Epidemiology and Medication Pattern Change of Psoriatic Diseases in Taiwan from 2000 to 2013: A Nationwide, Population-based Cohort Study

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ABSTRACT. ***Objective.*** To analyze the trend of prevalence and incidence rates for psoriatic arthritis (PsA) and psoriasis in Taiwan, and to determine the changes in medication patterns.

Methods. Data were collected from the Taiwan National Health Insurance Research Database, which covered at least 95% of the population from 2000 to 2013. International Classification of Diseases, 9th edition (ICD-9) was used to identify PsA (ICD-9 696.0) and other psoriasis (ICD-9 696.1). Medications were identified by Anatomical Therapeutic Chemical Classification code. We calculated the annual age standardized prevalence and incidence rate of PsA and psoriasis in individuals aged ≥ 16 years from 2000 to 2013, and used the Poisson regression to test the trends by Wald chi-square statistic.

Results. The prevalence (per 100,000 population) of psoriatic diseases between 2000 and 2013 increased from 11.12 to 37.75 for PsA, and from 179.2 to 281.5 for psoriasis. The incidence (per 100,000 person-yrs) increased from 3.64 to 6.91 in PsA, while there was no significant change in psoriasis. Prevalence and incidence in PsA were more rapidly increased than in psoriasis. Sex ratio (men to women) of PsA decreased from 2.0 to 1.5 in 2000 and 2013, respectively. There was an increase in the use of disease-modifying antirheumatic drugs (DMARD), especially biologics, which is significantly different from topical therapies.

Conclusion. The prevalence and incidence rates of psoriatic disease, especially PsA, were increasing in Taiwan. The medication pattern showed an increase in DMARD and biologics, while use of topical therapies decreased. (First Release January 15 2018; J Rheumatol 2018;45:385–92; doi:10.3899/jrheum.170516)

Key Indexing Terms:
PSORIATIC ARTHRITIS PSORIASIS EPIDEMIOLOGY MEDICATIONS BIOLOGICS

Psoriatic diseases include psoriatic arthritis (PsA) and other psoriasis. Psoriasis is a chronic autoimmune inflammatory disease whose detailed etiology has not been fully understood, but both genetic agents and environmental factors have been associated with the cause. PsA is also a chronic autoimmune inflammatory joint disease and is highly heterogeneous, occurring in a subgroup of patients with psoriasis, and characterized by joint and entheseal inflammation[1]. A metaanalysis showed that the prevalence of psoriasis in children ranged from 0% (Taiwan) to 2.1% (Italy); in adults, it varied from 0.91% (USA) to 8.5% (Norway). The estimated incidence reported in children in the United States was 40.8/100,000 person-years. In adults, the estimated incidence varied from 78.9/100,000 person-years (USA) to

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230/100,000 person-years (Italy)[2]. Another metaanalysis found a wide variation in the annual incidence of PsA, ranging from 0.1 to 23.1 cases per 100,000 inhabitants (median 6.4), with large differences between countries. Prevalence rates also varied between 1/100,000 (Japan) to 420/100,000 (Italian) inhabitants[3]. These data showed an increase in the prevalence and incidence rates in Western countries. However, reported prevalence and incidence rates in Asia appear to be relatively lower than in Western countries[4,5].

Therapies for psoriatic diseases include systemic and topical ones. Systemic therapies include medications such as methotrexate (MTX), a disease-modifying antirheumatic drug (DMARD). Biological therapies for treating psoriasis include antitumor necrosis factor (anti-TNF) agents [such as adalimumab (ADA), etanercept (ETN), and infliximab], and monoclonal antibodies against interleukins (IL) 12 and 23 (ustekinumab), and IL-17 (secukinumab). Moreover, patients with PsA should be treated in a timely manner to improve symptoms and possibly inhibit damage to joint structural tissues. Nonsteroidal antiinflammatory drugs (NSAID) and local intraarticular injections with corticosteroids can be used successfully in clinical practice in patients with mild PsA. For those patients with moderate to severe PsA, nonbiologic (nb-) DMARD [including MTX and sulfasalazine (SSZ)], small molecules (including phosphodiesterase and Janus kinase inhibitors), and biologic agents (including TNF, IL-12/23, and IL-17 blockers) have all showed clinical efficacy[6,7,8,9]. There is evidence demonstrating that biologics can effectively improve patients' functionality and quality of life by reducing skin and joint involvement, and preventing permanent joint damage. As a result, the use of biologics is becoming more widespread[10]. In our study, we investigated the changes in the prevalence and incidence of psoriatic diseases in Taiwan, and assessed the patterns of medication use between 2000 and 2013.

