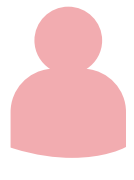
Measures

- ✓ **Economic burden:** nr-axSpA related HRU and costs was calculated by per person per month (or per year, only for patients diagnosed ≥1 year);
- ✓ **Quality of life:** Evaluated using the Short-Form Six-Dimension (SF-6Dv2)^[6].

Statistic Analysis

- ✓ The comparisons subgroups were performed by Student's t-test or χ^2 2-test, where appropriate. Two-sided P-values of <0.05 were considered statistically significant.

RESULTS



Basic characteristics

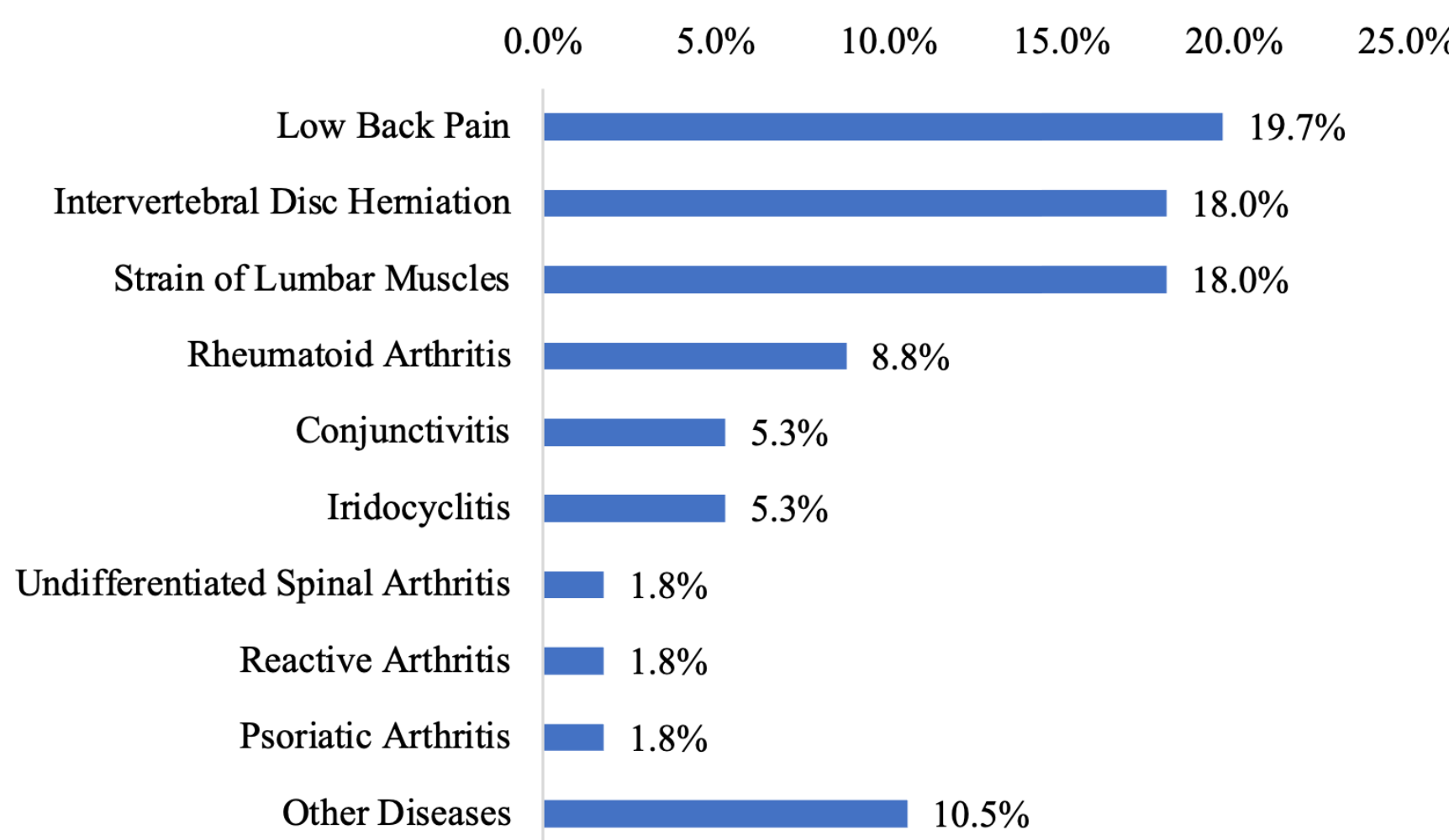
✓ Total Population

- A total of **61** patients (21 and 40 in subgroups diagnosed for < 1 year vs. ≥1 year, respectively) with a mean age of **29.30±7.61** years, **55.7%** female were included. (**Table 1**)
- **44.3%** of patients were unemployed or experienced work absence due to nr-axSpA. The average delay in diagnosis for patients was **16.31±24.59** months, with a misdiagnosis rate of up to **49.2%**.
- The most misdiagnosed disease among patients was **low back pain**, followed by intervertebral disc herniation (18.0%) and strain of lumbar muscles (18.0%) (**Figure 1**)

Table 1 Basic characteristics for the total population

Variables	Total Population N=61
Sociodemographic characteristics	
Females, (%)	55.7%
