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Prevalence, Disability, and Health Care for Psoriasis Among Persons 1-74 Years: United States[a]

This report presents national estimates for the prevalence of psoriasis and related pathology, the resultant concern and handicap, and the need for health care for these conditions among the civilian noninstitutionalized population 1-74 years of age in the United States. The data are based on direct examination findings from the Health and Nutrition Examination Survey (HANES) of 1971-1974.

The first HANES program, in which these data were obtained, was designed to measure the nutritional status as well as certain aspects of general health status and health care needs in the U.S. population. These programs secure information on the prevalence of medically defined illnesses, including previously unrecognized and undiagnosed conditions, as well as on a variety of physical, physiological, and psychological measures within the population through direct examinations, tests, and measurements, as described in previous publications.[1-4]

The dermatology component of the first HANES was planned at the request of and in cooperation with the Committee on Planning for the National Program for Dermatology of the National Academy of Dermatology. Dr. Marie-Louise T. Johnson, Chairman of the Data Collection Unit for the National Program, was primarily responsible for planning the content of the examination, recruiting the dermatologists, and training them in the examination methodology to minimize variation among examiners.

This second *Advance Data* from the dermatology examination findings is limited to statistics on persons identified by the examiner as having psoriasis as classified under code 7060 in the *Code of Skin Diseases.*[5] Further information on the demographic and socioeconomic distribution of all types of skin pathology, the extent of disability or handicap caused by skin conditions, and the extent to which medical care for such conditions has been sought or needed among the U.S. population is summarized in an earlier *Advance Data*[6] and further described and analyzed in a *Vital and Health Statistics* series report.[7] These data augment those included for psoriasis in the previously published report.

TRENDS

An estimated 5.8 per 1,000 persons 1-74 years of age in the U.S. civilian noninstitutionalized population have psoriasis as determined in the dermatology component of the Health and Nutrition Examination Survey of 1971-1974. An additional 0.4 per 1,000 were shown in the detailed examination to have active psoriasis. Nearly 70 percent of those afflicted were concerned enough to complain about their condition, a rate of 4.0 per 1,000 population (table 1).

Psoriasis is a chronic condition of the skin that usually appears first in the third decade of life but may appear at any time and can be seen in children. Classically, there are red plaques with silvery scales over the elbows and knees, and occasionally the scalp, but psoriasis may become evident suddenly over the entire body as

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Table 1. Prevalence and prevalence rates among persons 1-74 years of age for all psoriasis diagnosed and such conditions evoking complaints, by type of condition and sex, with standard errors for total rates: United States, 1971-1974

Type of psoriatic pathology and New York University code	Significant pathology			Complaints		
	Both sexes	Male	Female	Both sexes	Male	Female
	Number of persons in thousands					
Psoriasis, all types....7060	1,117	594	523	803	401	402
Rupial....706050	-	-	-	7	-	7
Guttate....706060	3	-	3	-	-	-
With arthritis....706070	50	39	11	51	38	13
Types N.O.S.[1]....706090	1,065	556	509	745	363	382
	Rate per 1,000 population					
Psoriasis....7060	5.8	6.3	5.3	4.0	4.1	4.0
Rupial....706050	-	-	-	*0.04	-	*0.07
Guttate....706060	*0.01	-	*0.02	-	-	-
With arthritis....706070	*0.25	*0.41	*0.11	*0.26	*0.41	*0.13
Types N.O.S.[1]....706090	5.49	5.90	5.09	3.84	3.85	3.82
	Standard error of rate					
Psoriasis....7060	0.76	1.10	1.09	0.58	0.86	0.93

[1] N.O.S.—not otherwise specified.

small, scattered, drop-like lesions of redness and scale, so-called guttate psoriasis. Pitting of the nails can be seen with lifting and flaring, a form of psoriasis that may be associated with arthritis.[8,9]

Although found in families, psoriasis is inherited in a pattern still unclear. Through genetic markers a group of psoriatic patients can be identified who have a high rate of affected relatives, a younger onset of disease, and a more severe form.

The HANES dermatologists recorded the presence of psoriasis, its extent and severity, the presence or absence of scalp involvement, and arthritis. The most frequently diagnosed type of the disease was psoriasis vulgaris, otherwise unspecified (afflicting 95 percent of those with psoriasis diagnosed in the survey). Individuals who had an associated arthritis were 4.0 percent of the total; the remaining 1.0 percent had guttate psoriasis, the explosive form sometimes associated with physiological stress such as fever, or specific therapy such as antibiotics.

Psoriasis was found slightly more frequently among males (6.3 per 1,000) than females (5.3 per 1,000), although the difference in rates was small enough to be due to sampling variability alone. The complaint rate was similar for both sexes (4.1 and 4.0 per 1,000).