MATERIALS AND METHODS

Data resource. Our study protocol was approved by Chung Shan Medical University Hospital's Institutional Review Board (IRB number CS15143). Data were collected from Taiwan Longitudinal Health Insurance Research Database (LHIRD), which contains 14 years of LHIRD claims data for ≥ 95% of Taiwan's population (about 23 million). The LHIRD contains information on outpatient and inpatient services, dental care services, prescription drugs, preventive medicine, and even Chinese herbal remedies, as well as the medical records of patients with psoriatic disease. The LHIRD contains registration files and reimbursement claim data, such as dates of discharge and admission, diagnostic codes, demographic characteristics, details of prescriptions, and procedures performed. Therefore, LHIRD offers an opportunity to study the population-based epidemiology of psoriatic diseases in real-world settings in Taiwan. The large sample sizes it provides allow researchers to identify patterns of medication use over time.

Study design. We estimated the annual epidemiological data of PsA and psoriasis in Taiwan, including prevalence and incidence rates from 2000 to 2013. The International Classification of Diseases, 9th edition (ICD-9) was used to identify psoriatic arthritis (ICD-9 696.0) and other psoriasis (ICD-9 696.1). For annual prevalence rate, the denominator was set according to the annual list of Registry for Beneficiaries, and the numerator was the number of patients who had PsA and psoriasis with ≥ 3 outpatient visits or ≥ 1 admission for treatment of psoriatic disease in every calendar year. For annual incidence rate, we excluded the prevalent cases or individuals not at risk from the denominator and numerator, respectively, from 2001 to 2013 (Figure 1).

Medications were identified by Anatomical Therapeutic Chemical Classification code: NSAID (M01A); biological (b-) DMARD [including abatacept (L04AA24), ADA (L04AA17, L04AB04), ETN (L04AA11, L04AB01), golimumab (L04AB06), rituximab (L01XC02), tocilizumab (L04AC07), ustekinumab (L04AC05), and tofacitinib (L04AA29)]; nbDMARD [including azathioprine (L04AX01), cyclosporine (L04AD01), hydroxychloroquine (P01BA02), leflunomide (L04AA13), MTX (L01BA01, L04AX03), minocycline (J01AA08), and SSZ (A07EC01)]; antipsoriatics for topical use [including tars (D05AA), calcipotriol (D05AX02, D05AX52), calcitriol ointment (D05AX03), and tazarotene (D05AX05)]; antipsoriatics for systemic use [including acitretin (D05BB02), etretinate (D05BB01), methoxsalen (D05BA02), and trioxysalen (D05BA01)]; ultraviolet B phototherapy (insurance claim code 51019B); corticosteroids for dermatological treatment (D07); and oral corticosteroids (H02AB, H02B, M01BA).

Statistical analyses. Epidemiological data of PsA and psoriasis in individuals aged ≥ 16 years, including prevalence and incidence rates from 2000 to 2013, were analyzed and stratified by age and sex (Supplementary Data available from the authors upon request). The medication prescription patterns were also analyzed. The age-standardized prevalence and incidence were estimated using the standard population in 2000. We used the Poisson regression to calculate the 95% CI and we tested the trend of prevalence and incidence by Wald chi-square test. SAS software version 9.4 (SAS Institute Inc.) was used to perform the analyses, and $p < 0.05$ was considered statistically significant.

RESULTS

Prevalence and incidence rates of PsA and psoriasis. From 2000 to 2013, the prevalence rates (per 100,000 persons) increased for PsA (from 11.12 to 37.75) and other psoriasis (from 179.2 to 281.5; Table 1). The prevalence rates for PsA increased more rapidly over time. The period of analysis was divided into 3 stages: 2000 to 2004, 2005 to 2010, and 2011 to 2013. Each stage showed an increase of > 3%, even reaching 4%. In the last stage, the prevalence rate of PsA increased significantly over time, with a rate of 28.90 (2011), 31.90 (2012), and 37.75 (2013). The prevalence rates for psoriasis increased over time as well, but there were no obvious linear increases among years between 2005 and 2010. The incidence rates (per 100,000 person-yrs) increased from 3.64 to 6.91 for PsA, but there was no significant increase in psoriasis (from 42.02 to 30.34). The number of PsA incident cases increased strikingly from 2000 to 2013, and the incidence rate reached 8.10 in 2012. The incidence rates for psoriasis seemed to remain roughly the same over time, and even decreased in 2007 and 2008 (Table 1).

