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Emotional and behavioural problems in migrant children

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Summary

Objectives: To assess emotional (depression, anxiety and self-esteem) and behavioural problems in migrant children and to compare them with non-migrant children.

Methods: 526 students (60% boys, 40% girls) aged 11.23 ± 1.05, at five schools in Adana, Turkey in areas with a high migrant population were included in this study. 182 children (35%) were migrants and 344 children (65%) were non-migrants. The Depression Inventory for Children (CDI), the State-Trait Anxiety Inventory for Children (STAI-C) and the Coopersmith Self-Esteem Inventory (CSEI) were administered to the pupils at their school and Rutter's Teachers Rating Scale (RTRS) was administered to their teachers. Sociodemographic variables were recorded on the basis of school records and the children's report.

Results: In the migrant group, fathers were less educated and had more employment problems, homes were rented and the children were unsuccessful at school. Migrant children had significantly lower self-esteem with higher depression and anxiety. Behavioural symptoms on RTRS were not significant with regard to migration. No significant correlation was found between psychometric tests and father's education, duration of residence after migration or room density.

Conclusions: We found significant emotional but no behavioural problems in Turkish migrant children compared to Turkish non-migrant children. Further prospective studies are needed to clarify the long-term course of the various types of distress and the individual prognosis of migrant adjustment.

Key words: migration; child; depression; anxiety; self-esteem

Introduction

Migration is a process of social change whereby an individual, alone or with others, moves from one cultural setting to another for the purposes of settling either permanently or for a prolonged period [1]. Migration has become a topic of intense and unresolved debate worldwide [2]. The relationship between migrant status and mental health is complex and the psychiatric well-being of a migrant group is determined by a range of factors including the characteristics of the migration, the new community and resettlement [2, 3].

Migration has been shown to result in increase of several kinds of psychiatric disorders in adults and youths including schizophrenia, depression, anxiety disorders, substance abuse and autism [4–8]. Studies in Turkish adolescents who migrated to foreign countries showed high rates of psychiatric morbidity [6, 9]. On the other hand there are studies in children showing that migration history alone does not contribute to problem behaviour or morbidity [10, 11].

Migration is one of Turkey's most important problems [12]. About 50,000 to 60,000 people per year are estimated to migrate to Adana (a southern city of Turkey) from the eastern region of Turkey. Adana is the nearest metropolitan city to the east and south-east regions of Turkey and the second most popular city for migrants inside Turkey [12]. However, to date there have been no studies evaluating the psychological well-being of these migrant children in Turkey.

This study aimed to assess emotional (depression, anxiety, and self-esteem) and behavioural problems in children, whose families had migrated to Adana. We also aimed to assess the effect of sociodemographic and migration factors on children in regard to depression, anxiety, self-esteem, school success and compliance.

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Methods

Study individuals

526 students (60% boys, 40% girls) from the 4th and 5th grade were included in this study. Mean age of the children was 11.23 ± 1.05. 182 children (35%) were migrants (boys 65%, girls 35%), and 344 children (65%) (boys 55%, girls 45%) were not. It is of note that only thirteen children (7%) were found to have migrated from a western region of Turkey, whereas 156 (93%) migrated from an eastern region. The mean age of the children at migration was 5.94 ± 3.39. The separation period of the children from the family (from the time of migration until the reunion of the family) were as follows; no separation (n = 174; 95.6%), 1 year (n = 2; 1%), 2 years (n = 3; 1.6%), 3 years (n = 1; 0.6%), 6 years (n = 1; 0.6%), and 11 years (n = 1; 0.6%).

Study design

Among the ten elementary schools in rural areas of Adana, in which migrants preferentially settle, five elementary schools were randomly selected by the Department of Public Health, Cukurova University Faculty of Medicine, Adana, Turkey for the study. First, second, and third grades were excluded due to their young ages for psychometric tests. All children were interviewed at their school by a child psychiatrist, and the aim of the study and the procedure was explained in detail. Anxiety, depression, worry and other terms used in the psychometric tests were reviewed in order to increase the understanding of the test items. A child psychiatrist and a clinician were present in the classroom along with the class teacher while children were receiving the psychometric tests.

