OCCUPATIONAL THERAPY
AMONG IMMIGRANT CHILDREN IN FINLAND
A study based on the medical rehabilitation register of Kela in 2003-2008

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Master's thesis
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GAILY, SHADIA: OCCUPATIONAL THERAPY AMONG IMMIGRANT CHILDREN IN FINLAND A study based on the medical rehabilitation register of Kela in 2003-2008
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Children in immigrant families represent an important and growing group of the overall child population in Finland. The success of immigrants and their children is dependent on the extent to which they are welcomed, included and integrated. So far, there is little information available on immigrant children in need of special support and whether the need of special support is being satisfied. Only few qualitative studies have been conducted on the rehabilitation needs of immigrants and the abilities of the existing rehabilitation services to respond to these needs.

The aim of this study was to describe occupational therapy among immigrant children in Finland. The study aimed at describing the extent to which immigrant children and their families have applied for Kela compensated occupational therapy, recognizing possible differences in the compensation decisions of Finnish and immigrant children, studying the reasons for receiving occupational therapy and examining the population proportion of immigrant and Finnish children receiving occupational therapy.

The study was performed as a register-based study linking the disability allowance register and the rehabilitation register of The Social Insurance Institution of Finland (Kela). The research method was quantitative. The main theory of the Thesis was three-dimensional and founded on a rights-based thinking that immigrant origin children have a right to occupational therapy based on either the right to integration, right to services for disabled or the right to basic services.

During the study period 2003-2008, 1 126 Kela compensated interventions of medical rehabilitation were given to immigrant origin children. Of these, 228 interventions were occupational therapy. The results of the study showed that immigrant children and families have increasingly applied for Kela compensated occupational therapy. However, the applications of immigrant children and families were rejected more often than the applications of Finnish children. Among all children the primary reason for receiving occupational therapy was mental and behavioral disorders. The average annual number of children receiving disability allowance, medical rehabilitation and occupational therapy per 1 000 was greater among Finnish children than among immigrant children.

Discussion is needed on what the current service system can do to ensure equal treatment for equal need and how immigrant families can be supported to secure equal opportunity for rehabilitation and fair application procedures.

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ABBREVIATIONS

ADHD	Attention deficit hyperactivity disorder
HUCH	Helsinki University Central Hospital
HUS	Hospital District of Helsinki and Uusimaa
Kela	The Social Insurance Institution of Finland
SLI	Specific language impairment
THL	National Institute for Health and Welfare
UNICEF	The United Nations Children's Fund
WHO	World Health Organization

1. INTRODUCTION

Children in immigrant families represent a growing group in society accounting for a large share of the overall child population in many affluent countries, including Finland. The current overall proportion of foreign-speaking minors in the whole country of Finland is approximately 3 per cent, but the figure is four-fold in the capital city area. According to a population analysis of Helsinki, Espoo and Vantaa, in 2025 almost a fifth of the 7–15-year-old children in the capital city area will be of immigrant background (Vuori 2007).

Previous studies on the special needs of immigrant children have mostly been centered round the school performance of migrant origin children, and the high representation of minority children in special-education is internationally noted. Only few qualitative studies have been conducted on the rehabilitation needs of immigrants and the abilities of the existing rehabilitation services to respond to these needs (see f. ex. Manelius, Härkönen & Turunen 2005; Peltola 2005; Peltola & Metso 2008). Some international studies have been conducted on occupational therapy and immigrant children, but the topic has been scarcely studied in Finland.

At the same time, there is a distinguishable need to identify measures with which the good growth and development of migrant origin children and youth can be supported. The availability, adequacy and impact of appropriate supportive measures for immigrant children are unknown. Lindström, Väänänen & Toivanen (2009) highlight the need for basic study on the number of immigrant clients in different rehabilitation services, the rehabilitation-related service need of immigrants and the ability of the current service system to respond to these needs (Lindström, Väänänen & Toivanen 2009).