Sex difference. For PsA, the prevalence and incidence rates showed an increasing trend per year in both men (prevalence = 9%, incidence = 6%) and women (prevalence = 11%, incidence = 10%). For psoriasis, the linear tread of prevalence and incidence rates was estimated by Poisson regression and it showed an increasing prevalence rate but a decreasing

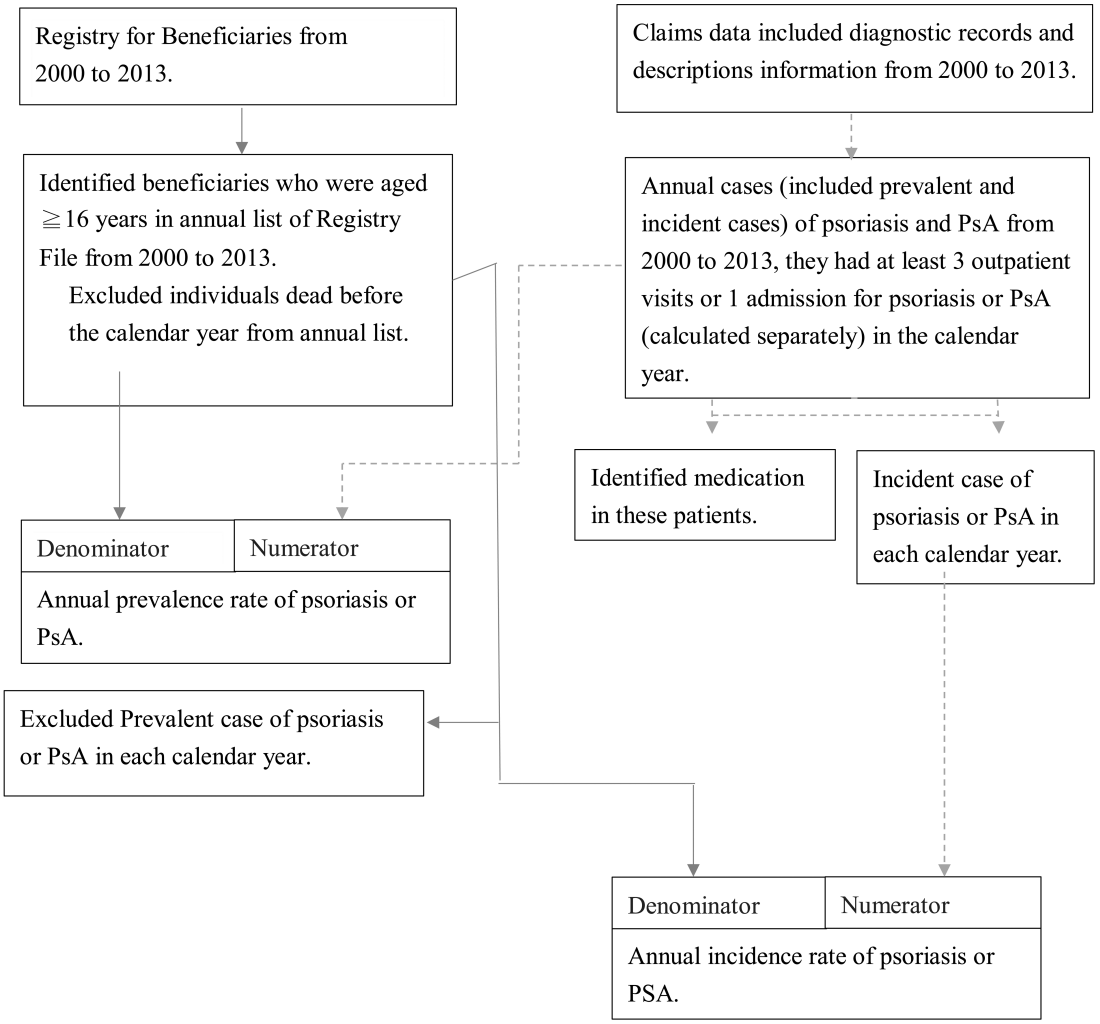

Figure 1. Flow chart of study design. PsA: psoriatic arthritis.

