

Integration and health-related quality of life of undergraduate medical students with migration backgrounds – Results of a survey

Integration und gesundheitsbezogene Lebensqualität von Medizinstudierenden mit Migrationshintergrund – Ergebnisse einer Umfrage

Abstract

Objective: Most medical faculties in Germany are still lacking differentiated counseling programmes for specific target groups. The purpose of the present study was to determine the quality of life and integration of students with migration backgrounds and their interests in counseling programmes.

Methods: Data was collected at the University Medical Center Hamburg-Eppendorf in Germany. Participants were students of the undergraduate medical course; n=890 (89.3%) students without migration backgrounds were compared to n=107 (10.7%) students with an existing migration background.

Results: The results showed that medical students with migration backgrounds reported lower scores for health-related quality of life compared to students without a migration background. They felt less accepted and supported by their fellow students and had fewer contacts with other students. Medical students with migration backgrounds were characterised by a higher interest in the implementation of a counseling programme ($Z=-3.420$; $p=.001$).

Conclusions: In summary, medical students with migration backgrounds were identified as a group with an increased need for a specific counseling service. Lower scores of mental health and feelings of inferior integration set the necessity for early counseling and intervention needs.

Keywords: medical students, migration, quality of life, counseling

Zusammenfassung

Zielsetzung: In den meisten medizinischen Fakultäten in Deutschland fehlen differenzierte Beratungsprogramme für spezifische Zielgruppen. Ziel dieser Studie ist es, neben Informationen über die Lebensqualität und die Integration von Studierenden mit Migrationshintergrund ihr Interesse an Beratungsangeboten zu bestimmen.

Methodik: Die Daten wurden am Universitätsklinikum Hamburg-Eppendorf in Deutschland erhoben. Teilnehmer waren Studierende der Humanmedizin im ersten Studienabschnitt. Es wurden n=890 (89,3%) Studierende ohne Migrationshintergrund mit n=107 (10,7%) Studierenden mit Migrationshintergrund verglichen.

Ergebnisse: Die Ergebnisse zeigten, dass Medizinstudierende mit Migrationshintergrund niedrigere Werte hinsichtlich gesundheitsbezogener Lebensqualität aufwiesen als Studierende ohne Migrationshintergrund. Sie fühlten sie sich weniger akzeptiert und unterstützt von Kommilitonen und hatten weniger Kontakt zu anderen Studierenden. Medizinstudierende mit Migrationshintergrund zeigten ein höheres Interesse an der Implementierung eines Beratungsprogramms ($Z=-3.420$; $p=.001$).

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Fazit: Insgesamt konnten Medizinstudierende mit Migrationshintergrund als Gruppe mit erhöhtem Bedarf an einem spezifischen Beratungsservice identifiziert werden. Niedrigere Werte für gesundheitsbezogene Lebensqualität und das Gefühl geringerer Integration zeigen den Interventionsbedarf und die Notwendigkeit für frühe Beratung.

Introduction

Undergraduate medical students with a migration background are at a higher risk of dropping out early or experiencing interruptions in their studies. They are exposed to higher disadvantages in the recruiting processes of universities [1], [2], [3] as well as in the university context [4]. Ferguson et al. [5] summarised the findings of different surveys which were related to success in medical studies. According to these authors, predictors of success in undergraduate medical training were academic or cognitive abilities. Three risk factors for failure in the conducted medical study could be identified: male sex, counterproductive learning strategies and migration background. In general, there are three main problem areas for students with migration backgrounds: higher dropout rates, a higher level of stress and lower average scores. With regard to dropout Shields [6] reported that in 1991 nearly 22% of students with a migration background had given up their studies because of university related difficulties. In comparison, there were only 3% of students without a migration background who interrupted or gave up their studies in the same year. In 1996, 85% of students without a migration background finished their medical studies in the USA but only 61% of students with a migration background achieved a degree in medical studies. One year later, the graduation percentage of this study group increased to 79%. In conclusion, these students decelerated or interrupted their studies or had to re-sit their exams [7]. Considering perceived stress McManus et al. [8] reported that students from ethnic minority groups achieved higher rates on the big five neuroticism scale and on their personal stress levels. Students with a migration background showed increased levels of sorrow and suffering in their first study term compared to students without a migration background. Furthermore McManus et al. [9] conducted a study at the University of London as well as at the University of Manchester. In general, students with a migration background performed lower than students without a migration background in their final examinations. They had a significantly higher chance of failing their exams [1].