As the success of immigrants and their children is dependent on the extent to which they are welcomed, included and integrated, it is important to promote measures which increase the possibilities of integration. The goal of occupational therapy is to increase a client's ability to participate in everyday activities which include work, education and social participation. Acquiring the essential knowledge and skills needed to function in

society is one dimension of integration which the Finnish Act on the Integration of Immigrants and Reception of Asylum Seekers aims to promote. Based on the theoretical frame of reference of occupational therapy, this dimension of integration could be addressed through occupational therapy.

The overall aim of this study was to describe occupational therapy among immigrant children in Finland. The main theory of this Thesis is three-dimensional and founded on a rights-based thinking that immigrant origin children have a right to occupational therapy based on either the right to integration, right to services for disabled or the right to basic services. The study was performed as a register-based study linking the disability allowance register and the rehabilitation register of The Social Insurance Institution of Finland (Kela).

The Thesis begins with a literature review on the two main concepts of concern: immigrant and rehabilitation. To make the topic understandable for the reader, it was essential to include a reasonable view of themes related to the target group, immigrant children, the method, occupational therapy, and the end result, integration through rehabilitation. Characteristic features of immigrants as clients in health care were included in the review, because occupational therapy is included in the Finnish primary health care services which municipalities are obliged to provide. Also, because of the limited material available on multicultural encounters within the field of rehabilitation, it was necessary to include information on immigrants and health care in general. In addition, special attention was placed on the mental health of immigrants, as mental and behavioral disorders are the leading cause of Kela compensated occupational therapy among both immigrant and Finnish children.

Following the literature review, the specific aims and assumptions of the study are presented. After this, the methods of the study are described and description of the data collection process is provided. Subsequently, the main results of the study are presented, followed by discussion, conclusions and recommendations. Lastly due acknowledgments are given.

2. LITERATURE REVIEW

A literature review was conducted using the Pubmed-database. The following keywords were used in different combinations to identify relevant materials: *immigrant*, *migrant, health*, *rehabilitation*, *occupational therapy*, *service use*, *social services*. All relevant articles accessible through the University of Tampere journal database and the National Institute for Health and Welfare journal database were included for review. Sources were also obtained through secondary methods such as reference lists from published articles. The searches in Pubmed-database were done in English language.

Searches were also done in Finnish language. The database of the National Institute for Health and Welfare (THLlib) was used and relevant articles were searched for using the keyword *immigrant (maahanmuuttaja)*. From the obtained articles, relevant articles cited in them were also included for review. Similarly, the database of Kuntoutusportti, a network for the research and development of rehabilitation, was searched using the keywords *severely disabled (vaikeavammainen)*, *child (lapsi)* and *immigrant (maahanmuuttaja)* in different combinations. From the obtained releases, relevant publications cited in them were also included for review.

The results of the literature review are described in detail in chapters 1, 3 and 4.

3. THE CONCEPT OF IMMIGRANT

In this chapter terminology related to immigration is explored. As a whole, immigrant-related terminology is diverse and in some respects controversial. The tone of voice used in public debate is polyphonic and many times used wording are purposefully chosen.

The Finnish Aliens Act (301/2004) does not include a definition for immigrant. Instead, the word alien is used to refer to persons who are not Finnish citizen. (Ministry of the Interior 2010) Hytönen et al (2002) describe immigrant as a general concept which refers to all persons who have moved to a certain country (Hytönen et al. 2002). Similarly, Sarvimäki & Kallio (2007) and Tiilikainen (2007) reason that immigrant is an all-purpose word addressing all individuals who have moved from one country to another with the intention of permanent residence (Sarvimäki, Kallio 2007; Tiilikainen 2007). Immigration can occur on the grounds of work, marriage, study, return migration, asylum seeking or family reunification. Tourism and student exchange, on the other hand, are not classified as immigration. (Sarvimäki, Kallio 2007)