As would be expected with a problem beginning in most people after age 20, the prevalence rates for psoriasis were lowest among children 6-11 years and adults 18-44 years of age (less than 2 per 1,000), and highest among adults 45-74 years (11-12 per 1,000 population).

Complaints concerning their skin pathology were correspondingly lower among children and younger adults (through age 44), with rates of 1-3 per 1,000 population (table 2). For persons age 45 years or older rates decreased slightly with age from 10 per 1,000 population at 45-54 years to 7 per 1,000 at 65-74 years (figures 1-3).

Race made a difference in the prevalence of psoriasis. White persons were affected more than black persons (6.5 per 1,000 against 0.6 per 1,000). Correspondingly more white persons (4.5 per 1,000) than black persons (0.4 per 1,000) registered concern about their condition,

Table 2. Prevalence rates for all psoriasis diagnosed and such conditions evoking complaints, proportion considering psoriasis a handicap by severity, age, sex, and race among persons 1-74 years of age, with standard errors for totals: United States, 1971-1974

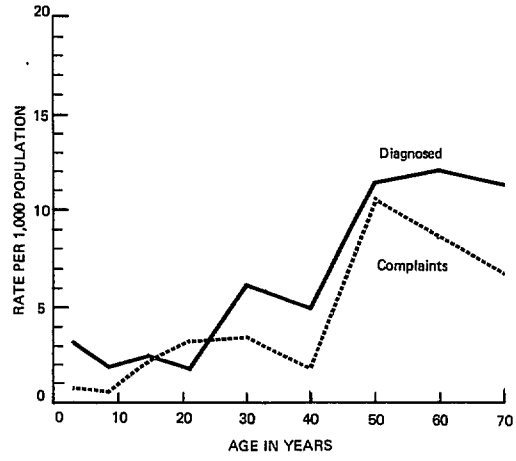
Condition or handicap	Both sexes				All races, 1-74 years		Both sexes, 1-74 years		All races, 1-74 years		
	1-74 years	1-17 years	18-44 years	45-74 years	Male	Female	White	Black	Both sexes	Male	Female
	Rate per 1,000 population								Standard error		
All psoriasis diagnosed	5.8	2.4	4.3	11.6	6.3	5.3	6.5	0.6	0.76	1.10	1.09
Psoriasis evoking complaints	4.0	1.2	2.8	8.9	4.1	4.0	4.5	0.4	0.58	0.86	0.93
	Percent										
Some employment or housework handicaps among persons with:											
Psoriasis diagnosed	7.5	9.3	6.9	7.3	7.0	8.1	7.2	29.2	3.42	3.78	5.24
Psoriasis evoking complaints	11.2	19.0	10.7	10.2	10.8	11.6	10.8	42.7	4.62	5.71	7.68
Preferred employment precluded among persons with:											
Psoriasis diagnosed	0.8	-	-	1.4	1.5	-	0.8	-	0.78	1.47	-
Psoriasis evoking complaints	1.3	-	-	1.8	2.3	-	1.4	-	1.62	2.21	-
Some social handicap among persons with:											
Psoriasis diagnosed	23.3	14.8	25.8	24.0	24.5	21.9	23.2	29.2	5.38	7.47	7.20
Psoriasis evoking complaints	38.5	30.4	35.6	41.0	36.4	40.5	38.4	42.7	7.23	11.33	11.13
	Percent distribution of persons with psoriasis evoking complaints										
By severity of employment or housework handicap:	100.0	100.0	100.0	100.0	100.0	100.0	---	---	---	---	---
Totally handicapped	0.1	-	0.2	-	-	0.1	---	---	---	---	---
Partial-severe	2.5	-	9.6	-	4.9	0.2	---	---	---	---	---
Partial-minimal	8.6	19.0	1.0	10.1	5.7	11.1	---	---	---	---	---
Essentially none	88.8	81.0	89.2	89.9	89.4	88.6	---	---	---	---	---
By severity of social handicap:											
Severe	0.3	-	0.5	-	-	0.3	---	---	---	---	---
Minimal	93.0	30.4	35.1	37.0	35.6	35.2	---	---	---	---	---
Essentially none	6.7	69.6	64.4	63.0	64.4	64.5	---	---	---	---	---

differences too large to be attributable to sampling variability alone (table 2). Among both racial groups, concern was expressed for about two-thirds of the diagnosed psoriasis conditions.

Of all psoriatics with complaints about their skin condition, nearly three-fourths (71.9 percent) had the problem for more than 5 years; only 6.3 percent had been aware of it for less than 2 years. The psoriasis had been active in the preceding year in all but 25 percent.