Age,years [Mean±SD]	29.30±7.61
unemployed or experienced work absence due to nr-axSpA (%)	44.3%
Diagnosis situation	
Diagnosis duration,months [Mean±SD]	21.70±36.11
Delay Diagnosis Duration,months [Mean±SD]	16.31±24.59
Misdiagnosed Patients, (%)	49.2%

Figure 1 Types of misdiagnosed diseases for the total population



✓ Subgroups Population

- The diagnosis duration for patients with a diagnosis duration of <1 year and ≥1 year was **1.24±2.30** and **32.45±49.74** months, respectively (P<0.001).
- Patients with a diagnosis duration of < 1 year had a longer annual disease onset time (73.43±96.45 vs. 21.00±34.43 P=0.001). (**Table 2**)

Table 2 Basic characteristics for the Subgroups population

Variables	Diagnosis Duration <1 year N=21	Diagnosis Duration ≥1 year N=40	P Value
Diagnosis situation			
Diagnosis duration,months [Mean±SD]	1.24±2.30	32.45±49.74	<0.001
Disease Attack Condition, [Mean±SD]			
Annual Number of disease Attack, times	3.33±3.21	1.60±1.98	0.005
Annual Duration of Disease Attack,days	73.43±96.45	21.00±34.43	0.001



Economic Burden

✓ Total Population

- The average number of monthly outpatient visits for the total population was **1.19±1.14**, and the average monthly costs was **¥4,108±5,414** for the total cohort. (**Table 3**)