Statistics Finland produces most Finnish population statistics. As Lindström, Väänänen & Toivanen (2009) describe, official statistics include three characteristics which can be considered to define immigrant origin: nationality, native language and country of birth. All three have been used in immigrant studies and as a basis for statistics, but not one is problem-free. Some former foreign nationals have already acquired Finnish nationality, many foreign nationals living in Finland speak Finnish, Swedish or Sami as their mother tongue, and even Finnish children can be born abroad. (Lindström, Väänänen & Toivanen 2009)

Most optimally individuals of immigrant origin can be defined according to the country of origin of the individual or his or her parents. In other words, if an individual has been born in a foreign country, then that country is the individual's country of origin. If the individual has been born in Finland of immigrant parents born in one foreign country, then that country is the individual's country of origin. If the parents have been born in

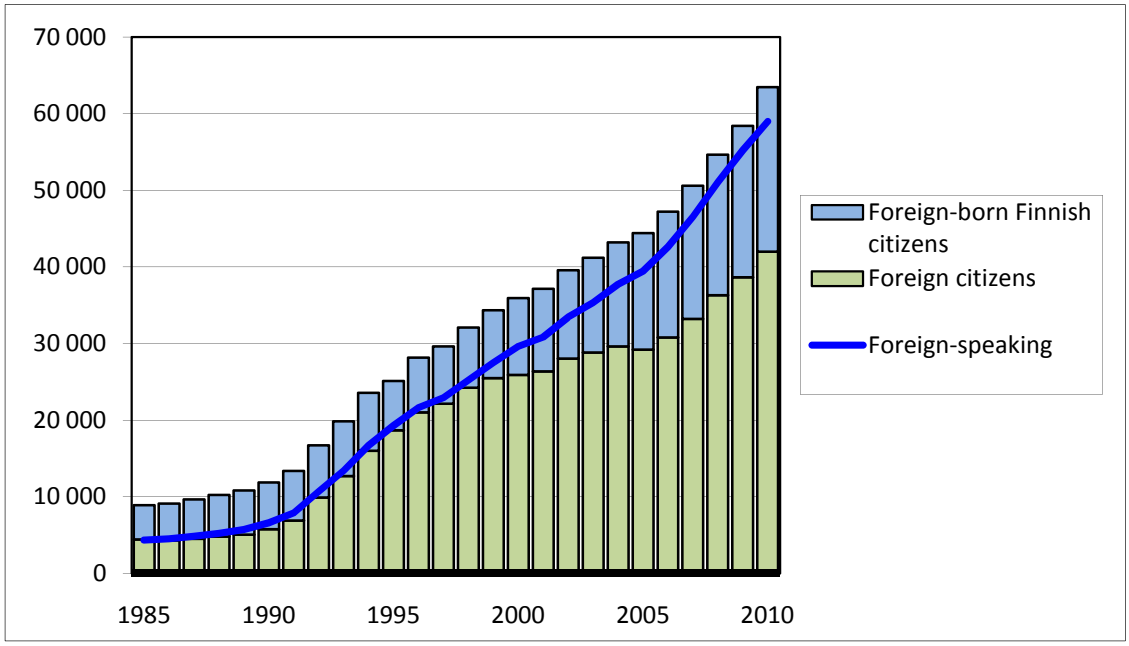
separate countries (which may include Finland), then the individual's country of origin is the mother's country of origin if the mother is foreign born. If the mother has been born in Finland, the country of birth of the father is the individual's country of origin. However, defining study population based on the country of origin of the individual or his or her parents is difficult in practice and much more time- and resource-consuming than settling for any of the three characteristics compiled in official statistics.

The problems related to the available statistics on immigrants and their health and use of services is noted in more or less every Finnish report written on the topic (see f. ex. Rauta 2005; Malin & Gissler 2006; Sarvimäki & Kangasharju 2006). The way this study solved the problems related to the classification of immigrant origin and available data are discussed more in-depth in chapter 6.

