Acta Dermatovenerol Croat 2011;19(3):161-164 CLINICAL ARTICLE

Permanent Disability Pension due to Skin Diseases in Denmark 2003-2008

Kristina S. Ibler, Gregor B. E. Jemec

Department of Dermatology, Roskilde Hospital, Health Sciences Faculty, University of Copenhagen, Copenhagen, Denmark

Corresponding author:
Kristina S. Ibler, MD
Department of Dermatology
Roskilde Hospital
Health Sciences Faculty
Kogevej 7-13
4000 Roskilde
kristinaibler@hotmail.com

Received: December 20, 2010
Accepted: July 15. 2011

SUMMARY Skin diseases are common in the society. The majority of papers published on the impact of skin diseases are focused on clinical consequences of the quality of life, depression and anxiety. The overall societal perspective on skin disease is only poorly described but is important in the understanding of how skin diseases affect patients and in arguments for continued specialist services. An approach to explore the societal impact of skin diseases is to investigate the incidence of permanent disability pensions granted due to skin diseases. The present study evaluated the number of permanent disability pensions granted due to skin diseases in Denmark during the 2003-2008 period and related them to previous findings. In view of the high prevalence of skin diseases in the society, and particularly their role in occupational medicine, only a low number of disability pensions are granted. This may reflect that skin diseases either have less impact on the individual or are not considered by the authorities as debilitating as other high prevalence diseases such as musculoskeletal, psychiatric or circulatory diseases.

KEY WORDS: skin diseases/economics, disability pension, public health, social security, disability evaluation

INTRODUCTION

The impact of diseases can be described in many ways. Traditional WHO nomenclature describes impairment, disability and handicap, whereas a more generalized view may differentiate between the individual and societal burden of disease. The majority of papers published on the impact of skin conditions are focused on the clinical consequences of dermatological disease, with many descriptions of the quality of life, depression and other medical consequences of skin diseases. Except for occupational dermatoses, the overall societal perspective of skin disease is, however, poorly described. Nevertheless, it is of relevance to describe the societal impact of dermatological disease in greater detail, as it is an important cornerstone in the understanding of how skin diseases affect patients and is pivotal in any arguments for continued specialist services.

Therefore, we investigated the incidence of permanent disability due to skin diseases in Denmark. Disability pension is the ultimate refuge offered and can only be granted if the person's working capacity cannot be improved through specific activation, medical treatment or rehabilitation. Disability pension can only be granted if the individual's working capacity is permanently reduced by at least 2/3 due to physical, psychological or social reasons. Women are generally more likely to receive disability pension, and musculoskeletal, circulatory and psychiatric di-

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agnoses are the most common reasons for disability pension (1). The risk of disability pension is further increased with older age, low income, previous sick leave, unemployment and foreign citizenship. Among those with long-term sickness absenteeism, the sick leave diagnosis has also been shown to be an important medium and long-term predictor of disability. Having young children was related to a lower risk of disability pension (2). Decreasing years of education across all levels of education are also related to an increased prevalence of disability pension (3), which also holds for workers in certain industries such as nursing, home care, heavy physical work, childcare, cleaning, abbatoirs, hotels and restaurants (4,5).

The aim of the present study was to investigate the patterns in the number of permanent disability pensions granted due to skin diseases in Denmark during the 2003-2008 period and to relate them to findings from previous studies.

MATERIALS AND METHODS

Data were obtained from Statistics Denmark through population and disability pension registers and from the National Social Appeals Board in the 2003-2008 period. In Denmark, there are approximately 5.500,000 inhabitants. In 2007, 2008 and 2009, 7.1% of the population between 18 and 64 years received disability pension. In 2004 and 2003, it was 7.4% and 7.5%, respectively. Descriptive statistics was used on data description. Data were compared with data previously published for the 1970-1976 and 1999-2002 periods (6).

RESULTS

From 2003 to 2008, 575 individuals in Denmark applied for disability pension due to skin diseases. Of these, 503 (87%) were granted and 65 (11%) were rejected. In 7 cases, no information was available. Psoriasis was the most common disease and accounted for 37% of disability pensions due to skin diseases. The second most common reason were "other dermatological skin diseases" (not specified) accounting for 25%, followed by contact eczema (20%), atopic dermatitis (15%) and urticaria (2.5%).

Of those granted a disability pension, 68% were women and 32% were men. Among those with atopic dermatitis and contact eczema, approximately 2/3 were women, while those with psoriasis and other dermatological disorders had an equal gender distribution.

The number of disability pensions granted *per* year fell for contact dermatitis, increased for psoriasis, and fluctuated for other categories.

DISCUSSION

Permanent disability due to dermatological disease is rare. The numbers are therefore of interest even though they are small. In 2003-2008, 575 individuals applied for disability pension, citing a skin disease as the reason for not being able to work. Of the applications, 87% were granted pension, yielding an average of 84 pensions granted *per* year. Data from 1970-1976 (6) suggest that during this period 71 pensions were granted *per* year. Thus, the number of pensions granted *per* year in 2003-2008 increased by 18% compared to data from 1970-1976. Similarly, the proportion of refused applications decreased from 23% to 11%. This may suggest e.g. a lower minimum threshold for pension, better selection of candidates for disability pension, or alternatively a higher degree of impairment in the applicants.