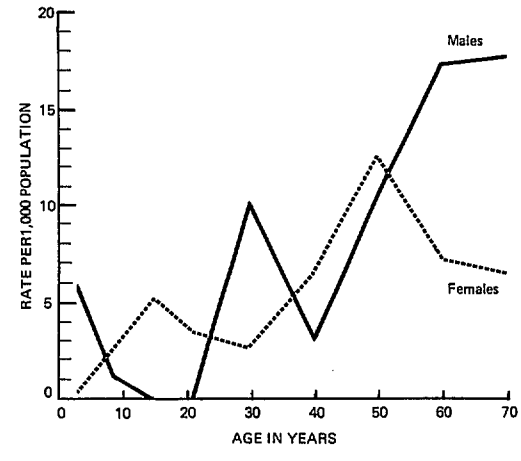
While complicating life and compromising employment and housework for some persons, psoriasis was more likely to be considered a *social* handicap. It was considered such by 23.3 percent of those with significant disease and 38.5 percent of those who were concerned about their condition. Only 7.5 percent of all persons with psoriasis and 11.2 percent of those concerned about their psoriasis complained about interference with employment or house-

Figure 1. PREVALENCE RATES FOR ALL PSORIASIS DIAGNOSED[1] AND PSORIASIS EVOKING COMPLAINTS, BY AGE: UNITED STATES, 1971-74



[1]New York University code 7060.[5]

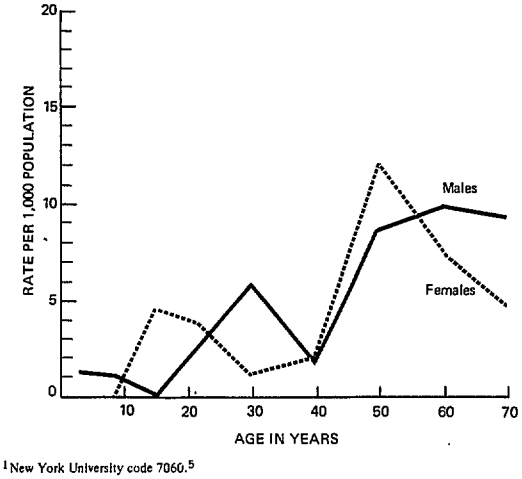
Figure 2. PREVALENCE RATES FOR ALL PSORIASIS DIAGNOSED,[1] BY AGE AND SEX: UNITED STATES, 1971-1974



[1]New York University code 7060.[5]

work. The proportion of those affected with either a social or work handicap increased consistently with age (table 2). Males were somewhat less likely than females to consider their psoriasis a handicap to work, but if they were concerned, they were more apt than females to consider it a social handicap. Of interest despite their fewer numbers, black persons were substantially more likely than white persons to consider their psoriatic condition a handicap to employment or housework and somewhat more likely to complain of a social handicap.

Figure 3. PREVALENCE RATES FOR PSORIASIS EVOKING COMPLAINTS,[1] BY AGE AND SEX: UNITED STATES, 1971-1974



[1]New York University code 7060.[5]

The majority of individuals with psoriatic skin problems considered themselves without a handicap to work (89 percent) or social functioning (61 percent). Among those who did feel a handicap to employment or housework, the handicap was more likely to be thought of as minimal (8.6 percent) than severe (2.5 percent), and the social handicap was almost always considered minimal (93 percent).

Among those examined, psoriasis was more apt to be active rather than inactive (6.2 per 1,000 population against 1.3 per 1,000 for those with inactive disease). For those under 45 years of age, the ratio was 3 to 1, and it increased to 7 active to 1 inactive in individuals over the age of 45 afflicted with psoriasis (table 3).

Psoriasis was found more frequently on both scalp and extremities (2.9 per 1,000 population) than on just the extremities (2.3 per 1,000) or only the scalp (0.5 per 1,000). When psoriasis occurred elsewhere on the body, the trunk alone was more likely to be affected (1.9 per 1,000) than the trunk and seborrheic areas other than the scalp (0.8 per 1,000) or these latter areas alone (0.3 per 1,000).

More than half of those with psoriasis knew of no family history of this problem (5.2 per 1,000 population). Of those reporting a family history, the parents were more likely to have had the condition (2.0 per 1,000 population) than siblings alone (1.1 per 1,000) or both parents and siblings (0.5 per 1,000).

Table 3. Prevalence rates among persons 1-74 years of age for psoriasis by severity, anatomical locations, family history, adequacy of medical care, obstacles to improvement, age and sex, with standard errors for totals: United States, 1971-1974

