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Scientific Research

Health Status Inequality among Immigrants in Switzerland

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Abstract

***Objective*: To assess self-rated health and impairments for six large immigrant groups (Germany, Italy, Kosovo, Portugal, Serbia, Turkey) in Switzerland. *Methods*: We used population-based survey data from the Swiss Migrant Health Survey 2010 and the Swiss Health Survey 2007. The sample comprised permanent residents aged 17 - 64 years (n = 14,637). Multivariate logistic regressions have been used to estimate odds ratios (OR). *Results*: Ill health and activities of daily living (ADL) impairments were associated with older age in all groups. However, nationals from Turkey and nationals from Kosovo were substantially more likely than Swiss to report ill health (OR = 1.05; CI = 1.02 - 1.09; P = 0.001 and OR = 1.05; CI = 1.01 - 1.10; P = 0.016) and ADL impairments (OR = 1.06; CI = 1.03 - 1.09; P = 0.000 and OR = 1.04; CI = 1.01 - 1.07; P = 0.004) with increasing age. Furthermore, Portuguese women were more likely (OR = 2.65; CI = 1.40 - 5.03; P = 0.003) to report ill health than Swiss women. *Conclusions*: Immigrant-specific preventive and health promotion initiatives should target vulnerable immigrants from Turkey, Portugal, and Kosovo. Furthermore, groups with few economic and psychosocial resources in the general population of Switzerland should be more involved in interventions to reduce health risk.**

Keywords

Health Status, Impairment, Immigrant, Switzerland

1. Introduction

In the context of immigration, ethnicity and country of origin has been shown to be associated with unfavourable environmental health conditions, health opportunities, health behaviour and health outcomes. More specifically, evidence suggests that immigrant status is associated with health adverse working conditions [1] [2]. With

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respect to health opportunities, several studies find poor health literacy, poor access to health services or poor utilization of health services among immigrants as compared to natives [3]-[7]. Evidence of unfavourable health behaviour of immigrants, such as lack of physical activity and unhealthy dietary habits and resulting risk factors such as overweight and obesity [8]-[12], has also been documented. Furthermore, studies report poorer health status, higher morbidity and higher mortality among immigrants [13]-[18]. On the other hand, studies also find better health status, lower morbidity and lower mortality [19]-[21], lower risks of overweight and obesity [22] [23] and healthier dietary habits [24]-[28] in immigrant populations as compared to the native population of the host country. Finally, some studies present mixed evidence, *i.e.* they find that health risks [29] [30] and health outcomes [31]-[37] are unevenly distributed among immigrant groups. The different results can be largely attributed to the specific immigrant group(s) under study as well as to the context (host country) in which immigration took place. For example, self-reported health of German and French immigrants in Switzerland did not significantly differ from the majority of Swiss whereas immigrants from Italy, Portugal, Spain, Turkey and the Former Yugoslavia reported lower levels of health [14]. In Australia, on the other hand, Mediterranean immigrants had particularly favourable health outcomes, and Italian and Greek immigrants were found to have the greatest health advantage [19].

These findings suggest that immigrant groups may be very heterogeneous in some host countries and that the conventional Western conception of immigrants as vulnerable individuals characterized by low socio-economic status, working in unhealthy jobs, having poor health literacy and poor access to health services etc., may not necessarily be generalized. Established theoretical explanations on migration and health can account for such differences: social and cultural patterns from the country of origin shape physical activity, body images, dietary intake and food preferences [38]-[44] and entail general health advantages or disadvantages [45]. However, the impact of the culture of origin potentially diminishes over time since immigrants tend to adopt beliefs, values and norms of the host country, *i.e.* the health behaviour of immigrants converges towards the health behaviour of the native population in a process of acculturation [45]. Despite the fact that theoretical explanations and empirical evidence suggest differentiated analyses of immigrant groups and the need for boosted samples of minority groups in health surveys [46] [47] has been recognized, no immigrant-specific population-based study has so far assessed the self-rated health status and activities of daily living (ADL) impairments of adult immigrants in Switzerland. In 2009, immigrants accounted for 1.7 million people or 22% of the permanent resident population of Switzerland [48]. Immigrants are an important group and prevention campaigns may need to be tailored to specific immigrant groups and their needs. The aim of this study is to assess the risk of ill health and ADL impairment among six large immigrant groups (country of origin) in Switzerland and thereby serve as a guide for identifying vulnerable immigrant groups that may be addressed with adequate preventive and health promotion initiatives.