3.1 Immigration in Finland

Large-scale foreign immigration is still considered a new phenomenon in Finland. Foreign immigration began to increase at the turn of the 20th century, and today an estimated 20 000 immigrants move to Finland each year (graph 3.1) (Myrskylä 2010). In international comparison immigration to Finland is, nevertheless, small, and as a result there has not been a long tradition for the need of research on the integration or diversity of the foreign population. Moreover, the relatively small number of immigrants in Finland makes the production of statistics and surveys on specific features of foreigners problematic. (Wilkman 2009)

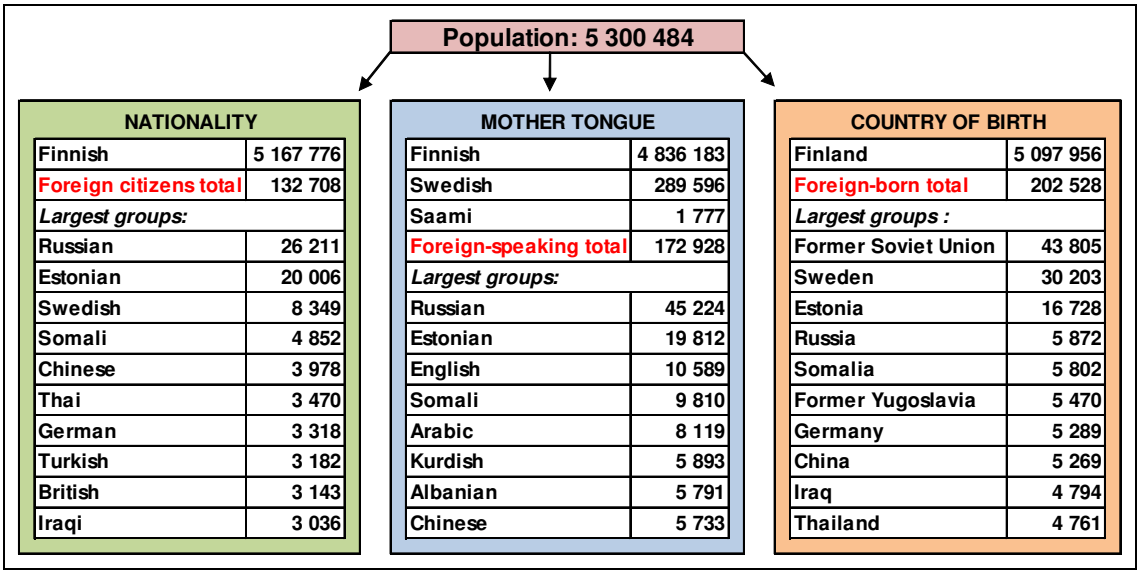
Graph 3.1. Foreign-born and foreign-speaking population in Helsinki 1.1.1985-2009 and estimate for 2010



Graph by Shadia Gaily, source Vuori 2009

As stated in chapter 3, immigrants are most often classified according to nationality, native language and country of birth. In the end of 2007 the largest foreign-speaking groups in Finland spoke Russian, Estonian, English, Somali and Arabic as their native language (graph 3.2). When classified by country of birth, the largest ethnic groups were Russians and those from Former Soviet Union, Swedes, Estonians and Somalis. What is noteworthy from graph 3.2 is how the basis of classification – nationality, mother tongue or country of birth – affects the number or foreign population in each population group. For instance, when classified according to native language the number of Somalis is profoundly greater (9 810) than when classified by nationality (4 852), as many Somalis have already received Finnish citizenship and many second-generation immigrants have been born in Finland. (Valtioneuvosto 2008) This same overall trend can be recognized also from graph 3.1, where the number of foreign-born and foreign-speaking citizens in Helsinki is considerably higher than the number of foreign citizens.