incidence rate in both men (prevalence: 4% increasing per year; incidence: 2% decreasing per year) and women (prevalence: 3% increasing per year; incidence: 1% decreasing per year; Figure 2A and 2B). There was a higher proportion of men than women with psoriatic disease: the sex ratio (men to women) of prevalence for PsA was 1.82 and 1.58 in 2001 and 2013, respectively. After 2004, the sex ratio of PsA prevalence gradually decreased over time. The sex ratio of incidence for PsA was 1.75 and 1.20 in 2001 and 2013, respectively. The sex ratio of prevalence for psoriasis increased over time, at 1.69 and nearly 1.82 in 2001 and 2013, respectively. The sex ratio of incidence for psoriasis decreased over time, at 1.43 and 1.25 in 2001 and 2013, respectively.

Medication pattern. For overall psoriatic disease, the primary medications used were DMARD, particularly bDMARD. There was an increase of bDMARD from 0% to 11.61% for PsA ($p < 0.0001$), and from 0% to 1.56% for psoriasis ($p < 0.0001$). In addition, there was a significant difference between bDMARD use in PsA and psoriasis in 2009 (0.94% in PsA, and 0.24% in psoriasis), or from 2009 to 2013 (from 0.94% to 11.61% in PsA, and from 0.24% to 1.56% in psoriasis). For PsA, there was a decrease in the use of topical antipsoriatics (from 61.62% to 43.45%), systemic use of antipsoriatics (from 17.17% to 5.65%), and corticosteroids for dermatological psoriasis (from 86.87% to 69.05%). However, there were no significant trends in the use of NSAID (from 85.86% to 80.65%), nbDMARD (from 47.47% to 57.14%), and oral corticosteroids (from 53.54% to 45.54%). For psoriasis other than PsA, there was a significant increase in nbDMARD (from 8.72% to 15.07%). There was a significant decrease in the use of topical antipsoriatics (from 51.28% to 41.99%), systemic antipsoriatics (from 7.80% to 4.94%), corticosteroids for dermatological psoriasis (from 94.56% to 89.79%), and oral corticosteroids (from 39.54% to 27.15%). As for ultraviolet B phototherapy, both PsA and psoriasis showed no obvious change (Table 2).

Table 1. Annual prevalence and incidence of PsA and other psoriasis in individuals aged ≥16 years.

Year	Population	Psoriatic Arthritis, ICD-9: 696.0		Other Psoriasis, ICD-9: 696.1	
		Prevalent Cases (Prevalence Rate+, 95% CI)	New Cases (incidence rate*, 95% CI)	Prevalent Cases (prevalence rate+, 95% CI)	New Cases (incidence rate*, 95% CI)
2000	782,166	87 (11.12, 8.79–13.46)	—	1402 (179.2, 169.9–188.6)	—
2001	786,095	99 (12.43, 9.98–14.88)	29 (3.64, 2.31–4.96)	1525 (192.6, 182.9–202.3)	333 (42.02, 37.51–46.54)
2002	788,665	104 (12.98, 10.49–15.48)	29 (3.65, 2.32–4.99)	1669 (208.7, 198.7–218.7)	320 (40.09, 35.69–44.49)
2003	769,328	110 (13.71, 11.14–16.29)	25 (3.10, 1.88–4.32)	1712 (216.6, 206.3–226.9)	329 (41.73, 37.20–46.27)
2004	761,175	118 (14.82, 12.12–17.51)	28 (3.53, 2.21–4.85)	1861 (236.6, 225.8–247.5)	370 (46.94, 42.11–51.77)
2005	785,193	154 (18.49, 15.54–21.44)	41 (5.01, 3.47–6.56)	1915 (235.8, 225.1–246.5)	272 (33.76, 29.70–37.82)
2006	794,016	148 (17.52, 14.66–20.38)	20 (2.45, 1.36–3.54)	2012 (244.6, 233.8–255.4)	325 (39.70, 35.32–44.08)
2007	801,074	176 (21.11, 17.94–24.28)	43 (5.30, 3.69–6.91)	2094 (252.4, 241.4–263.4)	295 (35.68, 31.53–39.82)
2008	808,501	180 (21.47, 18.27–24.67)	46 (5.55, 3.92–7.18)	2054 (242.8, 232.0–253.5)	291 (34.14, 30.12–38.16)
2009	814,615	213 (24.85, 21.43–28.27)	49 (5.66, 4.03–7.30)	2110 (246.5, 235.7–257.3)	322 (37.75, 33.51–41.99)
2010	820,896	212 (24.33, 20.96–27.71)	43 (5.05, 3.49–6.60)	2134 (245.8, 235.0–256.6)	316 (36.69, 32.50–40.87)
2011	828,046	260 (28.90, 25.26–32.54)	55 (6.08, 4.41–7.75)	2339 (267.5, 256.2–278.8)	338 (40.30, 35.84–44.75)
2012	835,042	284 (31.90, 28.04–35.76)	68 (8.10, 6.09–10.11)	2427 (274.3, 262.9–285.7)	327 (37.24, 33.01–41.46)
2013	840,193	336 (37.75, 33.54–41.97)	62 (6.91, 5.11–8.71)	2508 (281.5, 270.0–293.1)	273 (30.34, 26.56–34.11)