2. Methods

2.1. Study Design

The study is a population-based cross-sectional health survey carried out in 2007 and 2010 in Switzerland.

2.2. Study Population and Data

Data from the Swiss Immigrant Health Survey 2010 (SMHS) and the Swiss Health Survey 2007 (SHS) were obtained from the Swiss Federal Office of Public Health. The SMHS is a cross-sectional, population-based telephonic survey which intends to monitor health trends in a representative sample of immigrants and has been carried out in 2004 and 2010 so far. Due to economic constraints, the SMHS is limited to a selected number of nationalities. The core study population 2010 comprises permanent residents from Portugal, Turkey, Serbia and Kosovo (n = 1800). Participants aged 17 - 74 were chosen by stratified random sampling (gender, country of birth, duration of stay) from the database of the central immigration information system. The computer-aided telephone interviews were carried out in Portuguese, Turkish, Serbian, Albanian, German, and French. Data of Swiss, German and Italian nationals from the SHS 2007 were pooled with the SMHS data. The SHS intends to monitor health trends in a representative sample of all permanent residents in Switzerland. It was first conducted in 1992 and is repeated every five years. The 2007 sample included over 19,000 subjects aged 15 years or older.

Subjects were randomly selected within private households and computer-aided telephone interviews were conducted in German, French and Italian. People who did not speak any of these languages or people who had insufficient language skills were excluded from the SHS. Immigrant participants in both surveys include immigrants and their children, *i.e*. permanent residents with a non-Swiss nationality.

The response rate of those in the initial SHS sample was 66.2%. 13.2% could not be contacted after numerous contact attempts and 20.6% refused to participate in the SHS. In the initial SMHS national samples, the response rates of nationals from Kosovo, Portugal, Serbia, and Turkey were 50.1%, 51.0%, 46.9%, and 50.8% respectively. 35.2% of nationals from Kosovo, 36.4% from Portugal, 30.8% from Serbia and 33.0% from Turkey could not be contacted after numerous contact attempts and 14.7%, 12.6%, 22.3% and 16.2% refused to participate in the SMHS.

In the SMHS, contact attempts were less successful and refusals—with the exception of nationals from Serbia—were less likely as compared to the SHS. Several factors may account for these differences. First, subjects in the SMHS were contacted and interviews conducted in their respective native language whereas subjects in the SHS had to have sufficient French, German or Italian language skills in order to participate. Selection bias due to insufficient language skills may have been mitigated in the SMHS, *i.e*. refusal rates were lower because the selection process is less likely to favour immigrants who are well-integrated, well-educated and have been living in Switzerland for a long period of time. Second, potential SMHS participants may have been more difficult to contact because they were younger on average and younger subjects may tend to spend more time outside their homes (school, work, leisure). However, we have no data to substantiate these hypotheses because nationality and other important sociodemographic characteristics were not recorded for the initial SHS and SMHS samples.

The pooled sample represents 58.2% of the immigrant population as well as nationals from Switzerland. Of the 1.7 million immigrants in Switzerland, 17.0% are Italian, 14.9% are German, 12.0% are Portuguese, 5.4% are French, 3.6% are Spaniards, 6.9% are from Serbia, 4.1% are Turkish and 3.3% are from Kosovo [48]. Immigrants from France and Spain were not included because of their small sample size in the SHS. All interviews of the subjects in the pooled sample were conducted in their respective native language.

For the purpose of this study, the initial pooled sample was further narrowed down to include only subjects 17 - 64 years old because only few immigrants in the SMHS sample were over 64 years old. The total sample size amounts to 14,637. The sample size by nationality and further characteristics of the pooled SMHS and SHS sample is shown in **Table 1**.

2.3. Target Outcomes, Predictor and Covariates

Health status, the first target outcome of this study, was derived from self-reported data. Participants were asked to report their health by answering the question: “In general, how would you rate your health? (very good, good, fair, poor, very poor)”. Subjects who rated their health status as fair, poor or very poor were assigned to the ill health category, subjected who rated their health status as very good or good were assigned to the good health category. ADL impairments, the second target outcome of this study, was also derived from self-reported data. Participants were asked to report ADL impairment within the last 6 months by answering the question: “During the last six months, how much have you been limited by a health problem in your activities of daily living? (not at all limited, somewhat limited, severely limited)”. Subjects who reported to be somewhat or severely limited were then assigned to the category with and the remaining subjects to the category without ADL impairments.

