Ethnic differences in disability risk between Dutch and Turkish scaffolders

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Abstract

Background: The number of native Dutch and Turkish workers receiving a permanent disability pension in the Netherlands is still rising.

Aim: To assess ethnic differences in disability risk between Dutch and Turkish scaffolders.

Method: A retrospective study was conducted within a large scaffolding company. Medical files for the period between 1981 - 2000 were used to gather information on ethnicity, age at entering service, age at becoming disabled, years of employment, the year to receive a disability pension, the disability diagnosis, and the percentage rating of the disability pension.

Results: In the past 20 years, 131 Turkish and 125 Dutch scaffolders had become disabled. Musculoskeletal disorders were the primary reason of diagnosis. No differences in diagnoses were observed, except for a small difference in cardiovascular disease. Turkish scaffolders started their work at an older age, received the disability pension at an older age, and had a longer duration of employment. Turkish scaffolders faced disability 2.48 (95% confidence interval 1.94-3.18) more often compared with their Dutch colleagues, adjusted for age.

Conclusions: Explanations for the differences in disability risk between Dutch and Turkish scaffolders are sought in the older age at start of the job, lower mobility at the labour market, and less access to medical and social care. In future, employers, general practitioners, occupational health physician and social security workers, as stakeholders in reintegration, should sufficiently attune their activities concerning care and cure for Turkish construction workers on long-term sick leave or during the reintegration process into other work. During these activities, lack of cultural understanding and poor intercultural communication may result in insufficient support for the disabled workers or in differences in reintegration aims among care providers and between these providers and disabled workers.

Key words: disability, ethnicity, risk factors, reintegration, retrospective study, scaffolders.

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Introduction

In the Netherlands the social security system is based on legal rights granting workers on sick-leave payment of salary for the maximum period of one year. If there is no resumption to work within this period, workers can file for a disability pension, which grants a compensation for the loss of income to a maximum of 70%. Despite good intentions, legislation on work related disability has thus created large opportunities for workers to compensate for their loss of income, causing an unprecedented rise of claims. In 1998, disability benefits were being paid to 13.2% of the labour force, a figure that varied in the rest of Western Europe between 3.1% in Spain and 11.9% in Sweden.[1]

According to the State Secretary, the recent increase was chiefly due to the expanding economy.[2] In fact, shortage of labour opens up opportunities for employees from relatively deprived socio-economic groups: they are poorly educated, do the heaviest work, and tend to belong to ethnic minority groups. However, this explanation fails to take into account that members of ethnic minority groups are strongly over-represented in occupations with a high risk of work-related disorders. According to the Netherlands Statistics considerable differences in disability rates exist between Turkish and Dutch men: 40% of the Turkish men aged 40-64 are disabled compared with 17% of native Dutch men in the same age group.[3,4] Some 11,000 Turkish workers are paid disability pensions compared with 359,000 Dutch. However, these figures solely provide information about incapacity in combination with age and ethnicity, but no information is provided about occupation and disability diagnosis differentiated according to ethnic background.

A sector well known for its high disability rate is the construction industry. There were 32 workers receiving disability benefits for every one hundred construction workers in 1998. Unfortunately, no breakdown according to ethnic background is available.[5] In this article the differences in disability pensions between Turkish and Dutch workers are presented. The question is what is causing these differences and why do Turkish scaffolders have a higher disability risk than their Dutch colleagues.

Methods

The study population comprised all 256 disabled Dutch and Turkish men employed as scaffolders at a large scaffolding company in the Netherlands between 1981 - 2000. To qualify for the study Turkish workers had to be born in Turkey or have at least one parent who was born in Turkey. From the native Dutch group both parents had to be born in the Netherlands. All scaffolders were subject to the same physical workload. The principal tasks of scaffolders are carrying poles and boards and erecting and taking down large scaffolds.[6]

Medical files from the occupational health service were available to gather information about ethnicity, age at entering service, age at becoming disabled, years of employment, year to receive disability pension, disability diagnosis, and the percentage rating of the disability pension.