Sociodemographic variables (place of birth, duration of father's education, father's employment, number of people living in one room, ownership of the house, separation from the family after migration, duration of residence, family problems, room density) were recorded according to school records and the children's report. No data were available as to the reason for migration. No traumatic experiences, including violence and torture, were reported by the children. In all children, family problems were as follows; alcohol dependence (n = 51, 9.7%), psychiatric disorders in the family (n = 6, 1.1%), chronic illnesses in the family (n = 1, 0.2%), legal problems in the family (n = 30, 5.7%). Given the difficulty of allotting children at year 1 according to their duration of residence (0 to 1 year, n = 26; 1 to 4 years, n = 76; and 5 years or more, n = 80) and the low number of children who migrated at one year or younger, we incorporated duration of residence after migration in migrant group as a continuous variable. As the children were unable to supply the income of the family accurately, room density (number of people at home divided by the number of room in the house) was recorded as an indicator of socio-economic status. In all children, room density was equal or less than 2 in 289 children (54.9%) and was more than 2 in 237 children (45.3%). Teachers rated each child in regard to their school (academic) success and compliance.

Study instruments

Depression Inventory for Children (CDI), State-Trait Anxiety Inventory for Children (STAI-C) and Coopersmith Self-Esteem Inventory (CSEI) were administered. At the same time Rutter's Teachers Rating Scale (RTRS) was administered to teachers.

The Children Depression Inventory (CDI) is a self-report depression scale for children age 9 and over modelled by Kovacs [13] on the Adult Beck Depression Inventory. Twenty-seven multiple-choice items assess the severity of depressive symptoms during the previous two weeks. The scale is widely used and it has demonstrated good concurrent validity and reliability in Turkey [14]. Higher scores (min = 0; max = 54) represent more severe depression and scores below 19 are considered to be normal.

The State-Trait Anxiety Inventory for Children (STAI-C), which has two sub-scales with twenty questions for state and trait anxiety, is a self-report scale [15]. Higher scores (min = 20; max = 60) represent more severe anxiety. The scale is widely used and it has demonstrated good concurrent validity and reliability in Turkey [16].

The Coopersmith Self-Esteem Inventory (CSEI) is a self-report scale, which is widely used in Turkey to evaluate self-esteem in adolescents [17]. High scores (min = 0, max = 57) represent positive self-esteem.

Teachers reported behavioural symptoms on Rutter's Teachers Rating Scale (RTRS), where higher scores (min = 0, max = 20) represent severe behavioural problems [18]. RTRS was administered to the teacher and apart from RTRS the teacher also evaluated the children in regard to compliance (compliant or not) and success (successful or not).

Statistical analysis

SPSS 10.0 for Windows was used for statistics. Chi-square was used to compare demographic factors between migrant and non-migrant children. Two-way Anova was used to assess the mean values of the psychometric tests in regard to migration, school success and compliance at school as well as demographic factors including gender, father's employment, ownership of the family house and problems in the family. Covariate analysis of "migration and gender", "migration and school success", and "migration and compliance at school" were performed to extract the significance of the variables on psychometric tests. Spearman rank correlation was used to assess correlation between psychometric tests and duration of father's education, duration of residence after migration and room density. We reran the correlation analysis in migration and non-migration group and in boys and girls separately. Statistical significance was defined as $p \leq 0.05$.

Results

In the migrant group fathers were less educated ($p = 0.001$) and had employment problems ($p = 0.001$), their houses were rented ($p = 0.001$) and their children were unsuccessful at school ($p = 0.019$) (table 1). The migrant families were found to be intact and separation from the family, family problems and compliance (rated by the teacher) showed no significant difference between migrant and non-migrant group.

Depression scores were significantly higher in boys than in girls (13.38 ± 6.88 vs. 11.58 ± 6.45, $p = 0.012$), but there was no significant difference between males and females for anxiety scores on SAI-C (36.39 ± 6.11 vs. 36.62 ± 7.14) and on TAI-C-

(33.53 ± 6.53 vs. 33.44 ± 6.44), self-esteem scores on CSEI (36.82 ± 6.65 vs. 37.38 ± 7.18) and teachers' scores on RTRS (8.87 ± 6.81 vs. 7.65 ± 4.55) (table 2). Migrant children had significantly lower self-esteem (35.89 ± 6.18 vs. 37.97 ± 7.25 on CSEI; p = 0.001), higher depressive (13.50 ± 6.55 vs. 11.99 ± 6.87 on CDI; p = 0.015) and anxiety (37.28 ± 6.51 vs. 35.83 ± 6.50 on SAI-C; p = 0.012, and 34.33 ± 6.62 vs. 32.79 ± 6.30 on TAI-C; p = 0.003) scores than non-migrant children. Covariate analysis revealed that migration was the significant factor for higher depressive symptoms in boys and un-

Table 1.