41% of German students with a migration background come from low social backgrounds whereas in contrast only 13% of students without a migration background have the same low social background. In order to finance their studies, students with a migration background have to work more often in addition to their studies or have to derive financial support in the form of a grant according to the "Bundesausbildungsgesetz" (BAföG). The quantity of students with a job beside their studies and a migration background is 67%. This is approximately 4% higher than the entire analysed student group. Additionally the pro-

portion of grant recipients in the part of the test group characterised by a migration background is one-third, whereas only a quarter of all students receive this kind of support [10].

Abernethy [11] described a special mentoring programme for underrepresented-minority students at the University Of Rochester School Of Medicine. The programme includes structural training and supervision for the mentors, the development of bilingual and multicultural supporting groups and continuous and structural counseling for underrepresented minority students. The results showed that at the end of the first year students felt better prepared to handle clinical education. They also had clearer expectations of potential difficulties in the following study years. In general, they evaluated the discussions about racial issues inside the group as helpful and successful. In order to analyse the current situation for students at the University Medical Center Hamburg-Eppendorf we conducted an exploratory study which focussed on the assessment of migration student needs regarding a mentoring programme at the medical faculty. Our aim was to describe the quality of life of students with migration backgrounds and to examine their integration in their study group. In addition, we wanted to know whether or not students would show higher interest in using counseling services and whether or not they would focus on other counseling topics if they were characterised by a migration background.

Methods

Design and participants

All medical undergraduates who received their study admission at the University Medical Center Hamburg-Eppendorf in winter term 2005, 2006 and 2007 were asked to participate in this cross-sectional study. Data collection was conducted during May (cohort 2005) and November 2007 (cohort 2006 and 2007). We compared n=890 (89.3%) students without a migration background with n=107 (10.7%) students with a migration background. The participants were asked to fill in a self-administered set of questionnaires subsequent to compulsory courses. In sum, n=997 students completed the questionnaire, leading to an overall response rate of 80.2%.

Measures

In addition to gender, age, financial background and education, migration background was assessed. For this purpose we used a conservative definition: As well as

Table 1: Mann-Whitney Test for questions of integration in the study group compared between students with and without a migration background

Items ¹	Migration background	n ¹	mid rank	sum of ranks	U	z	p																																																																																												
I am part of my group.	yes	67	287.81	19283.50	17005.500	-2.368	.018*																																																																																												
	no	607	242.98	208191.50				I have much contact to other students.	yes	67	254.97	17083.00	14805.000	-3.899	<.001***	no	607	346.61	210392.00	I have much contact to German students.	yes	66	277.52	18316.00	16105.000	-2.845	.004**	no	606	342.92	207812.00	I have much contact to students/no students of my own country.	yes	67	196.12	13140.00	10862.000	-6.490	<.001***	no	596	347.28	206976.00	I have difficulties to understand the subject because of the language.	yes	67	465.49	31188.00	11692.000	-10.147	<.001***	no	606	322.79	195613.00	I feel sufficiently supported from other students.	yes	66	272.22	17966.50	15755.500	-3.139	.002**	no	608	344.59	209598.50	I feel sufficiently supported from tutors	yes	62	345.60	21427.00	17478.000	-.769	.442	no	596	327.83	195384.00	Evaluation of the own verbal language.	yes	67	248.38	16641.50	14363.500	-4.224	<.001***	no	609	348.41	212184.50	Evaluation of the own written language.	yes	67	259.13	17361.50	15083.500	-3.729	<.001***
I have much contact to other students.	yes	67	254.97	17083.00	14805.000	-3.899	<.001***																																																																																												
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*** p<.001; ** p<.01; * p<.05

¹These items were administered to cohort 2006 and 2007 (n=681), including n=69 students with migration background and n=612 students without migration background.

citizenship, first spoken language at home was taken into account.

During the first survey (cohort 2005), we asked specific questions for students with migration backgrounds in addition to generic questions by using a five-point Likert scale with the format 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree. The specific questions were developed to suit the study context of the University Medical Center Hamburg-Eppendorf representing a large medical faculty in Germany and focused on language difficulties and problems of integration (items are shown in Table 1). The second survey (cohort 2006 and 2007), concerning language difficulties and integration problems, was also assessed in the group of students without migration backgrounds. Furthermore, we used the SF-12 Health Survey [12] for monitoring the health related quality of life of undergraduate students. The SF-12 leads into two summary scale scores of physical and mental health. The internal consistency (Cronbach's Alpha) was tested extensively and is for the physical health subscale characterised by an $\alpha=.73$ and for the mental health subscale characterised by an $\alpha=.72$ [13]. One item ("How do you finance your studies?") was used to assess the form of financing. It consists of eight response categories (support from parents, study-credit, grant according to the "Bundesausbildungsförderungsgesetz" (BAföG), fellowship, own finan-

