Suicide in Ethiopian immigrants in Israel: A case for study of the genetic-environmental relation in suicide

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Abstract

Immigration is a major life stress event, which has been associated with increased levels of mental health problems. The linkage between immigration and suicide has been studied in various societies, with conflicting results. Extremely high rates of suicide have been found repeatedly among the population of the Ethiopian immigrants in Israel. These rates were significantly higher than other immigrant populations in the country. Possible explanations to this disparity are discussed, and future directions for further study of this area are suggested.

Keywords: Suicide, Ethiopians, depression, Israel, immigrants
Introduction

Immigration is a radical life transformation, incorporating changes ranging from climate and diet to culture, language and status. This transformation is a major life stress event and can be considered a crisis situation (Ponizovsky, 1999a). The psycho-social element of migration has been explained through a model referring to migration as a grief process that is comprised of seven losses: family and friends, language, culture, homeland, status, contact with the ethnic group, and exposure to physical risk (Carta, 2005). The grieving process associated with migration is not time limited and may resurface upon contact with the country of origin. Researchers have described a chronic and multifaceted stress syndrome in immigrants which is named *Ulysses Syndrome* and presents with atypical depression, mixed with anxiety and dissociative and somatoform symptoms (Carta, 2005).

Problems with the process of acculturation (identifying with local nationality, or believe in preservation of original culture) in a new society have been linked to higher prevalence of mental health problems (Bhugra, 2005). Risk factors include pre-migration components such as motivation to migrate and pre-migration trauma (such as hazardous travel, country of origin being a war zone) (Fazel, 2005; Pumariega, 2005) cultural distance from host society (Carta, 2005) as well as a radical change in social roles, socio-demographic factors, biculturalism and marginalization (Bhugra, 2005). Children and adolescents experience acculturation stress in the delicate developmental stage in which they develop ethnic orientation, acquire the sense of group concept and are most sensitive to their acceptance by others. Concurrently, they are exposed to prejudice and discrimination in social settings and in school, factors which are increasingly recognized as engendering mental health
(Pumariega, 2005; Finch, 2000). They also have to cope with the tension arising from assimilation to the host country's culture on the one hand and remaining loyal to their original ethnic culture on the other hand, often a source of family conflict (Pumariega, 2005).

The aim of this paper is to review the link between immigration and suicidality in general and to summarize the knowledge on the particular case of the Ethiopian immigrant to Israel.

Immigration and suicide

The linkage between immigration and suicide has been studied in various societies. The conclusions differ from country to country, and comparisons of immigrants' suicide rates with those of host country's native population have led to divergent results. The majority of large surveys that collected data from national databases reported that in the heterogeneous population of immigrants not sub-divided by race or country of origin, there were substantially lower suicide rates. However, when looking at sub-populations of immigrants, several studies reported higher suicide rates. This indicates the importance of treating the immigrant population as a heterogeneous group, keeping in mind that each sub-group has its own epidemiology.

An epidemiological data survey in the United States of the cause specific mortality rates (1999-2001) found that when including the heterogeneous group of immigrants, they had 31% lower mortality from suicide than the general population. The specific subgroups of immigrants, however, revealed a diverse picture - while Asian, black and Hispanic immigrant men had at least 22% lower suicide rates, non-Hispanic white and Asian immigrant women had, respectively, 15% and 38% higher suicide rates compared to their US-born counterparts (Singh, 2006). Authors of the
study explained lower rates by referring to an inverse correlation found between lower suicide rates and between social integration and social support. The same relation was found between positive immigrant selectivity (regarding health, education, skills and ambition) and more favorable health behaviors. Higher rates could be explained by lack of these favorable factors.

A study of immigrant adolescents in Canada demonstrated a lower suicide rate in immigrant youths (6.8:100,000 in youth aged 15-24, 1995-1997) compared with their Canadian born peers (13.7-20.1:100,000 in youth aged 15-24 from English Canada and Quebec, 1997) (Greenfield, 2006). The explanation suggested for this difference was a lower rate of drug abuse by the immigrant group.