Sociodemographic variables between migrant (n = 182) and non-migrant (n = 344) children.

		Non-migrant n (%)	migrant n (%)	p
Duration of father's education	uneducated	140 (40.7%)	44 (24.2%)	0.001*
	5 years	144 (41.9%)	104 (57.1%)	
	6 years- more	60 (17.4%)	34 (18.7%)	
Father's employment	regular-official	218 (63.4%)	90 (49.4%)	0.001*
	worker-irregular	104 (30.2%)	55 (30.2%)	
	unemployed	22 (6.4%)	37 (20.4%)	
House	owner	264 (76.7%)	107 (58.8%)	0.001*
	renter	80 (23.3%)	75 (41.2%)	
Separation from family	positive	12 (3.5%)	5 (2.8%)	0.648
	negative	332 (96.5%)	177 (97.2%)	
School success**	successful	260 (75.6%)	120 (65.9%)	0.019*
	unsuccessful	84 (24.4%)	62 (34.1%)	
Compliance at school**	positive	261 (75.9%)	132 (71.4%)	0.401
	negative	83 (24.1%)	50 (28.6%)	
Problems in the family	positive	57 (16.6%)	31 (17.0%)	0.892
	negative	287 (83.4%)	151 (83.0%)	

* statistical significance (p ≤0.05) was calculated with chi-square analysis;
** rated by teacher.

Table 2.

Assessment of means of the psychometric tests (CSEI, SAI-C, TAI-C, CDI, RTRS) in regard to sociodemographic variables and migration.

		CSEI X ± SD	SAI-C X ± SD	TAI-C X ± SD	CDI X ± SD	RTRS X ± SD
Gender	boys (n = 316)	36.82 ± 6.65	36.39 ± 6.11	33.53 ± 6.53	13.38 ± 6.88	8.87 ± 6.81
	girls (n = 210)	37.38 ± 7.18	36.62 ± 7.14	33.44 ± 6.44	11.58 ± 6.45	7.65 ± 4.55
	P	p = 0.564	p = 0.779	p = 0.824	p = 0.042*	p = 0.684
Migration	migrant (n = 182)	35.89 ± 6.18	37.28 ± 6.51	34.33 ± 6.62	13.50 ± 6.55	7.75 ± 6.57
	non-migrant (n = 344)	37.97 ± 7.25	35.83 ± 6.50	32.79 ± 6.30	11.99 ± 6.87	7.41 ± 5.93
	P	p = 0.001*	p = 0.016*	p = 0.009*	p = 0.015*	p = 0.547
Father's employment	regular-official (n = 308)	37.56 ± 7.26	36.42 ± 6.17	33.21 ± 6.10	12.27 ± 6.66	6.84 ± 5.41
	worker-irregular (n = 159)	35.68 ± 6.29	36.53 ± 7.75	33.63 ± 6.50	14.17 ± 7.56	6.41 ± 5.59
	unemployed (n = 59)	35.28 ± 7.57	37.74 ± 5.88	34.21 ± 7.58	13.56 ± 6.84	6.32 ± 5.34
	P	p = 0.064	p = 0.421	p = 0.612	p = 0.134	p = 0.782
House	owner (n = 371)	36.51 ± 7.21	36.73 ± 6.83	33.52 ± 33.75	13.03 ± 7.16	6.71 ± 5.40
	renter (n = 155)	36.43 ± 6.29	36.64 ± 5.01	33.75 ± 6.09	13.86 ± 5.89	5.16 ± 5.03
	P	p = 0.954	p = 0.948	p = 0.860	p = 0.559	p = 0.239
School success**	successful (n = 380)	37.14 ± 7.35	36.24 ± 5.86	33.33 ± 6.32	11.74 ± 6.45	4.24 ± 3.83
	unsuccessful (n = 133)	35.04 ± 6.87	36.59 ± 7.16	33.44 ± 7.16	15.15 ± 7.42	9.37 ± 5.41
	P	p = 0.028*	p = 0.387	p = 0.904	p = 0.000*	p = 0.000*
Compliance at school**	positive (n = 393)	36.81 ± 7.34	36.59 ± 6.54	33.19 ± 6.64	12.94 ± 7.07	5.04 ± 4.12
	negative (n = 133)	33.47 ± 5.91	36.60 ± 6.36	34.21 ± 7.05	15.06 ± 7.13	12.62 ± 4.82
	P	p = 0.006*	p = 0.985	p = 0.371	p = 0.080	p = 0.000*
Problems in the family	positive (n = 88)	34.23 ± 7.15	36.73 ± 7.38	32.57 ± 5.81	15.05 ± 7.72	8.92 ± 8.12
	negative (n = 438)	36.69 ± 7.07	36.73 ± 6.58	33.65 ± 6.62	12.96 ± 6.94	6.40 ± 5.15
	P	p = 0.119	p = 0.995	p = 0.472	p = 0.183	p = 0.124