Hardly any background information was available of new and departing employees about the period they had worked in a given year. Therefore, formation of a retrospective dynamic cohort was impossible. Hence, the analysis focused on aggregated data, based on a reconstruction of the size of the workforce during the period 1981 - 2000. At no time did the workforce expand or shrink more than 10% within the span of a year. It was then decided to make the number of person years equivalent to the mean number of employees in that year. This method of calculation will lead to a slight overestimate of the actual number of person-years, as the term of employment was less than a year for a small part of the scaffolders. The annual disability risk was calculated as the number of persons becoming disabled in each group divided by the number of person-years in each group in that same year. The availability of information on an individual basis during the last four years of this study, made it possible to form a dynamic cohort. The data were used to estimate the disability risk in relation to ethnicity, age, and length of employment.

Differences between distributions of continuous variables were examined using the Student *t* test. Poisson regression was used to calculate the disability risk per 100 person years (rate) during the period 1981 - 2000. Differences in disability risk per 100 person years are expressed as the incidence rate ratio (RR), adjusted for age at the time of entry in the government disability pension scheme.

A survival-analysis was performed for the period 1997 - 2000 in which time of employment until a worker became disabled was used as an independent variable and ethnicity, age at entering service, and age at becoming disabled were used as dependent variables. Censoring was defined as leaving the company or receiving a disability pension. The differences between disability risks were calculated as Relative Risks.

Results

Table 1 shows personal information and disability diagnoses of 131 Turkish (T) and 125 Dutch (D) scaffolders between 1981 and 2000. Turkish workers started working at an older age, were employed longer, and became disabled at older age. In 54 cases, evenly distributed over the two groups, a disability diagnosis was lacking. Of the 202 remaining cases, 48% (n=97) suffered from musculoskeletal disorders, of which 26% were back-related disorders. Except for neck problems (D:5, T:1), all other musculoskeletal problems were distributed relatively evenly. Accidents, at 15%, ranked second as reason for receiving disability benefits, and psychiatric problems, at 10%, third. Accidents (n=31) mainly took place at work (n=19) and in traffic (n=7). A significant difference emerged for cardiovascular disorders (D:5; T:11; p=0.03). Although not significant, differences were also found for pulmonary diseases (D:3; T:8), whereas malignancies were solely observed in the Dutch group (D:4). It was established that working conditions played no role in the worker's incapacitation in 52 of 202 cases (26%). Of 55 files containing information about the disability rating, 45% were rated at less than 35%, 31% were between 35% and 55% and 24% showed a disability rating of 80-100%.

Table 2 shows the age and years of employment per diagnosis at entry in the disability pension scheme. The distribution of diagnoses remained unchanged over a 20-year period.

Table 1 Personal data disabled workers of Dutch and Turkish origin and the disability diagnosis

Personal data and disability diagnosis	Dutch scaffolders (n=125)	Turkish scaffolders (n=131)
Personal data		
Age on entering employment (in years)*	29,0 ± 8,1	31,2 ± 7,9
Age on entering the government disability pension scheme*	38,6 ± 10,9	43,7 ± 9,8
Years of employment*	9,6 ± 7,5	12,5 ± 6,2
Disability diagnosis		
Back disorders	21 (17%)	32 (24%)
Other musculoskeletal disorders	26 (21%)	18 (14%)
Accidents	16 (13%)	15 (12%)
Psychiatric disease	10 (8%)	11 (8%)
Cardiovascular disease	5 (4%)	11 (8%)
Other disorders	18 (14%)	19 (15%)
Unknown	29 (23%)	25 (19%)

* p<0,05, *t* test

Scaffolders with psychiatric disorders were significantly younger and had on average worked fewer years. Cardiovascular disease occurred at older age and after a longer period of employment. In case of an accident, the age at entering employment was significantly higher for the Turkish (age 45.1) compared with the Dutch group (age 35.0). As hardly any differences were found in disability diagnoses between the two groups, it was decided to present this table without differentiating according to ethnicity. Information about the workforce during the period 1980-1985 reveals that 45% of the scaffolders were of Turkish origin. After 1985, the percentage dropped, reaching 14% (n=50) out of a total of 349 scaffolders in 2000.