RESULTS



Economic Burden

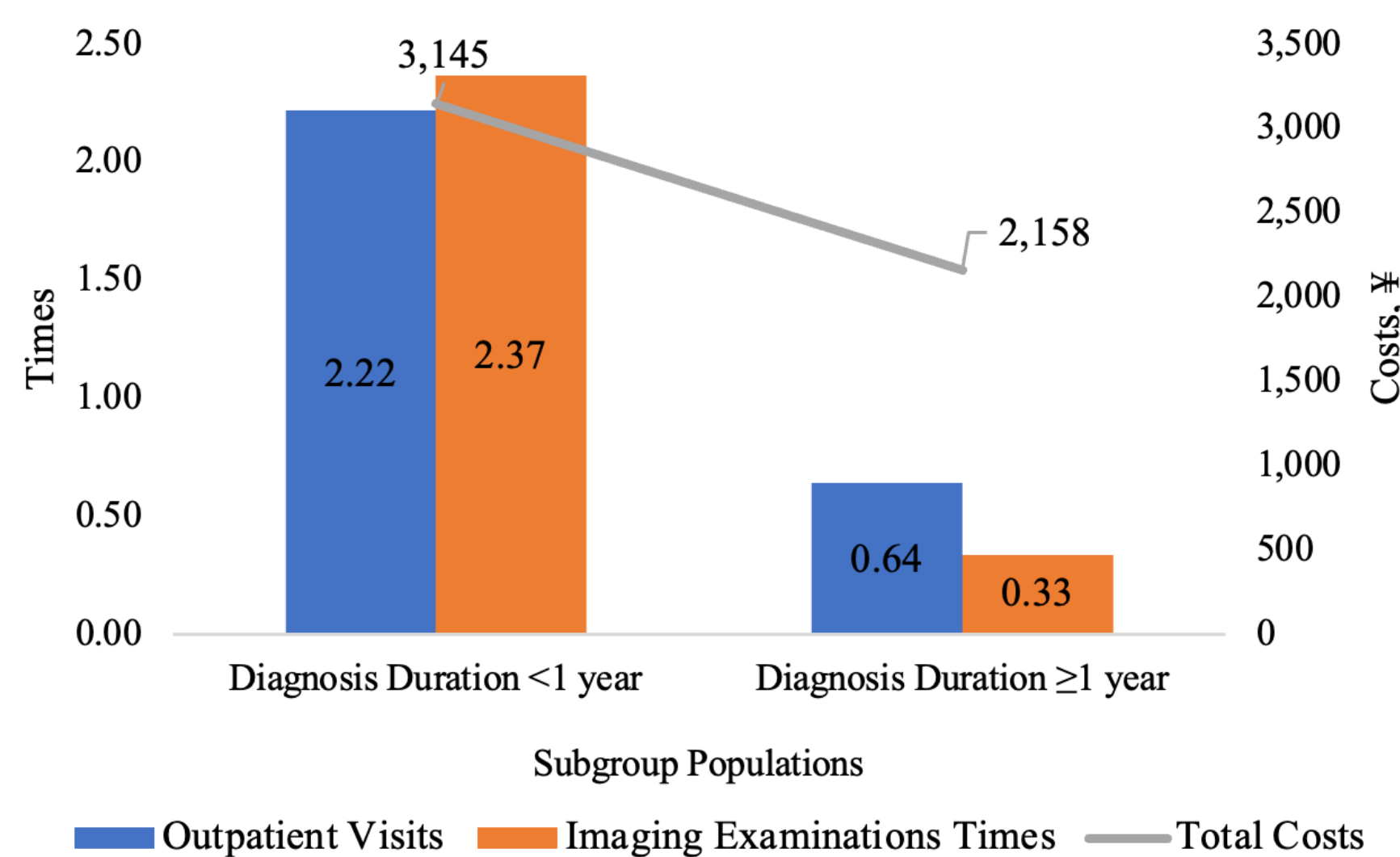
✓ Subgroups Population

- Patients with a diagnosis duration of ≥ 1 year (N=40) had an average of **7.80±3.94** outpatient visits per year and the total annual costs was as high as **¥36,550±56,198**, including direct medical costs of **¥25,895±37,735 (70.8%)** and indirect costs of ¥8,435±21,404 (23.1%).
- Patients with a diagnosis duration of < 1 year had more healthcare resource utilization and costs compared to patients with a diagnosis duration of ≥ 1 year (P<0.05). (**Figure 2**)

Table 3 Monthly Average HRU and Costs for the total population

Variables	Total Population N=61
Healthcare Resource Utilization, [Mean±SD]	
Outpatient Visits	1.19±1.14
Number of imaging examinations	1.03±1.26
Number of laboratory inspections	1.00±0.94
Total Cost,¥ [Mean±SD]	4108±5,414