*Statistical significance at p ≤0.05 with two-way anova; ** rated by teacher.
CSEI: Coopersmith Self-Esteem Inventory; SAI-C: State Anxiety Inventory; TAI-C; Trait Anxiety Inventory;
CDI: Depression Inventory for Children; RTRS: Rutter's Teachers Rating Scale

successful children and for lower self-esteem in unsuccessful children and non-complaint children. Children who were rated as non-compliant by their teachers also received higher scores on teacher's rating scale (5.04 ± 4.12 vs. 12.62 ± 4.82 on RTRS). Father's employment, ownership of the house and problems in the family were found to be insignificant in regard to psychometric tests (CSEI, CDI, STAI-C, RTRS).

Room density was 2.25 ± 1.37 in non-migrant group and was 2.32 ± 1.17 in migrant group, with no statistical significance. Correlation analysis in all groups, in migration group and in non-migration group revealed no significance between each of the psychometric tests (CSEI, CDI, STAI-C, RTRS) and duration of father's education, duration of residence after migration and room density (table 3).

Table 3.

Correlation of the psychometric tests (CSEI, SAI-C, TAI-C, CDI, RTRS) with age of the child, duration of the father's education, duration of residence after migration and room density in migration group.

		CSEI	SAI-C	TAI-C	CDI	RTRS
Duration of father's education	correlation	0.086	–0.075	–0.045	–0.114	0.106
	P	p = 0.165	p = 0.227	p = 0.469	p = 0.064	p = 0.192
Duration of residence	correlation	–0.144	–0.127	0.030	0.005	–0.125
	P	p = 0.095	p = 0.143	p = 0.729	p = 0.955	p = 0.312
Room density	correlation	–0.064	0.107	0.079	0.062	–0.135
	P	p = 0.301	p = 0.085	p = 0.205	p = 0.318	p = 0.095

* Statistical significance at $p \leq 0.05$ with Spearman rank correlation.
CSEI: Coopersmith Self-Esteem Inventory; SAI-C: State Anxiety Inventory; TAI-C;
Trait Anxiety Inventory; CDI: Depression Inventory for Children; RTRS: Rutter's Teachers Rating Scale.

Discussion

We found that migrant children had significantly lower self-esteem (CSEI), and higher depressive (CDI) and anxiety (SAI-C and TAI-C) scores in comparison to non-migrant children. Migrant children had lower academic success than non-migrants, but no significance was reported by teachers in terms of compliance and behavioural symptoms.

Although parents may make the decision to leave their home, either voluntarily in the hope of improving their lives or involuntarily to escape danger and seek safety for themselves and their families, it is never a voluntary decision for the child [19]. Results indicate that problem behaviours in Turkish immigrant children in the Netherlands are associated with the high level of separation faced by Turkish immigrant families and that more integration leads to lower levels of problem behaviour [11]. In our study only five of the migrant children (2.8%) had been separated from their parents and separation from the family showed no significance between migrant and non-migrant group.

Although adult and parent feedback remain essential to the process of self-understanding, self-esteem regulation depends upon feedback from peer groups and close friends [17, 20]. Thus self-esteem may be impaired in migrated children. The effects of relocation on health-related variables (mental well-being and self-esteem) have been examined in 225 7th-12th graders at the start of the school year and six months later and the results showed no evidence for negative effects of moving [21]. However, immigrant adolescents were found to have impaired self-esteem when compared to non-migrant adolescents [20]. Our result was similar to Verkuten's study [20] and showed lower self-esteem scores in migrant children.

In our study the migrant group more often lived in rented houses and more of the fathers had a limited education and employment problems, which were statistical significance when compared to the non-migrant group. It has been reported that migration history alone does not contribute to problem behaviour in Turkish immigrant children in the Netherlands [11] and behavioural problems were reported to be predicted by a number of variables other than immigration in immigrant children residing in Australia [10]. Family dysfunction, poverty and subsided housing account for the majority of the increased risk for psychiatric disorder in this group [8, 22]. We looked at the duration of the father's education and room density as indicators for socio-economic status and found no correlation between these and psychometric test scores on CSEI, CDI, and STAI-C. Family problems showed no significant difference between migrant and non-migrant children in this study and family problems, fathers' employment and ownership of the family home showed no significant difference on psychometric tests. We conclude that migration, which includes economic, sociocultural and other contextual issues, is a risk factor for emotional and behavioural problems in children but we are unable to derive any conclusion from our results as to whether migration in itself is a risk factor for emotional or behavioural problems.