Figure 1 shows the annual risk of becoming disabled expressed as the number of disabled workers per 100 person-years. This risk, for the entire group of scaffolders in the 20 year-period was 3.5% per 100 person-years and varied annually from 1.8% to 5.4%. The mean disability risk was significantly higher for Turkish than for Dutch scaffolders: 6.4% and 2.5% respectively. The risk ratio of Turkish compared with Dutch scaffolders becoming disabled was 2.57 (95% confidence interval 2.01-3.29). In 18 out of 20 years the disability risk was higher for the Turkish group. Poisson regression analysis showed no continuous trend in disability risk over the 20-year period for either groups. A marked dividing line in disability risk was seen before 1994, the year in which new legislation on sickness absence was enacted. Just one year before that, in August 1993, the criteria of admittance to disability pensions had already been changed.

Prior to 1994, the risk of becoming disabled as a scaffolder was 4%; this subsequently dropped to 2.7%. The ratio of this cut-off point was 1.50 (95% confidence interval 1.14-1.98).

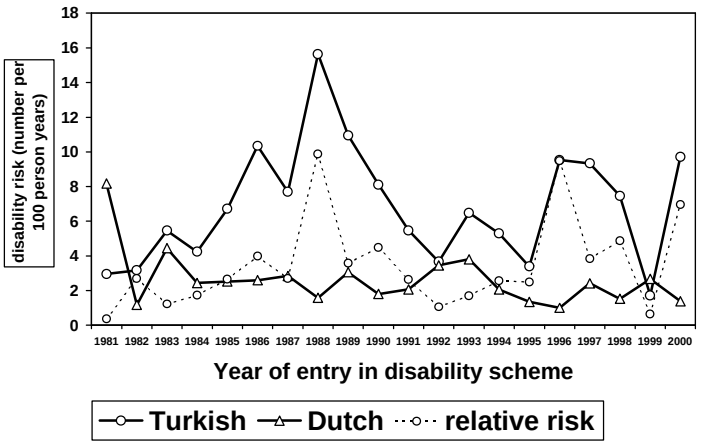
Table 2 Age and number of years of employment on entry in the government disability pension scheme, according to disability diagnosis

Disability diagnosis	Age on entering the disability scheme*	Years of employment on entering disability scheme*
Back disorders	40,0 ± 10,3	11,2 ± 6,6
Other musculoskeletal disorders	42,7 ± 9,9	11,4 ± 6,4
Accidents	39,4 ± 11,2	9,4 ± 6,9
Psychiatric disease	34,0 ± 9,5	7,6 ± 7,1
Cardiovascular disease	50,9 ± 6,1	16,6 ± 6,4
Other disorders	44,7 ± 10,2	11,8 ± 7,2

* average and standard deviation

After adjustment for ethnicity this ratio declined slightly to 1.31 (95% confidence interval 0.99-1.73), which was caused by the smaller decrease among Turkish than among Dutch scaffolders over the period 1981-2000. The disability risk for the Turkish workers compared with the Dutch group was 2.48 (95% confidence interval 1.94-3.18), adjusted for age. The dynamic cohort of scaffolders during the period 1997-2000 showed an average disability entry rate of almost 3% per 100 person-years. The relative risk (RR) was 3.31 (95% confidence interval 1.54-7.14) for Turkish scaffolders compared with their Dutch colleagues. After adjustment for age at cohort entry (RR=1.08, 95% confidence interval 1.04-1.12) the RR for ethnicity dropped 26% to 2.45 (95% confidence interval 1.12-5.35). Years of employment were not significant, after adjusting for age at cohort entry.

Figure 1 Annual disability risk and relative risk on disability among Dutch and Turkish scaffolders at a scaffolding company over the period 1981-2000



Regarding reintegration of disabled Turkish and Dutch scaffolders over the past 7 years, 12 Dutch scaffolders resumed work at the scaffolding company, compared to not a single Turkish worker.