+ per 100,000 persons, standardized by 2000 standard population. * per 100,000 person-years, standardized by 2000 standard population. ICD-9: International Classification of Diseases, 9th ed; PsA: psoriatic arthritis.

DISCUSSION

Our study showed that the prevalence rates of psoriatic disease in individuals aged ≥ 16 years, especially PsA, increased in Taiwan from 2000 to 2013. The incidence rates of PsA were significantly higher than those of psoriasis. Our results confirmed that psoriatic disease predominantly affected men. The medication pattern in Taiwan showed an increased usage of DMARD and biologics, while the use of topical therapies decreased.

The prevalence of psoriatic diseases was about 2% in most previous studies. A study by Sheane and Chandran found that PsA accounted for almost 30% of psoriasis[10]. Our study found that although the prevalence rates for PsA increased, no significant increases were found for psoriasis, and PsA rates were lower than those reported in Western countries. This phenomenon may be explained, at least in part, by the lower awareness of PsA in Taiwan than in other developed countries, even though an increasing trend was observed in our data (Table 3A and 3B). Because it is a disease with a variety of manifestations, early PsA may not be diagnosed in some patients.

It is possible that a proportion of patients with psoriasis progressed to PsA as a result of comorbidities (e.g., hyperlipidemia and hypertension) and certain risk factors (e.g., smoking, obesity, and low socioeconomic status), which can accelerate development of psoriasis into PsA[11,12,13,14,15]. In our data, about 50–60% of PsA diagnoses were relative to psoriasis and a mean duration in months (SD) of psoriasis until diagnosis of PsA was 51.81 (36.43; Supplementary Table 3, available from the authors upon request). However, the duration was still underestimated. A review by Ogdie suggested the duration may be 3–5 years[12], which is similar to our findings. The second possibility is that risk factors might also be a trigger for the onset of PsA[12]. The third possibility is that psoriasis and PsA are 2 different diseases. A review study by Boehncke, *et al* suggested that psoriasis does contribute to PsA[16]. Based on clinical observations, the authors postulated that psoriasis and PsA were 2 separate entities with no direct pathogenetic link. In genetic studies, a different genetic architecture was found. IL-17 and IL-23 are relevant to psoriasis as well as PsA, while CD8+ T cells might be particularly important in the pathophysiology of PsA. In animal models, both diseases can be readily distinguished from each other, because distinct pathomechanisms contribute to their respective etiologies. In clinical trials, different gene expression in PsA and psoriasis has been demonstrated, with PsA showing a stronger IL-17 gene signature. Taken together, the evidence suggests that psoriasis and PsA may be regarded as 2 sides of the same coin.

In addition, the increasing prevalence and incidence rates in PsA rather than psoriasis might be attributed to the increasing awareness of the disease. Patient and physician knowledge about PsA appears to be gradually increasing. Further, the development of screening tools has likely increased the prevalence and incidence of PsA[17]. As is analyzed in a Danish nationwide register linkage study from 1997 to 2011, some reasons are thought provoking; that is, use of questionnaires increased educational initiatives for both patients and physicians. The introduction of the ClASsification for Psoriatic ARthritis criteria may have updated specific symptoms, which would also result in earlier recognition[18].