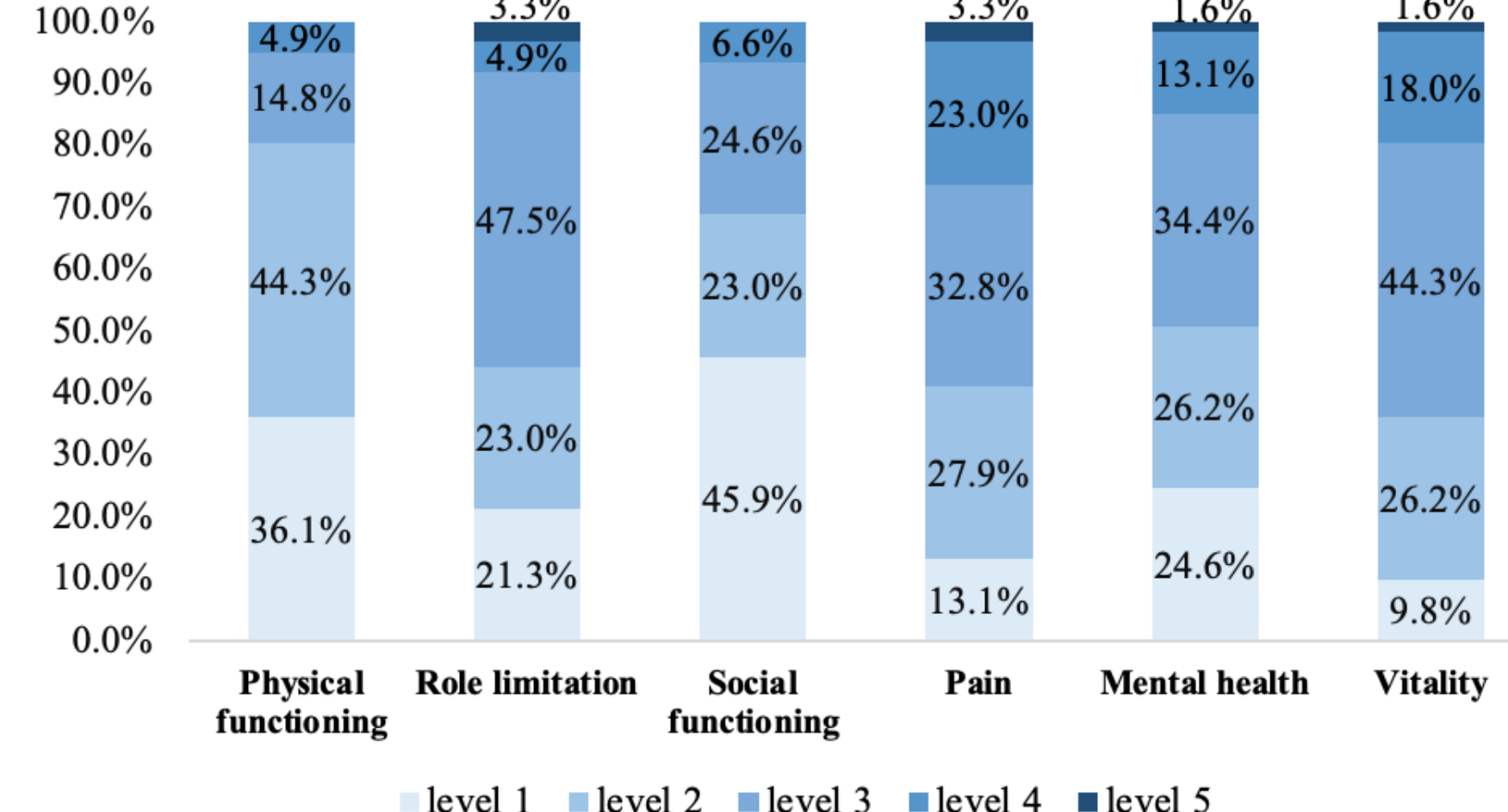
Figure 2 Average monthly HRU and costs of subgroup patients



Quality of Life

- ✓ The average health utility value of patients was as low as **0.696±0.174** for the total population.
- ✓ **Role limitation, pain, and vitality** were the three most severely impaired dimensions of quality of life in nr-axSpA patients, with 55.7%, 59.1%, and 63.9% of patients experiencing moderate to severe impairment (level 3 or above), respectively. (**Figure 3**)

Figure 3 Distribution across levels of the SF-6Dv2 dimensions



CONCLUSIONS

- ✓ A high misdiagnosis rate, heavy economic burden, and poor quality of life have been observed among Chinese patients with nr-axSpA. Meanwhile, it is noted that patients with shorter diagnosis duration have a heavier economic burden.
- ✓ Improving disease diagnosis management level and medical security should be done to reduce the economic burden and improve patients quality of life.

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