It has been reported that immigrant children are not at increased risk for poor school performance [2] whereas another study reported poor school performance in immigrant children [23]. Compliance is reported to be impaired in migrant

children [24]. In our study migrant children were rated as significantly more unsuccessful but compliant by their teachers, but behavioural symptoms on RTRS were insignificant in relation to migration. Migration was also found to be the significant factor in this study in regard to lower self-esteem (in unsuccessful and non-compliant children) and higher depressive symptoms (in unsuccessful children). RTRS, which is a scale for behavioural problems rated by teachers, was significantly higher only in children who were rated as unsuccessful and non-complaint by their teachers. Behavioural problems were negligible not only in non-migrant children but also in migrant children. It must be noted that conduct disorder is a rare diagnosis in Turkish pupils [25].

It has been suggested that in the first phase of migration there are few specific health problems owing to favourable age, structure, prior medical screening and short length of stay [1]. The second phase, associated with longer stay and family migration, is when problems become apparent and in the third phase aliens appear to be affected more by employment crisis and the fear of losing their jobs and associated economic problems make them more likely to want to seek help [26]. It has been reported that length of residence had no effect on self-esteem among immigrant children [27]. Another study which assessed the relationship between the onset of mental disorders and the duration of residence in Tokyo after migration revealed three periods; in the first period (0–1 year) psychiatric morbidity was highest, in the second it occurred the least (1–4 years), and in a third period (>4 years) the incidence rose again. Given the small numbers in subgroups of migrant children sorted according to the duration of residence after migration, we performed a correlation analysis of the duration of residence with each of the psychometric tests (CSEI, STAI-C, CDI, and RTRS) and found no significance (table 3).

Study limitations

This must be regarded as a preliminary study due to the use of self-administered questionnaires rather than psychiatric interviews. Absence of interviews with the parents, which may impair evaluation of sociocultural (including social supports) and economical factors as well as mental well-being of the children is also a limitation of this study and should be taken into account before drawing any conclusions from our study. Acculturation problems on migration between culturally distant countries should also be taken into account when our results are compared with previous studies. However, this is the first population-based study of migrant children inside Turkey using non-migrant children living in the same urban region as a comparison group, which strengthens our conclusions.

Conclusions

We found significantly more emotional (depression, anxiety, self-esteem) problems but not behavioural problems in Turkish migrant children than in Turkish non-migrant children. We also found increased problems in those migrant children with a longer duration of residence after migration. As migrant children appear to experience a greater degree of social hardship than do their non-migrant peers [8, 22], it is necessary to explore whether migrant children are at increased risk of morbidity or service utilisation when the effects of socio-economic hardship and the disadvantaged residential circumstances of this group are removed. Further prospective studies are needed to clarify the long-term course of the various types of distress and the individual prognosis of migrant adjustment.

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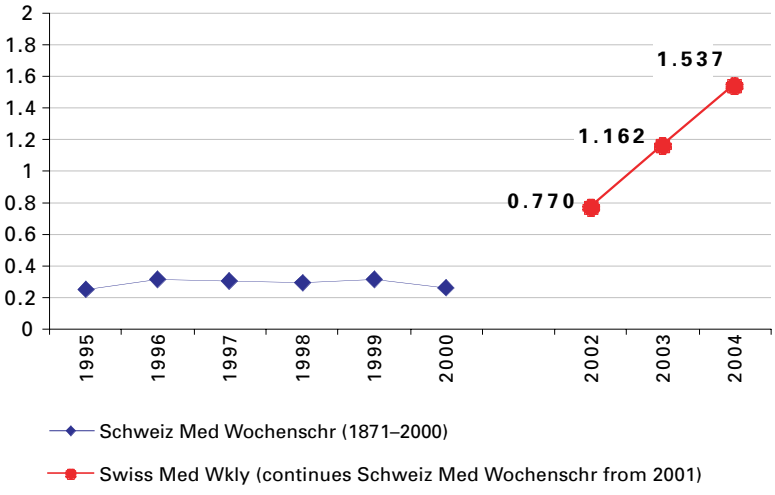

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