Comparing the data from 2003-2008 and those from 1999-2002 (7), the average number of individuals awarded pension decreased from 100 *per* year to 84 *per* year. This decrease (16%) leads to several considerations. An important factor are administrative changes in disability acts, which were introduced in 2003. Before 2003, there were four different levels of disability pension with differing economic compensation depending on the degree of reduced capacity. To obtain the lowest level of pension, the capacity should have been reduced by at least 2/3. Since the modification of the disability act in 2003, only one level of disability pension has been recognized. Economically, this level accounts for approximately 94% of the highest reachable level before 2003. From the economic point of view, the changes in economic outcome for the individual before and after 2003 are very limited and should not explain the decrease in the number of awarded disability pensions after 2003. The decrease from 2004 to 2007 was, however, most likely due to the lower age at which state pension is granted, from 67 to 65 years (8). State pension replaces disability pension at the age of 65, therefore changes in retirement age affect the size of the population eligible for disability pension.

The second factor to consider is the general economic situation and employment in Denmark at the time. Workforce supply and demand may also affect the size of the population eligible for disability pension. In the 1990s, Danish economy was growing and unemployment was low (9). Since 2003, Danish economy was variable in periods of low growth, leading to increased unemployment. However, there was no clear association between the general economic situation in Denmark and the number of awarded disability pensions.

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The third factor to consider is the efficacy of treatment of skin diseases. The availability of more effective treatments could make it easier for the patients with skin diseases to stay active. The predominant skin disease leading to disability pension in the study period was psoriasis. In the past decade, several new treatments have proven effective in patients with psoriasis. The introduction of these treatments may therefore have reduced the rate of pensions granted for psoriasis. The number of applications increased, but the number of granted pensions remained unchanged, possibly due to changes in the threshold for acceptance of the application, or improved prospects of therapy. The fourth and final factor to consider are changes in the population figures. Over years, there has been a general increase in the Danish population. By the end of 2008, there were approximately 115,000 more inhabitants in Denmark than in 2002. Thus, at a stable incidence and comparable disease severity, an increase rather than a decrease would be expected in disability pensions. Therefore, it appears that the number of disability pensions granted cannot be explained by simple changes in the size of the population at risk.

The underlying diagnosis is another important factor and particularly trends in diagnoses over time are of great interest (Fig. 1). In the 1970-1976 and 1999-2002 periods, atopic dermatitis and contact dermatitis (together) were the most common skin diseases leading to disability pension, followed by psoriasis. In 2003-2008, an opposite situation was recorded with psoriasis being predominant. Looking at atopic dermatitis and contact dermatitis, the distribution of the two was almost unchanged in 2003-2008 as compared to 1999-2002, with contact dermatitis being predominant. Data from all three periods show that urticaria and other skin diseases account for approximately 1/4 of pensions granted for skin diseases.

Several population-based studies have identified nickel as a major allergen in the society (10). The proportion of pensions granted for contact dermatitis may therefore have been favorably influenced by the national and European legislation introduced to limit the population's exposure to nickel (11).

Of occupational skin diseases, hand eczema is by far the commonest. Studies on occupational skin diseases and disability pension have therefore been conducted. A 12- year follow-up study in 655 individuals with occupational skin diseases in Sweden concluded that the skin disease had influenced the occupational situation for the majority (82%) and for 15% resulted in exclusion from the labor market through unemployment or disability pension (12). A Danish study based on a merger of survey data about the work environment from the Danish Work Environment Cohort Study (DWEC) and information on granted disability pensions from the national register (DREAM) investigated and quantified the association between self-reported occupational skin contact with cleaning agents and subsequent transition to disability pension (13). They found that 11% of disability pension cases among women were attributable to exposure

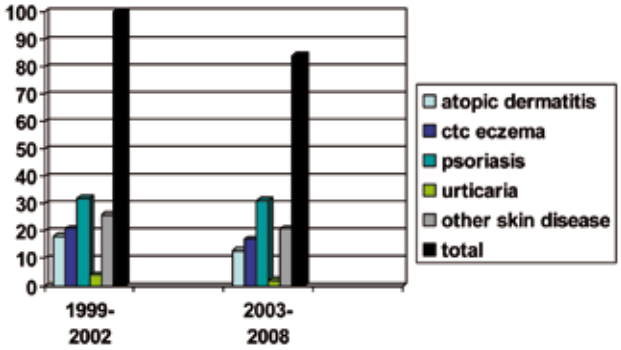

Figure 1. Number of disability pensions granted *per* year.

Table 1. Number of disability pension applicants according to type of skin disease and time period

	1970-1976	1999-2002	2003-2008	1970-1976 *per* year	1999-2002 *per* year	2003-2008 *per* year
Atopic dermatitis	25	84	85	3.6	21	14.2
Contact eczema	253	95	113	36.1	23.8	18.8
Psoriasis	105	148	314	15	26.3	52.3
Urticaria	8	14	18	1.1	0.25	3
Other skin diseases	162	122	146	23.1	30.5	24.3
Total	553	463	575	79	115.7	95.8

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to cleaning agents and/or disinfectants. A weakness of the study was that it did not include information on the underlying diagnosis for disability pension.

In view of the high prevalence of skin diseases in the society, and particularly their role in occupational medicine, the low numbers of disability pensions granted may suggest that skin diseases either have less impact on the individual or are not considered by the authorities as "serious" as other high prevalence diseases such as musculoskeletal, psychiatric or circulatory diseases. It may, however, also reflect the ability of dermatological society to help patients. This help may be provided either through primary prevention, i.e. early and correct diagnosis enabling the patients to seek a change of job, or even through secondary prevention, i.e. efficient therapies.

CONCLUSION

Skin diseases are common, but relatively few patients are granted permanent disability pension. It is speculated that this encapsulates the clinical challenge of dermatology, where incremental impairments affect a large proportion of the population, while major negative outcomes such as death or disability pension are comparatively rare. It is therefore suggested that a more relevant assessment of the impact of skin diseases on the society must involve quantification of more subtle measures affecting the many rather than ultimate measures affecting the few.

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