cing (full), partly own financing, state funding and other) with the option of multiple responses. Two items were applied to assess the attitude towards counseling: "I would engage a new counseling service of the faculty" with four response categories (disagree, quite disagree, quite agree, agree) and "How high is your personal counseling need regarding study affairs?" with five response levels (non existent, low, moderate, quite high, high).

Statistical analysis

SPSS version 15.0 for Windows was used for all statistical analysis. A plausibility check was carried out. Data out of range and contradictory statements were excluded. The Kolmogorov Smirnov test was applied to check the data's probability distribution. When the critical value for normal distribution $p<.05$ was reached, responses were evaluated by using the nonparametric U test by Mann and Whitney to assess integration and the two-sample test by Kolmogorov Smirnov to assess differences in financing and passing exams. Differences between mean ranks were considered significant if $p<.05$. We also used correlations by Spearman to examine the association between the health-related quality of life and integration in the study group.

Table 2: Form of financing compared between students with and without migration background

Variable	With migration background		Without migration background	
	<i>n</i>	%	<i>n</i>	%
Support from parents	60	56.1	727	81.7
BAföG	31	29.0	154	17.3
Partly own financing	24	22.4	203	22.8
Full own financing	16	15.0	56	6.3
Other	7	6.5	53	6.0
Study-credit	6	5.6	32	3.6
Fellowship	4	3.7	17	1.9
State funding	1	0.9	12	1.3

Table 3: Passing biology and biochemistry exams (cohort 2005 and 2006)

Variable	With migration background <i>n</i> =56		Without migration background <i>n</i> =497	
	<i>n</i>	%	<i>n</i>	%
Passing biology exam				
Pass in regular time (1. trial)	24	43.6	315	64.7
2. trial	3	5.5	105	21.6
3. trial	3	5.5	12	2.5
4. trial	–	–	–	–
No trial yet	25	45.5	55	11.3
Passing biochemistry exam				
Pass in regular time (1. trial)	38	67.9	451	91.9
2. trial	7	12.5	31	6.3
3. trial	1	1.8	1	0.2
4. trial	1	1.8	–	–
No trial yet	9	16.1	8	1.6

Results

The sample was composed of $n=997$ students of the medical undergraduate course (first, third & fourth term). There were $n=890$ (89.3%) students without a migration background and $n=107$ (10.7%) students with a migration background. On average, students without a migration background ($n=890$) were 22.32 ($SD=3.46$; range: 17–51) years old, which is slightly younger than the average age of 23.46 ($SD=4.49$; range: 17–43) years, for the student group with a migration background. There were no significant differences between the groups concerning sex: $n=71$ (66.4%) students with a migration background were female, $n=35$ (32.7%) male. In the student group without a migration background $n=598$ (67.2%) of the students were female and $n=287$ (32.2%) were male.

Form of financing

Overall, the results showed a significant difference between the groups regarding the financial support of their parents (Kolmogorov-Smirnov- $Z=2.481$; $p<.001$).

Students with a migration background were less supported by their parents compared to students without a migration background. Additionally, students with a migration background were reported to more often get extra financial support by the state like BAföG (grant according to the “Bundesausbildungsgesetz”) or to have a part time job besides their studies compared to students without migration background (see Table 2).

Overall average scores in biology and biochemistry

According to a previous study at the University Medical Center Hamburg-Eppendorf biology and biochemistry exams are predicting study success during undergraduate training [14]. Students of the cohort 2005 and 2006 were asked how many trials they needed to pass these exams. Significant differences between students with and without a migration background concerning the tests in biochemistry ($Z=1.701$; $p=.006$) and biology ($Z=2.612$; $p<.001$) were found (Table 3). There were more students with a

Table 4: Correlations Spearmans Rho between both scales of the SF-12 (Physical Component Summary (PCS) and Mental Component Summary (MCS)) and questions for the integration in the study group (students with migration background)