Our study demonstrated that there was a higher proportion of men than women with psoriatic disease (M:F = 1.82 in 2001; 1.58 in 2013), which is consistent with the finding of a study by Yamamoto, *et al* in Japan, where the sex ratio (male to female) was 1.9:1 in 2014–2015[19]. In contrast, Egeberg, *et al* found that in Denmark, there was a female

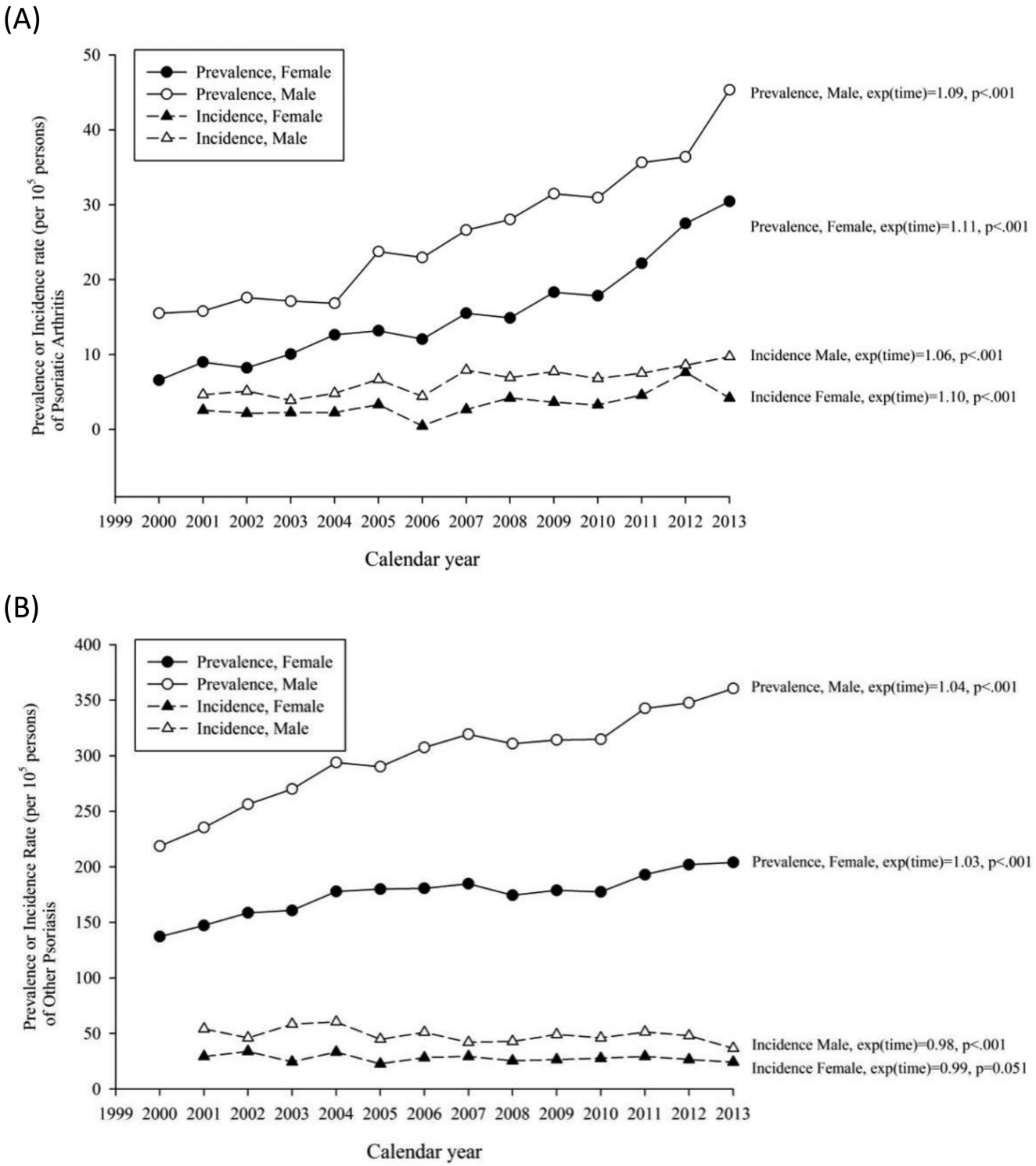

Figure 2. Age-standardized prevalence or incidence rate (per 100,000 persons) of (A) psoriatic arthritis and (B) other psoriasis.

predominance from 1998 to 2010[17]. In our study, there were significantly increasing trends of PsA in individuals aged 16–31, 32–47, and 48–63 years from 2001 to 2013. Interestingly, some studies have reported that variations in sex ratio in incidence rates differed across all age bands. Two peaks for age of onset in women were found at around 20–29 and 50–59 years of age (Huerta, *et al*)[20], whereas onsets in men were found at around 30–39, 60–69, and 70–79 years of age (Icen, *et al*)[21]. The male population in our study ranged in age from 16 to 47 years; therefore, the second peak might

Table 2. Changes in medications used on PsA and other psoriasis. Values are n (%) unless otherwise specified.