In the United Kingdom suicide attempts were found to be lower among ethnic minority men and higher among Indian and Pakistani women, compared to white British and Irish population samples (Crawford, 2005; Patel, 1996). The only cross cultural variant related to suicide ideation and suicide attempts was the psychiatric morbidity which was assessed using the Revised Clinical Interview Schedule (CIS-R). Measures of acculturation were found to have little effect on suicidal ideation. An interesting finding was that Indian, Pakistani and Bangladeshi women, in whom suicide rates were higher, had lower levels of suicidal ideation and only slightly higher rates of suicidal behavior (Crawford, 2005).

In the Netherlands the suicide rate among children of immigrants was higher as compared to the general population (Carta, 2005). In Germany Suicide attempts were more frequent among Mediterranean girls than among their German peers (Storch, 2000). In a study of immigrants from the former Soviet Union in Israel, life time prevalence of attempted suicide was higher (5.5%) than it was for Russian controls (0.5%) and for the general population of Israel (1.4%) (Levav, 1988;
The authors reported an evident association between suicide ideation and psychological distress, with the most prominent symptoms being anxiety and depression. Never the less, they didn’t find a direct connection between the severity of the depression and suicidal behavior. The risk factors for suicide, found in this group of immigrants, were young age, being single, being a physician or a teacher, having migrated from Baltic countries or from Moscow, having been in Israel for 2 to 3 years, having higher psychological distress factors and low social support.

Another study on adolescent immigrants from the former Soviet Union to Israel demonstrated higher prevalence of suicide attempts in this group, 10.4% in the last 6 month, with corresponding rates of 4.4% in Russians controls and 8.7% in Israeli peers (Ponizovsky, 1999b).

In adolescents, similar to adults, suicidal ideation was correlated with higher levels of distress and other symptoms. Ideators exhibited greater expression of most behavioral syndromes and had higher scores on anxiety, depression and aggression measures. The most significant obstacles for integration, as assessed by ideators, were relationship difficulties, especially with parents, and lack of money (Ponizovsky, 1999b).

**Suicide amongst Ethiopian immigrants in Israel**

The number of Ethiopian Jewish immigrants in Israel is estimated at approximately 100,000. The vast majority immigrated during the past three decades, with the main waves known as Operation Moses (1984) and Operation Solomon (1991). National epidemiological surveys conducted by the Israeli Ministry of Health since the year 1983 have found consistently, dramatically higher suicide rates among the Ethiopian immigrants as compared with the general population in Israel (Arieli,
For instance, the suicide rate in the year 1984 was 25:100,000 among the immigrants from Ethiopia, while the national suicide rate was as low as 6:100,000. In 1986, suicide rates were sevenfold higher among the immigrant group than the native group. This disparity persisted also a decade after immigration. It is notable that suicide rates of former Soviet Union immigrants to Israel are only slightly higher than the rates of the general Israeli population (Ponizovsky, 1998).

Although there is a relative paucity of epidemiologic and clinical data regarding the prevalence of mental disorders in developing countries, it has been reported that levels of psychopathology in the Ethiopian population have been found to be generally equal to those seen in western countries and in Israel (Awas, 1999; Kebede, 1999; Negash, 2005). Thus, the increased rates of suicidality among Ethiopian immigrants in Israel cannot be attributed to higher levels of psychopathology existing prior to immigration. Moreover, prevalence of depression among Ethiopian immigrants and refugees in Canada was found to be only slightly higher, and not statistically different than rates in the native Canadian population (Fenta, 2004).

**Discussion**

The question remains as to why suicide rates are so high in the Ethiopian newcomers to Israel. One possible explanation is that psychiatric disorders are under-diagnosed in this population due to local psychiatrists being unaware of culture-dependent presentations of mental symptoms and syndromes and that may result in under-treatment of this high-risk population. The World Health Organization (WHO) has developed the Self-Reporting Questionnaire (SRQ), to aid with psychiatric
evaluation of patients from developing countries (Harding, 1980; Harding, 1983).