Discussion

The data from this study show that Turkish scaffolders have a higher risk of becoming disabled than their Dutch colleagues. Netherlands Statistics calculated that the risk of becoming disabled was 1.51 for Dutch workers, a risk that was considerably higher for Turkish scaffolders.[3] This invokes questions about the role played by ethnicity.

The Turkish workers commenced work and became disabled at a significantly older age (2 and 5 years respectively) and had usually been employed for a longer period (3 years). Unfortunately, insufficient data about age and employment history were available during the period 1981 - 2000. However, a complete data set from 1997 - 2000 revealed that the relative risk for ethnicity calculated in the survival analysis and adjusted for age decreased from 3.31 to 2.45. If the distribution of age during this period is considered to represent the age distribution during the whole period from 1981 - 2000, the adjustment for age accounted for a 26% decrease of disability risk between Turkish and Dutch scaffolders. Therefore, it is plausible to suppose that an important part of the perceived differences in disability risk is not explained by age or years of employment, but reflects ethnicity.

Pre-employment medical selection does not provide a good explanation for the differences in disability risk. In many cases disabled Turkish scaffolders were first-generation Turks from the eastern part of Turkey. On coming to the Netherlands they belonged to the relatively healthier part of the population. After all, based on the "healthy migrant effect", only a relatively healthy subgroup will emigrate to seek work abroad.[7] But from the moment Turkish workers went to work as scaffolders in the Netherlands, there was no longer any question of selection on the basis of ethnicity.

Although in 1991 major differences were observed between the Turkish and the Dutch communities in the general population concerning chronic ailments, the literature abroad shows that patterns of illness among ethnic minority groups gradually start to converge with those of the host country. This is perhaps part of the explanation why the diagnoses on the basis of which both Turkish and Dutch workers received disability benefits showed very few differences.[8,9] Another explanation could be the similarity in working conditions between the two groups.

According to table 2 psychiatric complaints mainly occur at a relatively young age, after only a few years of employment. It is a well-known fact that many health problems of persons from ethnic minority groups tend to be psychosomatic.[10] Despite this, the distribution of the disability diagnosis of 'psychiatric complaints' over time shows no difference between Turkish and Dutch scaffolders.

Striking is the fact that accidents hold second place. Turkish scaffolders suffering an accident tend to be older when entering employment. It seems that sufficient attention must be given to provide this group with comprehensible safety instructions. After all, older Turkish workers are less fluent in Dutch, and accidents are the result of inadequate implementation or use of the safety precautions.

Cardiovascular problems are a different matter altogether. Turkish scaffolders are at older age and have been employed longer than their Dutch colleagues at the time they become disabled because of cardiovascular disease. In the general community heart disease occurs at a later age and therefore it will have an impact on the age at which workers become incapacitated. However, the difference in cardiovascular disability between Dutch and Turkish scaffolders is somewhat unexpected because statistics from the general community showed no difference between the Dutch and the Turkish groups with respect to the prevalence of heart problems.[7] Therefore, age and length of employment seemed to be important factors for Turks in developing cardiovascular disease.

If health problems of any kind persist for too long, reintegration recedes wholly into the background and disability becomes a reality. Studies have shown that of all ethnic minority groups Turks in particular report a significantly higher rate of physical complaints and long-term functional limitations. Furthermore, Turks aged 35 and up were found to use far more pharmaceuticals and make more use of the primary health care system than other ethnic minority groups. They also consult medical specialists the least.[11,12] Ensuring adequate care at the right moment is a necessary requirement for recovery and reintegration.

Figure 1 shows that the risk for Dutch scaffolders ranged from 1.0% to 4.4% over 20 years. Truly staggering is the disability risk for Turkish scaffolders, which is shown to be 2.48 times that of the Dutch group. Two peaks emerge for the Turkish scaffolders (1986/1988 and 1996/1997). The first peak is mainly comprised of the first generation of Turkish workers. The second peak is a matter of speculation, as two generations of Turkish employees were working at this company at that time. Therefore, the exact reason explaining this second peak remains unsolved.