For the primary predictor, the country of origin, the following nationalities were considered: Portugal, Turkey, Serbia, Kosovo, Germany, Italy and Switzerland. Double citizens who acquired the Swiss nationality through naturalization were considered Swiss. Covariates included: age (measured in whole years), gender (male/female), socio-economic status (SES) and dwelling zone. SES comprised three indicators: education (basic, secondary, and university), employment (economically active [no/yes]), and housing situation (rooms per person). Urbanity comprised two categories: rural area and urban area. Urban areas included isolated cities (≥10,000 inhabitants) and urban agglomerations (≥20,000 inhabitants); all other areas were assigned to the category rural area. Furthermore, two psychosocial resources—sense of mastery and social support—were selected as covariates because of their relevance when coping with stressful life events such as diseases and impairment [49]. While the sense of mastery instrument was based on a brief version of the Pearlin coping questionnaire [50], the social support instrument was based on the SMHS 5-item social support index.

Table 1. Frequency distribution and central tendency for variables in the sample of subjects aged 17 - 64 years by nationality (Swiss Immigrant Health Survey 2010 & Swiss Health Survey 2007)[a].

N = 14,637 (sample size)	Portugal (449)	Turkey (644)	Serbia (455)	Kosovo (648)	Germany (324)	Italy (369)	Switzerland (11,748)
	%	%	%	%	%	%	%
Self-reported health[b]							
Very good, good, fair	80.1	77.9	84.8	90.4	94.4	79.9	89.7
Poor, very poor	19.9	22.1	15.2	9.6	5.6	20.1	10.3
ADL impairment							
Not at all limited	81.7	68.5	74.2	80.1	74.2	74.4	76.6
Somewhat/severely limited	18.3	31.5	25.8	19.9	25.8	25.6	23.4
Gender							
Male	50.1	50.0	49.9	49.7	51.9	55.3	45.9
Female	49.9	50.0	50.1	50.3	48.1	44.7	54.1
Education							
Basic	55.9	40.2	30.6	46.8	1.5	24.9	7.4
Secondary	37.0	38.2	56.4	49.8	37.7	61.8	63.5
University	7.1	21.6	13.0	3.4	60.8	13.3	29.1
Economically active	82.2	53.0	75.0	59.9	88.3	75.1	79.7
Urbanity[d]							
Urban area	78.2	88.5	82.4	74.7	76.5	83.5	66.0
Rural area	21.8	11.5	17.6	25.3	23.5	16.5	34.0
Sense of mastery[e]							
Low	22.8	22.8	20.6	13.8	16.9	30.7	21.6
Medium	32.6	28.0	27.8	17.0	38.7	36.9	42.3
High	44.6	49.2	51.6	69.2	44.4	32.4	36.1
Length of residence[f]							
<10 years	49.7	62.0	48.1	62.2	63.3	9.7	
10 - 19 years	28.5	13.8	30.8	29.9	18.8	7.2	
≥20 years	21.8	24.2	21.1	7.9	17.9	83.1	
	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)	mean (SD)
Age (years)	35.6 (12.2)	33.8 (10.5)	33.3 (12.4)	29.0 (10.7)	40.8 (10.7)	43.1 (11.9)	43.0 (13.0)
Housing (rooms/person)	1.1 (0.6)	1.2 (0.5)	1.1 (0.4)	0.9 (0.4)	2.1 (1.0)	1.8 (1.0)	2.0 (1.0)
Social support[g]	4.0 (0.7)	3.9 (0.8)	4.2 (0.6)	4.1 (0.6)	3.8 (0.6)	3.8 (0.8)	3.9 (0.7)

[a]Figures refer to percentage or arithmetic mean and standard deviation (SD) within nationality. [b]In general, how would you rate your health? (very good, good, fair, poor, very poor). [c]During the last six months, how much have you been limited by a health problem in your activities of daily living? (not at all limited, somewhat limited, severely limited). [d]Classification according to the Swiss Federal Statistical Office. Urban areas include isolated cities (≥10,000 inhabitants) and urban agglomerations (≥20,000 inhabitants). [e]Based on the brief version of the Pearlin coping questionnaire. [f]Number of years passed since immigration to Switzerland (non-Swiss nationals only). [g]Based on the SMHS 5-item social support index (higher values indicate more social support).