Medications	Cases of PsA by Year				Cases of Other Psoriasis by Year			
	2001, n = 99	2009, n = 213	2013, n = 336	p	2001, n = 1525	2009, n = 2110	2013, n = 2508	p
NSAID	85 (85.86)	174 (81.69)	271 (80.65)	0.4985	1121 (73.51)	1509 (71.52)	1559 (62.16)	< 0.0001
bDMARD [a]	0 (0.00)	2 (0.94)	39 (11.61)	< 0.0001	0 (0.00)	5 (0.24)	39 (1.56)	< 0.0001
nbDMARD [b]	47 (47.47)	112 (52.58)	192 (57.14)	0.2019	133 (8.72)	299 (14.17)	378 (15.07)	< 0.0001
Antipsoriatics for topical use [c]	61 (61.62)	109 (51.17)	146 (43.45)	0.0044	782 (51.28)	1172 (55.55)	1053 (41.99)	< 0.0001
Antipsoriatics for systemic use [d]	17 (17.17)	16 (7.51)	19 (5.65)	0.0010	119 (7.8)	100 (4.74)	124 (4.94)	< 0.0001
Corticosteroids for dermatological treatment	86 (86.87)	173 (81.22)	232 (69.05)	0.0001	1442 (94.56)	1935 (91.71)	2252 (89.79)	< 0.0001
Oral corticosteroids	53 (53.54)	109 (51.17)	153 (45.54)	0.2475	603 (39.54)	660 (31.28)	681 (27.15)	< 0.0001
Ultraviolet B phototherapy	19 (19.19)	21 (9.86)	39 (11.61)	0.0572	180 (11.80)	241 (11.42)	287 (11.44)	0.9258

[a] Included abatacept, adalimumab, etanercept, golimumab, rituximab, tocilizumab, ustekinumab, and tofacitinib; [b] Included azathioprine, cyclosporine, hydroxychloroquine, leflunomide, methotrexate, minocycline, and sulfasalazine. [c] Included tars, calcipotriol, calcitriol ointment, and tazarotene. [d] Included acitretin, etretinate, methoxsalen, and trioxysalen. bDMARD: biological disease-modifying antirheumatic drugs; nbDMARD: nonbiologic DMARD; NSAID: nonsteroidal antiinflammatory drugs; PsA: psoriatic arthritis.

not easily be seen in our 2000 LHIRD, which might account for the decreased sex ratio in our study from 2000 to 2013.

Biologics and DMARD are classes of medications used in the treatment of rheumatoid arthritis, ankylosing spondylitis, systemic lupus erythematosus, and psoriatic arthritis. Psoriatic diseases have a variety of symptoms, ranging from skin psoriasis to tenosynovitis[22,23,24,25]. Interestingly, in addition to the use of biologics, DMARD are increasingly being applied in dermatological treatments[26]. The use of many medications, such as oral corticosteriods and NSAID, has decreased significantly, and this decrease may have contributed to the development of new DMARD and biologics. Biologics have revolutionized the treatment of moderate to severe psoriatic diseases[27], including both psoriasis and PsA. Even though the use of biologics in Taiwan has increased significantly, the overall rate of usage is still less than that in Western countries, possibly in part because of the strict health insurance reimbursement policy in Taiwan. However, biologics should be used with caution for a number of reasons. Studies in Poland and Denmark showed notable differences before and after diagnosis with PsA in social cost and socioecnomic status, and strikingly, the speed of the rise in treatment cost outpaced the increases in prevalence and incidence rates[28,29]. As treatment choices mainly vary according to longterm remission goals, comorbidities, and medication costs, it is imperative to conduct a comprehensive assessment of patients on an individual basis[30,31,32,33].

There are some limitations in our study. First, only medications that are covered by reimbursement in the National Health Insurance program are recorded in the LHIRD, so information on self-paid drugs taken by patients were not included in the analysis. Second, the LHIRD does not contain data on disease or symptom severity, laboratory examinations, or lifestyle habits. Third, the diagnostic codes used in the LHIRD for coding early PsA might have been misclassified as a result of wrong coding or underdiagnosis, which may have led to an underestimation of the prevalence and incidence rates of PsA. Finally, based on the limited data from 2000 to 2013, the incident cases might be the recurrent or remissive patients.