Item	SF-12 physical (PCS)			SF-12 mental (MCS)		
	<i>n</i>	<i>r</i>	<i>p</i>	<i>n</i>	<i>r</i>	<i>p</i>
I am part of my group.	91	-.06	.574	91	.39**	<.001
I have much contact to other students.	91	-.11	.281	91	.33**	<.001
I have much contact to German students.	91	-.01	.929	91	.30**	.004
I have much contact to students/no students of my own country.	90	.05	.669	90	-.06	.597
I have difficulties to understand the subject because of the language.	91	-.18	.084	91	-.22*	.035
I feel sufficiently supported from other students.	90	.05	.658	90	.21*	.046
I feel sufficiently supported from tutors.	87	-.12	.269	87	.27*	.012
Evaluation of the own verbal language.	91	.19	.071	91	.15	.155
Evaluation of the own written language.	90	.23*	.031	90	.20	.058

*** $p < .001$; ** $p < .01$; * $p < .05$

Table 5: Quality of life of students with and without a migration background compared to the norm population

Migration background		SF-12 scales				
		<i>n</i>	<i>M</i>	<i>SD</i>	<i>d</i>	<i>p</i>
yes	physical (PCS) ¹	93	53.60	7.39	.14	.524
no	physical (PCS)	852	54.62	6.03		
yes	mental (MCS) ²	93	41.45	10.04	.27	.008**
no	mental (MCS)	852	44.23	10.53		
norm population (21–30 years)	physical (PCS)	473	52.86	6.76		
	mental (MCS)	473	51.92	8.35		

*** $p < .001$; ** $p < .01$; * $p < .05$

¹Physical Component Summary (PCS); ²Mental Component Summary (MCS)

migration background who had not passed these exams in regular time.

Social support and integration in the study group

Students at the medical faculty of the University Medical Center Hamburg-Eppendorf took part in an orientation week at the beginning of their studies. Here, the students got framed into small groups, each of twenty people. Normally, these groups will pass the curriculum together (first to fourth term). They complete the entire terms and internships in this group composition.

We asked the students about their position in this study group, perceived support of fellow students and tutors and about their lack of understanding regarding to the language. Students with a migration background assessed their verbal ($Z = -4.224$; $p < .001$) and written ($Z = -3.729$; $p < .001$) communication skills much lower compared to students without a migration background. They also had

fewer contacts to other, especially German, students, and felt less supported by fellow students ($Z = -3.139$; $p = .002$). Contrary to students without a migration background, they evaluated the support by their tutors as being better. This result was not significant (see Table 1). A better integration in the study group and more contacts to other students were associated with better scores in mental health (see Table 4).

Health-related quality of life

With regard to the health-related quality of life, medical students at the University Medical Center Hamburg-Eppendorf showed a significantly decreased mental health compared to the norm population (see Table 5). Additionally, students with a migration background scored lower on the mental health scale than students without a migration background ($Z = -2.657$; $p = .008$; see Figure 1).

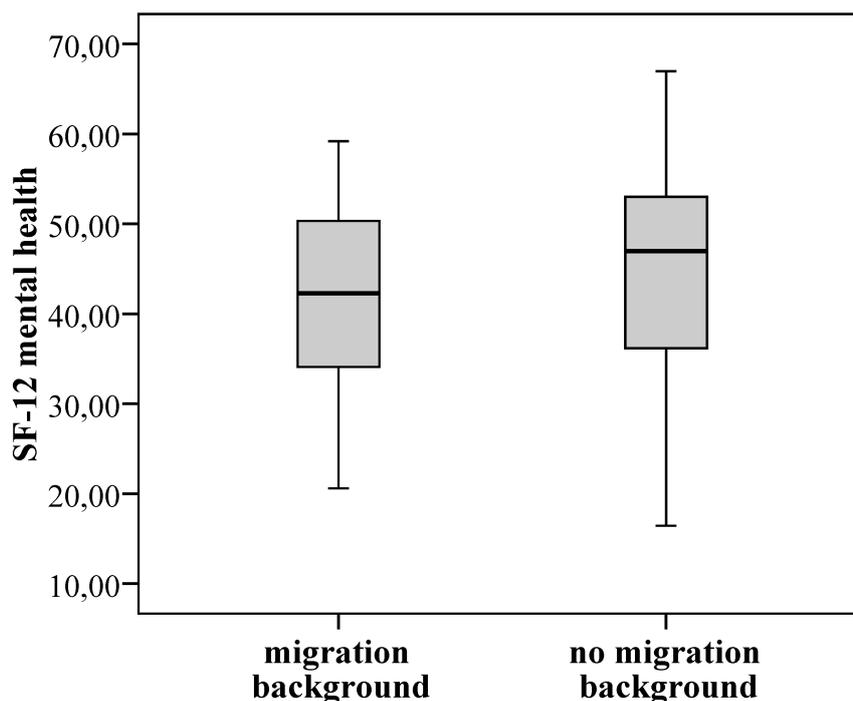


Figure 1: Health-related quality of life of students with and without a migration background