2.4. Weighting

The original expansion weights of the SMHS and SHS were used for all population estimates. The weights take into account the different sampling strategies which have been used to sample immigrants and Swiss nationals and they allow correct estimates of population parameters for immigrants and Swiss nationals.

2.5. Statistical Analysis

We used STATA Version 12.1 for all statistical analyses. Multivariate logistic regression was employed to as-

sess the factors associated with ill health and ADL impairments. We reported adjusted odds ratios (OR), 95% confidence intervals (CI) and P-values. OR were adjusted for age, gender, the interaction between age and gender, socio-economic status (including educational level, employment, number of rooms/person), nationality, and the interaction between nationality and age and the interaction between nationality and gender. To incorporate information on the appropriate weights and sampling units for correct variance estimation, all statistical analyses were carried out using STATA's command for complex surveys (svy prefix). Statistical significance was established at $P \leq 0.05$.

3. Results

3.1. Factors Associated with Ill Health

Adjusting for all covariates, we found no main effect of nationality for men, *i.e.* immigrant men and Swiss men were equally likely to report ill health where as Portuguese women were more likely and German women were less likely to report ill health than Swiss women (**Table 2**). Overall, ill health was associated with older age in all groups (**Figure 1**). However, nationals from Turkey and nationals from Kosovo were substantially more likely than Swiss to report ill health with increasing age. Furthermore, subjects with secondary education or a university degree were less likely to report ill health than those with basic education. Economically active subjects were less likely to report ill health than subjects who were not economically active. Subjects with more social support and those with medium or high sense of mastery were also less likely to report ill health. Finally, neither housing situation nor the specific dwelling zone was significantly associated with ill health.

In order to control for potential acculturation effects, length of time in Switzerland (years) was added as a covariate to the model previously discussed and the model was re-estimated using immigrant data only. However, length of time in Switzerland had no statistically significant association with ill health (results not shown).

3.2. Factors Associated with ADL Impairment

Adjusting for all covariates, we found that Turkish men and Portuguese men were less likely to report ADL impairment than Swiss men where as immigrant women from different nationalities and Swiss women showed tistical significance (**Table 2**). ADL impairments were associated with older age in Swiss men. Swiss women

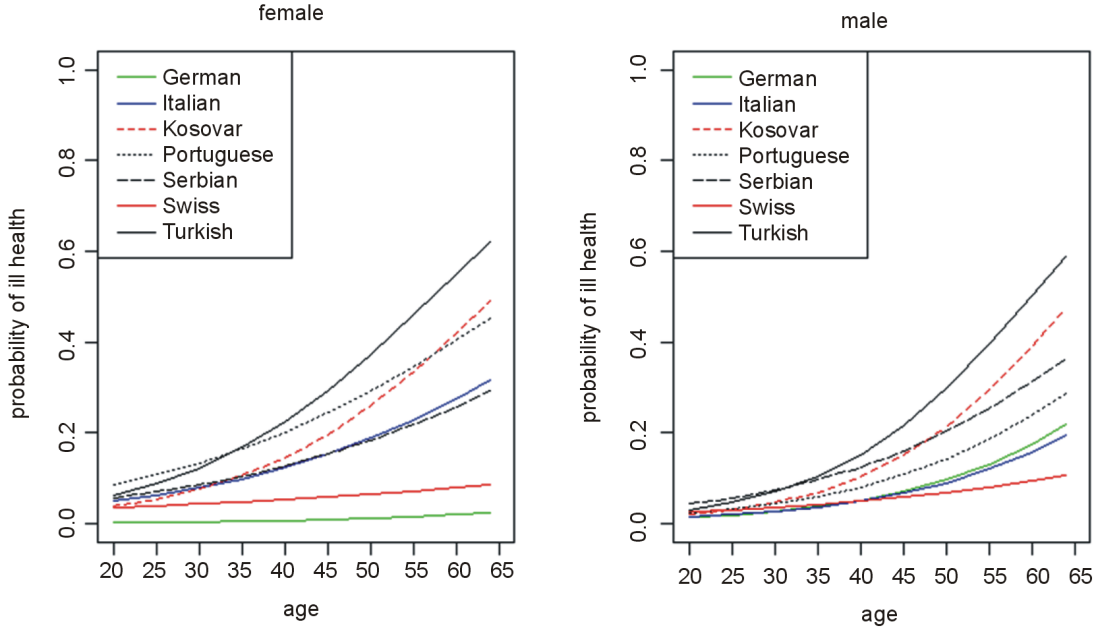

Figure 1. Probability of ill health by age, gender and nationality*. *All other covariates held constant (education = secondary, rooms/person = 1.5, economically active = yes, region = rural area, sense of mastery = medium, social support = 4.0). Significant differences between Swiss and immigrants from Turkey (P = 0.001) and immigrants from Kosovo (P = 0.016).