There are some strengths in our study. First, this was a population-based study of physician-diagnosed PsA, so it was more representative than a survey from multiple centers. Second, the LHIRD is essentially a 14-year cohort and thus we could determine change in disease prevalence, incidence, and patterns of medication use from 2000 to 2013.

In this nationwide, population-based cohort study, we found that prevalence and incidence of PsA are increasing, but incidence of psoriasis remains stable. Medication patterns increased for biologics and DMARD, while use of topical therapies decreased.

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Table 3A. No. visits for PsA diagnosis by department. Values are n (%), where percent is annual number of visits for PsA in all departments.

Year	Visits for PsA by Department				
	Rheumatologist	Orthopedist	Rehabilitation Therapist	Dermatologist	Others
2000	107 (25.60)	7 (1.67)	14 (3.35)	222 (53.11)	68 (16.27)
2001	191 (38.12)	8 (1.60)	1 (0.20)	214 (42.71)	87 (17.37)
2002	312 (46.43)	8 (1.19)	1 (0.15)	269 (40.03)	82 (12.20)
2003	275 (37.72)	4 (0.55)	0 (0.00)	294 (40.33)	156 (21.40)
2004	338 (43.39)	15 (1.93)	2 (0.26)	267 (34.27)	157 (20.15)
2005	323 (36.79)	14 (1.59)	0 (0.00)	328 (37.36)	213 (24.26)
2006	347 (40.97)	10 (1.18)	10 (1.18)	253 (29.87)	227 (26.80)
2007	461 (48.27)	20 (2.09)	2 (0.21)	294 (30.79)	178 (18.64)
2008	499 (48.26)	16 (1.55)	12 (1.16)	311 (30.08)	196 (18.96)
2009	672 (52.58)	16 (1.25)	2 (0.16)	350 (27.39)	238 (18.62)
2010	854 (56.63)	36 (2.39)	7 (0.46)	380 (25.20)	231 (15.32)
2011	1152 (60.06)	8 (0.42)	1 (0.05)	471 (24.56)	286 (14.91)
2012	1267 (59.10)	8 (0.37)	9 (0.42)	559 (26.07)	301 (14.04)
2013	1528 (55.46)	11 (0.40)	33 (1.2)	795 (28.86)	388 (14.08)

Table 3B. Number of visits for psoriasis diagnosis by department. Values are n (%), where percent is annual number of visits for psoriasis in all departments.

Year	Visits for Psoriasis by Department				
	Rheumatologist	Orthopedist	Rehabilitation Therapist	Dermatologist	Others
2000	41 (0.62)	15 (0.23)	3 (0.05)	5199 (78.63)	1354 (20.48)
2001	165 (2.28)	4 (0.06)	0 (0.00)	5875 (81.35)	1178 (16.31)
2002	126 (1.61)	25 (0.32)	6 (0.08)	6499 (82.86)	1187 (15.13)
2003	80 (1.01)	18 (0.23)	2 (0.03)	6294 (79.34)	1539 (19.40)
2004	116 (1.23)	28 (0.30)	3 (0.03)	7235 (76.67)	2055 (21.78)
2005	197 (2.06)	18 (0.19)	0 (0.00)	7513 (78.67)	1822 (19.08)
2006	239 (2.42)	21 (0.21)	2 (0.02)	7710 (77.97)	1916 (19.38)
2007	339 (3.18)	27 (0.25)	13 (0.12)	8249 (77.44)	2024 (19.00)
2008	392 (3.73)	41 (0.39)	4 (0.04)	8243 (78.35)	1841 (17.50)
2009	633 (5.76)	40 (0.36)	19 (0.17)	8090 (73.6)	2210 (20.11)
2010	729 (6.38)	47 (0.41)	21 (0.18)	8338 (72.94)	2296 (20.09)
2011	998 (8.14)	47 (0.38)	7 (0.06)	8499 (69.32)	2710 (22.10)
2012	1079 (8.06)	101 (0.75)	35 (0.26)	9247 (69.07)	2925 (21.85)
2013	1323 (9.06)	63 (0.43)	31 (0.21)	10358 (70.96)	2821 (19.33)

PsA: psoriatic arthritis.

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