Table 6: Personal counseling needs (cohort 2005 and 2007)

How high is your personal counseling need regarding study affairs?	With migration background <i>n</i> =66		Without migration background <i>n</i> =604	
	<i>n</i>	%	<i>n</i>	%
Non-existent	5	7.6	48	4.3
Low	9	13.6	151	25.0
Moderate	15	22.7	225	37.3
Quite high	28	42.4	132	21.9
High	9	13.6	48	7.9

Counseling needs

The finding of this survey regarding student's counseling needs is a high acceptance among the student test group in regard to their willingness to use such a counseling service in the future. Summing up the response categories "agree" and "quite agree" 67% ($n=660$) of the overall sample reported that they would take up a university counseling service. But considering the self reported need for counseling there was a difference between students with and without a migration background concerning counseling demands ($Z=-3.420$; $p=.001$) (see Table 6). Students with a migration background had a significantly higher interest in joining a personal counseling intervention compared to students without a migration background. The most preferred topics to be addressed within a counseling programme were for both groups "study and work abroad" (without migration background 80.7% – with migration background 84.5%), "coping with stress" (without migration background 78.1% – with migration background 84.6%) and "learning to learn" (without mi-

gration background 68.7% – with migration background 75.9%). In addition, students with a migration background showed a significantly higher interest in topics like "special course requirements", "social groups and relationships", "financial problems", "exchange of experiences between foreign students" and "support with cultural problems". These themes are combined with the reported problems of this student group.

Discussion

The presented study describes the assessment of integration in the study group, health-related quality of life and counseling needs presented in a sample of undergraduate medical students with and without a migration background. The results showed lower health scores for medical students and especially for students with a migration background compared to the norm population. Stress, performance pressure and lacking appraisal as well as lack of integration in the study group might be

factors, which have a negative impact on student's health-related quality of life. Additionally, students with a migration background had to work more often than students without a migration background to finance their studies and were less supported by their parents, which reflects the results of early statistical surveys [10]. These problems will probably increase in the near future since universities in Germany established tuition fees per semester. Furthermore there were more students with migration background who had not passed biology and biochemistry exams in regular time. These results confirmed early research findings that students with migration background tend to decelerate their studies or re-sit their exams [7] and perform lower than students without migration background [9]. Another major area of concern for students with migration background is language issues. Empirical studies have shown that competence of the host country's language is crucial for the acculturation process and successful communication is necessary to feelings of psychological well-being and satisfaction in life [15]. This study also indicated that students with migration background scored lower with regard to mental health related quality of life compared to the norm population and to students without migration background. Beyond that students with migration assessed their verbal and written skills much lower compared to students without migration background and reported that they had fewer contact to their peers and felt less supported by them. These findings also confirm early studies that language difficulties can serve as a communication barrier [16] and makes interaction with their peers more difficult due to different social lifestyles [17].

In general, little is known about the special needs of medical students with migration backgrounds and there are only a few universities in Germany offering a special mentoring programme. As a suggestion for further improvement we think that it is necessary for universities to show a higher interest in the specific issues and challenges regarding students with a migration background. This studying is limited by focusing on quantitative data. Additional focus groups and personal interviews could facilitate the understanding of counseling needs of medical students with migration background especially when language problems might influence data collection. Another limitation was that only first and second year students participated. Obtaining perspectives from third to sixth year students may elicit different counseling needs and challenges for students with migration background. Furthermore the results would have been more powerful if data collection had been conducted across multiple medical faculties in Germany and Europe. Counseling programmes designed for migrant students need to be evaluated in order to analyse if participation significantly leads to improvements in health-related quality of life compared to non-participants. A better integration in the study group and more contact to other students is associated with better scores in mental health. The results revealed that students with migration backgrounds reported higher needs of counseling and focused

on other counseling topics which are more involved in their special problems like feelings of social exclusion or higher financial challenges. Early interventions in terms of mentoring and professional counseling might be required, which is also recommended by latest studies that suggest three major intervention points, namely point of entry, mid way through the course and the end of the course, to enhance integration and academic progression among medical students with migration background [17].

Notes

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Competing interests

The authors declare that they have no competing interests.

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