Table 2. Multivariate logistic regression of ill health and ADL impairments[a].

	Ill health			Impairment		
Variable	OR	P > z	95% CI	OR	P > z	95% CI
Age	1.04	0.000	1.02 - 1.05	1.01	0.007	1.00 - 1.02
Gender						
Male	1.00	reference		1.00	reference	
Female	1.89	0.102	0.88 - 4.08	1.36	0.184	0.86 - 2.16
Gender × age	0.99	0.072	0.97 - 0.00	1.00	0.697	0.99 - 1.01
Nationality						
Swiss	1.00	reference		1.00	reference	
Portuguese	0.54	0.373	0.14 - 2.08	0.27	0.026	0.09 - 0.85
Turkish	0.44	0.218	0.12 - 1.63	0.23	0.007	0.08 - 0.68
Serbian	1.12	0.876	0.28 - 4.49	2.76	0.069	0.92 - 8.26
Kosovar	0.28	0.216	0.04 - 2.11	0.41	0.123	0.13 - 1.27
German	0.28	0.350	0.02 - 4.12	3.34	0.112	0.76 - 14.76
Italian	0.32	0.345	0.03 - 3.45	0.87	0.863	0.17 - 4.38
Nationality × age						
Portuguese	1.03	0.055	1.00 - 1.06	1.02	0.104	1.00 - 1.05
Turkish	1.05	0.001	1.02 - 1.09	1.06	0.000	1.03 -1.09
Serbian	1.02	0.129	0.99 - 1.05	0.98	0.123	0.96 - 1.01
Kosovar	1.05	0.016	1.01 - 1.10	1.04	0.004	1.01 - 1.07
German	1.03	0.263	0.98 - 1.10	0.98	0.192	0.94 - 1.01
Italian	1.03	0.249	0.98 - 1.08	0.99	0.767	0.96 - 1.03
Nationality × gender						
Portuguese	2.65	0.003	1.40 - 5.03	1.56	0.115	0.90 - 2.73
Turkish	1.49	0.238	0.77 - 2.87	0.78	0.377	0.45 - 1.35
Serbian	0.93	0.866	0.42 - 2.06	1.13	0.708	0.59 - 2.16
Kosovar	1.37	0.502	0.54 - 3.45	0.87	0.669	0.45 - 1.67
German	0.12	0.015	0.02 - 0.66	0.90	0.774	0.43 - 1.88
Italian	2.49	0.061	0.96 - 6.47	1.57	0.312	0.66 - 3.74
Education						
Basic	1.00	reference		1.00	reference	
Secondary	0.65	0.001	0.51 - 0.83	0.80	0.036	0.65 - 0.99
University	0.44	0.000	0.33 - 0.60	0.79	0.044	0.62 - 0.99
Housing (rooms/person)	1.02	0.689	0.93 - 1.12	1.05	0.186	0.98 - 1.12
Economically active						
No	1.00	reference		1.00	reference	
Yes	0.43	0.000	0.36 - 0.52	0.63	0.000	0.55 - 0.73
Urbanity						
Urban area	1.00	reference		1.00	reference	
Rural area	0.93	0.502	0.77 - 1.14	1.02	0.766	0.89 - 1.17
Sense of mastery[b]						
Low	1.00	reference		1.00	reference	
Medium	0.39	0.000	0.31 - 0.47	0.66	0.000	0.57 - 0.78
High	0.24	0.000	0.19 - 0.30	0.46	0.000	0.39 - 0.54
Social support[c]	0.72	0.000	0.63 - 0.82	0.89	0.031	0.81 - 0.99
Constant	0.45	0.078	0.19 - 1.09	0.66	0.172	0.37 - 1.20
N	11,649			10,714		