Selected characteristics related to psoriasis condition	Both sexes				1-74 years		1-74 years		
	1-74 years	1-17 years	18-44 years	45-74 years	Male	Female	Both sexes	Male	Female
	Rate per 1,000 population						Standard error of rate		
Activity of condition									
Active	6.2	1.9	4.2	14.1	7.2	5.3	0.76	1.16	1.05
Inactive	1.3	0.7	1.3	1.8	0.4	2.1	0.45	0.23	0.74
Severity of condition									
Severe	*0.1	-	0.1	0.0	*0.0	*0.1	0.04	0.01	0.08
Moderate	2.1	-	1.6	5.2	2.3	1.9	0.39	0.52	0.59
Minimal	4.9	3.5	3.4	10.2	5.2	4.6	0.63	1.06	1.03
Location of condition									
Scalp only	0.5	0.1	0.1	1.3	0.2	0.7	0.17	0.22	0.28
Extremities only	2.3	0.7	2.1	4.2	2.3	2.2	0.48	0.66	0.67
Both scalp and extremities	2.9	1.1	2.3	6.0	3.0	2.8	0.51	0.59	0.72
Trunk only	1.9	1.1	0.7	4.6	2.0	1.5	0.51	0.88	0.57
Seborrheic areas only	0.3	0.2	0.1	0.9	-	0.7	0.19	0.02	0.38
Both trunk and seborrheic areas	0.8	-	0.6	2.0	0.9	0.8	0.25	0.36	0.38
Family history of psoriasis									
Parent only	2.0	1.1	2.7	2.2	2.1	1.9	0.49	0.56	0.62
Sibling only	1.1	0.4	1.1	1.8	*1.4	0.9	0.46	0.87	0.30.
Both parent and sibling	*0.5	*0.3	*0.5	*0.9	*0.4	*0.7	0.27	0.22	0.49
None	5.2	---	---	---	6.2	4.0	0.66	1.26	0.90
Adequacy of medical care for psoriasis									
Adequate	2.4	0.9	2.0	4.6	2.0	2.7	0.38	0.65	0.68
Inadequate	1.0	0.1	0.2	3.0	1.0	0.9	0.32	0.51	0.40
None	0.7	0.2	0.5	1.4	1.1	0.3	0.22	0.42	0.22
Obstacles to improvement for psoriasis complaint									
Did not cooperate with doctor	*0.6	*0.1	*0.4	1.5	*1.0	*0.3	0.03	0.06	0.02
Financial	*0.2	*-	*0.1	*0.6	*0.3	*0.3	0.13	0.09	0.24
Other (too far, no transportation available, etc.)	-	-	-	-	0.4	1.2	0.31	0.03	0.61

The medical care received by those with psoriasis was judged by the examiner as adequate or inadequate according to common norms for therapy provided by dermatologists in outpatient settings. The assessment was more often of adequate treatment (2.4 per 1,000 population) than inadequate or nonexistent treatment (1.7 per 1,000) for all ages combined and for persons under 45 years of age. For those age 45-74 years, however, the care was just as likely to be inadequate or nonexistent as it was to be adequate. Obstacles to improvement were, in most instances, due to lack of time or concern rather than because of financial constraints or inadequate professional advice.

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SYMBOLS

Data not available	- - -
Category not applicable	. . .
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Quantity more than 0 but less than 0.05	0.0
Figure does not meet standards of reliability or precision	*

TECHNICAL NOTES

The sampling plan for the 65 preselected examination locations throughout the country that were used consecutively in the Health and Nutrition Examination Survey from April 1971 through June 1974 followed a stratified multistage probability design in which a sample of the civilian noninstitutionalized population of the coterminous United States 1-74 years of age was selected. The sample was stratified by geographic region, population density, and rate of population change between 1960 and 1970. Within each stratum, cluster-type sampling was used for selecting households and sample persons to be included in each examination location. The sample design provided for oversampling among persons living in poverty areas, preschool-age children, and women 20-44 years of age.

Of the 28,043 sample persons selected to represent the 194 million persons 1-74 years of age in the U.S. population, 20,749, or 74.0 percent, were examined. This corresponds to an effective response rate of 75.2 percent after adjustment is made for the effect of oversampling among the poor, preschool-age children, and women 20-44 years of age.

This dermatology part of the HANES examination included a complete clinical examination of the skin and surrounding tissue that considered normal variations in texture and color, certain manifestations of aging, and all pathological changes. Significant diagnoses were documented by tissue biopsy to determine malignancy or culture to identify fungi whenever possible. Estimates were made of actinic exposure experienced as well as actinic damage sustained and of occupational risk from irritant and allergic contactants. For an examinee with a significant hand, foot, or generalized problem, the dermatologist made a judgment about the burden to the examinee in terms of discomfort or disability, about care sought, and about the effect expected from current best care possible. The "significant" skin conditions or pathologies recorded are those the examining dermatologist thought should be evaluated by a physician at least once.

Prevalence rates of skin conditions are shown as population estimates; that is, the examination findings for each individual have been "weighted" by the reciprocal of the probability of selecting the person. An adjustment for persons in the sample who were not examined and a poststratified ratio adjustment were also made so that the final sample estimates of population size agree exactly with independent U.S. Bureau of the Census estimates for the civilian noninstitutionalized population of the United States as of November 1, 1972, by color, sex, and age.

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