The reduction in disability risk seen in 1994 corresponds with the national trend and the introduction of a law, in August 1993, which meant to reduce the possibility to file for a disability pension by changing criteria of entry.[13] The extent to which confusion and uncertainty about the social security situation by Turkish scaffolders played a role in this temporary decline of the risk is not clear.[14]

There is enough evidence arguing in favour of extra attention for workers from ethnic minority backgrounds. The fact that the flexibility and employability of these employees tends to be a weak point is well known.[13] There are various reasons for this: the difficult position on the labour market, their difficulty in accessing facilities to promote reintegration, language and communication difficulties, low level of education, and the older age when entering the disability scheme. Furthermore, Dutch guidelines for reintegration and rehabilitation do not take into account ethnic differences. Therefore, the question is whether reintegration should not be preceded first by integration into society.

In addition, care practitioners, employers, occupational health physicians, and social security workers, should have knowledge of the differences between workers from ethnic minority groups and native Dutch.[15] After all, different ideas about care and a different perception of a capacity to work may well act as a barrier to successful reintegration.[10,16] Furthermore, these ethnic minority groups remain close as a community and have little experience with networks outside their own group. This may hamper their possibilities to find another job. However, in the search for an answer, it would seem wise to spend attention on intercultural communication and on specifically targeted, tailor made solutions, in the effort to offer this highly vulnerable group in society a new opportunity on the labour market.

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References

1. Elders L, Burdorf L. Extensive legal measures failed to reduce claims on disability. Tijdschr Gezondheidsw 2000;78:453-54.
2. Zwiggelaar L. State Secretary Hoogervorst: "An expanding economy increases the number of disabled workers". Rendemens 2000;2:17-8.
3. Netherlands Statistics. Disability among Dutch workers and workers of ethnic minorities. Press-release 2000:PB00-262.
4. Snel, E, Stavenuiter M and Duyvendak, J.W. Trapped. Disability in Turkish and Marrocan workers. Verwey-Jonker Instituut, Utrecht. April 2002.
5. Ploeger A. Disability in the construction industry. Amsterdam: Economical Institute for the Construction Industry (EIB) 2001.
6. Dawson M, Kleppe P, Van der Beek A, Burdorf L, Elders L. Physical and postural load and working tasks of scaffolders. Tijdschr Ergonomie 1999;24:134-9.
7. Mackenbach JP. Migrants, migration and health care, In: Haveman, HB en Uniken Venema P, Migrants and health care, Houten/Diegem 1996:30-42.
8. Van der Maas P, Mackenbach JP. Health care in the Netherlands. In: Van der Maas P, Mackenbach JP. Volksgezondheid en Gezondheidszorg, second edition. Maarssen: Elsevier Bunge 1999:102-5.
9. Rijkschroeff B.R., The G.T. Healthy together, experiences of migrants with the Dutch health care system. Capelle a/d IJssel: Labyrint Publication 1992:129-50.
10. Docter HJ.. The foreign worker. In Buijs PC , Docter HJ, van Eek WH, Handboek bedrijfsgezondheids-zorg, Maarssen: Elsevier gezondheidszorg 1994:C2-4/1-9.
11. Reijneveld SA. Social-demographic variables and the use of health care in future: which role does ethnicity play. Tijdschr Soc Gezondheidsw 2001;79:182-3.
12. Stronks K, Ravelli ACJ and Reijneveld SA. Immigrants in the Netherlands: equal access for equal needs? J Epidemiol Community Health 2001;55: 701-713.
13. Willems JHBM., Koten JW en Croon NHTh. A short historical review. In:Willems JHBM, Croon NHTh, Koten JW. Handboek Arbeid en Belastbaarheid. Houten: Bohn Stafleu Van Loghum 2001;1:20.

14. Hoogervorst JF. Measures to reduce illness are insufficient. Sociale Zaken. June 2000;27:5.
15. Meerman MGM. Broken white. About the acceptance of ethnic minorities within organisations. Thesis. University of Leiden 1999.
16. Van Poppel J, Kamphuis P, Marcelissen F, Van Wersch SFM. Ethnic minorities, social medical support and reintegration. Instituut voor Arbeidsvraagstukken. Tilburg 2002.