[a]Weighted data of 17 - 64-year-old subjects, Swiss Immigrant Health Survey 2010 & Swiss Health Survey 2007. Ill health (1/0): 1 = self-rated health. very poor, poor or fair; 0 = self-rated health very good or good. Impairment (1/0): 1 = somewhat/severely limited inactivities of daily living during the last 6 weeks; 0 = not at all limited. [b]Based on the brief version of the Pearlin coping questionnaire. [c]Based on the SMHS 5-item social support index (higher values indicate more social support).

similar odds of reporting ADL impairments, *i.e*. none of the nation-specific odds ratios for women attained sta-were equally likely to report ADL impairments with increasing age. However, nationals from Turkey and nationals from Kosovo were substantially more likely than Swiss to report ADL impairments with increasing age (**Figure 2**). Furthermore, subjects with secondary education or a university degree were less likely to report ADL impairments than those with a basic education. Economically active subjects were less likely to report ADL impairments than subjects who were not economically active. Subjects with more social support and those with medium or high sense of mastery were also less likely to report ADL impairments. Finally, neither housing situation nor the specific dwelling zone was significantly associated with ADL impairments. Again, length of time in Switzerland (years) was added as a covariate to the model previously discussed and the model was re-estimated using immigrant data only. Length of time in Switzerland had no statistically significant association with ADL impairments (results not shown).

4. Discussion

So far, population-based studies on health status and ADL impairments among immigrants in Switzerland are rare and have been based mainly on data of the SHS [51]. However, the SHS data has limitations with regard to the study of immigrants. First, interviews are only carried out in German, French and Italian. Second, the sampling process does not include any immigrant-specific characteristics, e.g. the country of origin. Consequently, the SHS data potentially favours well-integrated, well-educated and well-assimilated immigrants and potentially omits vulnerable groups of immigrants. Furthermore, the sample size for specific groups of immigrants, e.g. Turkish immigrants, tends to be very small.

To our knowledge, the present study is the first study which used the SMHS 2010 data to assess self-reported health and ADL impairments among immigrants and hence used a survey which had been especially designed to collect public health related data on immigrants in Switzerland. Since all SMHS interviews were conducted in the subjects' respective native languages, selection bias due to insufficient language skills has been mitigated.

Overall, we found that ill health and ADL impairments were unevenly distributed among immigrants in Switzerland. Turkish and Kosovar immigrants were consistently more likely to report ill health and ADL impairments than Swiss with increasing age, *i.e*. older immigrants from these two countries more often than Swiss