Based on the SRQ, a new assessment tool, custom-made for the Ethiopian population, was developed in Israel. This tool, named Self-Reporting Questionnaire for Ethiopians (SRQ-E), was found to be valid, with sensitivity and specificity of 87% (Youngmann, 2002). However, the SRQ-E is still not widely used by clinicians in the country.

In order to study the increased suicidality among Ethiopian immigrants, a survey was conducted by means of a psychological autopsy over a 13-month period from August 1991 to September 1992. The survey population encompassed almost all the suicide victims in the country between the year 1983 and 1992 who were from Ethiopian origin, a total of 44 out of 49 (Arieli, 1996). The male to female proportion of immigrants who died by suicide was twice as high as in the general community. The proportion of young suicide victims (20-39 years) was also higher among the Ethiopian immigrants. Interestingly, there were only two methods of suicide: hanging (62%) and jumping off high places (38%). Contrary to other literature in the area, this distribution was the same for men and women.

Based on these findings, the authors described the profile of the high-risk-for-suicide Ethiopian immigrant as a relatively young married man with family conflicts, who internalizes his aggression and seems depressed, but does not communicate his suicidal intentions (Arieli, 1996). Stress resulting from the immigration process by itself may underlie a substantial part of the markedly increased suicide risk in the Ethiopian immigrant population, but it cannot explain the difference observed between it and the immigrant population from the former Soviet Union described earlier.
One theory on the cause for the risk among the Ethiopian immigrants, relates to the distress of the married Ethiopian man, who, following the immigration to Israel, lost his family dominance. His frustration at his inability to lead, control and support his family, as he used to do in Ethiopia may lead to depression and consequently, to suicide.

Another explanation put forward by the same authors (Arieli, 1996) concerns the Ethiopian immigrant woman. They suggested that in Israel the traditional role of the community elders was diminished, and therefore they could no longer support or protect women in distress, such as those exposed to domestic violence.

We would like to suggest additional explanations to this issue: Compared to the newcomers from Eastern Europe, the acculturation process may be particularly complicated for the Ethiopian immigrants due to significant cultural, as well as technological, gaps between life in Ethiopian and life in Israel, making it harder for them to adapt and become integrated. **This cultural clash has been also described as having a central role in the misunderstanding of Ethiopian immigrants' ethnic rituals and their clinical syndromes by the absorbing Israeli society (Durst, 1996; Rosca-Rebaudengo, 1996).**

Prejudice and discrimination may be offered as alternative or additional factors contributing to this problem. The magnitude and influence of these important social phenomena on the Ethiopian immigrants, including the possible role of their consequent social seclusion in the complex process of the development of suicidality among this population, have been studied by Ringel (2005).

**Future research directions:**

Suicidal behavior runs in families. Most of the twin studies done in the
field of suicidology have demonstrated concordance of about 13% in monozygotic twins versus less than 1% in dizygotic twins (Lester, 2002). The study of genetics of suicide suffers from many methodological challenges. Since suicide is a rare phenomenon large samples are needed and the risk for ethnic stratification is major. Family-based studies using the proband and his biological parents may correct for this stratification error. One of the novel methods in family-based genetics is pedigree analysis of affected families in a genetic isolate (Escamilla, 2001; Tsuang, 2001). According to this method an exceedingly isolated population with one ancient ancestor is selected, with the assumption that most of the members of this isolate share the same genetic makeup. Thus, a mutation or pathological polymorphic marker is easier to locate and the effectiveness of the analysis is higher. However, in the modern world, a genetic isolate is hard to find. Two major attempts to study an isolate in genetics of suicide were done on the Amish population (Egeland, 1989) and in Costa Rica (Escamilla, 2001; Ophoff, 2002). The Ethiopian population is unique since inter-marriage was not allowed in their native community and they are considered a genetic isolate. Therefore, the Ethiopian immigrant population in Israel seems particularly suitable for the study of the genetics of suicide.
Reference List


*Harefuah*, 141, 10-6, 128, 127.