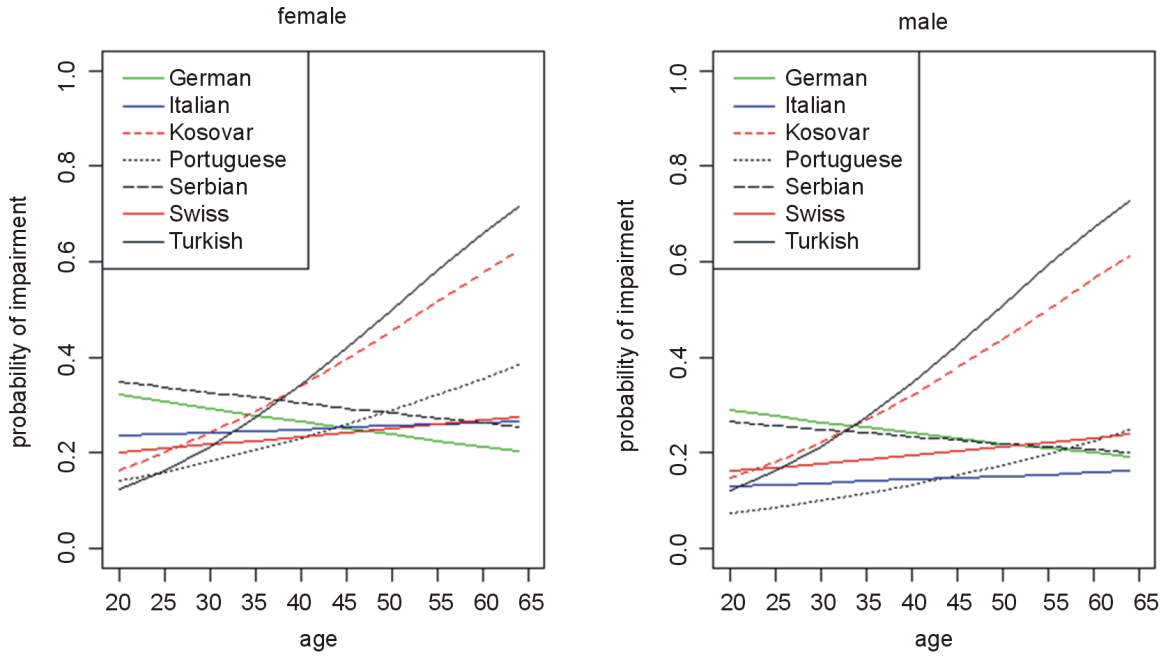

Figure 2. Probability of impairment (ADL) by age, gender and nationality*. *All other covariates held constant (education = secondary, rooms/person = 1.5, economically active = yes, region = rural area, sense of mastery = medium, social support = 4.0). Significant differences between Swiss and immigrants from Turkey (P = 0.000) and immigrants from Kosovo (P = 0.004).

reported ill health and ADL impairments. Moreover, Portuguese women were more likely and German women were less likely to report ill health whereas women from Italy, Serbia, Turkey, and the Kosovo did not significantly differ from Swiss women. No significant differences between immigrant and Swiss women were found in the likelihood to report ADL impairments. Furthermore, the likelihood to report ill health did not significantly differ between immigrant and Swiss men. Similarly, reported ADL impairments did not significantly differ between immigrants from Serbia, Germany, Italy, and the Kosovo and Swiss men whereas Portuguese and Turkish men were less likely than Swiss men to report ADL impairments. In general, these results suggest that older immigrants from Turkey and the Kosovo as well as women from Portugal are at a particular risk of ill health and/or ADL impairments. Consequently, vulnerable immigrant groups in Switzerland should be addressed with immigrant-specific preventive and health promotion initiatives. Generally, our results are in line with previous studies that found no significant differences in self-reported health between German immigrants and Swiss but reported lower levels of health for immigrants from Turkey, Portugal, and the Former Yugoslavia which included immigrants from Kosovo and Serbia [14]. In contrast, we found no significant differences in health status between Italian immigrants and Swiss. The differences between study results may be attributed to the use of different health status indicators, *i.e*. we used self-reported health and ADL impairments whereas the reference study used indices of self-reported health (presence of chronic physical symptoms, lack of mental wellbeing).

Furthermore, previous studies find that higher socio-economic status [20] [52]-[56], coping strategies and a supportive social network are associated with better health. Our findings correspond to these results. Both, ill health and ADL impairments are consistently associated with low socioeconomic status, low sense of mastery and little social support. Preventive and health promotion initiatives should therefore also target specific groups with few economic and psychosocial resources in the general population of Switzerland. For groups with few economic resources, the cost of all preventive medical check-ups, e.g. mammography, should be fully covered by the compulsory health insurance. Moreover, preventive strategies and public health initiatives should take into account the specific information needs of immigrants and individuals with low education, *i.e*. the key message should be translated into the native languages of the most prevalent immigrant groups and the key messages should be clear and easy to understand.

Limitations in the present study need to be considered when interpreting the findings. First, even though self-rated health is strongly associated with mortality [57] and objective health status [58] [59], there is also evidence that the association between self-rated health and objective health status or mortality is weaker in less acculturated immigrants [60] [61]. Consequently, culture-specific connotations of health may bias our results despite the fact that we conducted a linguistic validation process that included a conceptual analysis of all original instruments in collaboration with the translators as well as forward and backward translations and a review of the backward translation. Second, data limitations did not permit a distinction between naturalized first-generation immigrants, naturalized offspring of first-generation immigrants and native Swiss. Therefore, part of the health advantage of Swiss nationals may be imported, *i.e*. immigrants with better health may be more likely to naturalize. Third, it should be considered that data collection for the Swiss, German and Italian population took place in 2007 whereas data for nationals form Portugal, Turkey, Serbia and the Kosovo was collected in 2010. Hence, potential bias due to cohort or period-specific effects cannot be ruled out. Further investigations should address these issues.

5. Conclusion

In sum, our results suggest that older immigrants from Turkey and the Kosovo as well as women from Portugal were at a particular risk of ill health and/or ADL impairments. Furthermore, poor health and ADL impairments were consistently associated with low socioeconomic status, low sense of mastery and little social support. Immigrant-specific preventive and health promotion initiatives should therefore target these immigrant groups. Furthermore, groups with few economic and psychosocial resources in the general population of Switzerland should be more involved in interventions to reduce health risk.

Conflict of Interest

The authors declare that they have no conflict of interest.

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