Graph 3.2. Foreign population in Finland by nationality, mother tongue and country of birth in 2007



NATIONALITY	
Finnish	5 167 776
Foreign citizens total	132 708
Largest groups:	
Russian	26 211
Estonian	20 006
Swedish	8 349
Somali	4 852
Chinese	3 978
Thai	3 470
German	3 318
Turkish	3 182
British	3 143
Iraqi	3 036

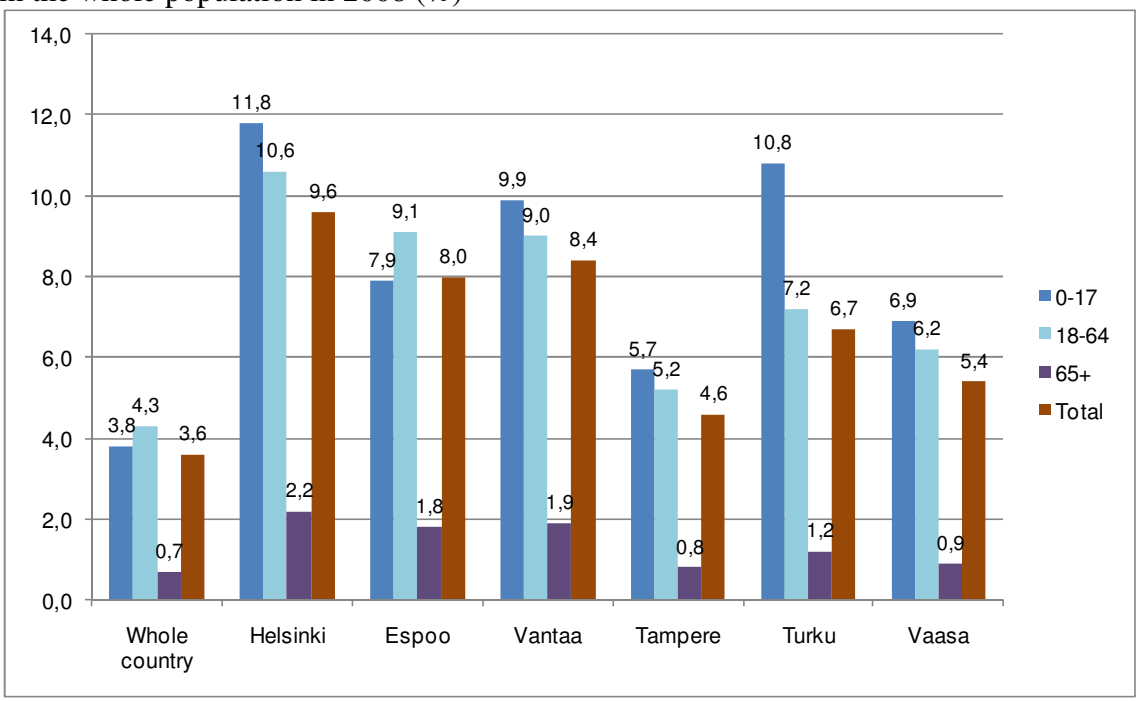
MOTHER TONGUE	
Finnish	4 836 183
Swedish	289 596
Saami	1 777
Foreign-speaking total	172 928
Largest groups:	
Russian	45 224
Estonian	19 812
English	10 589
Somali	9 810
Arabic	8 119
Kurdish	5 893
Albanian	5 791
Chinese	5 733

COUNTRY OF BIRTH	
Finland	5 097 956
Foreign-born total	202 528
Largest groups :	
Former Soviet Union	43 805
Sweden	30 203
Estonia	16 728
Russia	5 872
Somalia	5 802
Former Yugoslavia	5 470
Germany	5 289
China	5 269
Iraq	4 794
Thailand	4 761

Graph by Shadia Gaily, source Valtioneuvosto 2008

In 2008 the proportion of migrant origin population in the whole country of Finland was 3.6 per cent, with the majority of migrant origin population living in the greatest cities. The total proportion of migrant origin population living in the capital city Helsinki was 9.6 per cent. In the other two cities belonging to the capital city area – Espoo and Vantaa – migrant origin population constituted 8.0 and 8.4 per cent of the population, respectively. (Tilastokeskus 2009) The proportion of migrant origin population is highest among the youngest age groups and considerably lower among the oldest population above 65 years (graph 3.3).

Graph 3.3. Migrant origin population in age-groups in the largest cities of Finland and in the whole population in 2008 (%)



Graph by Shadia Gaily, source Tilastokeskus 2009

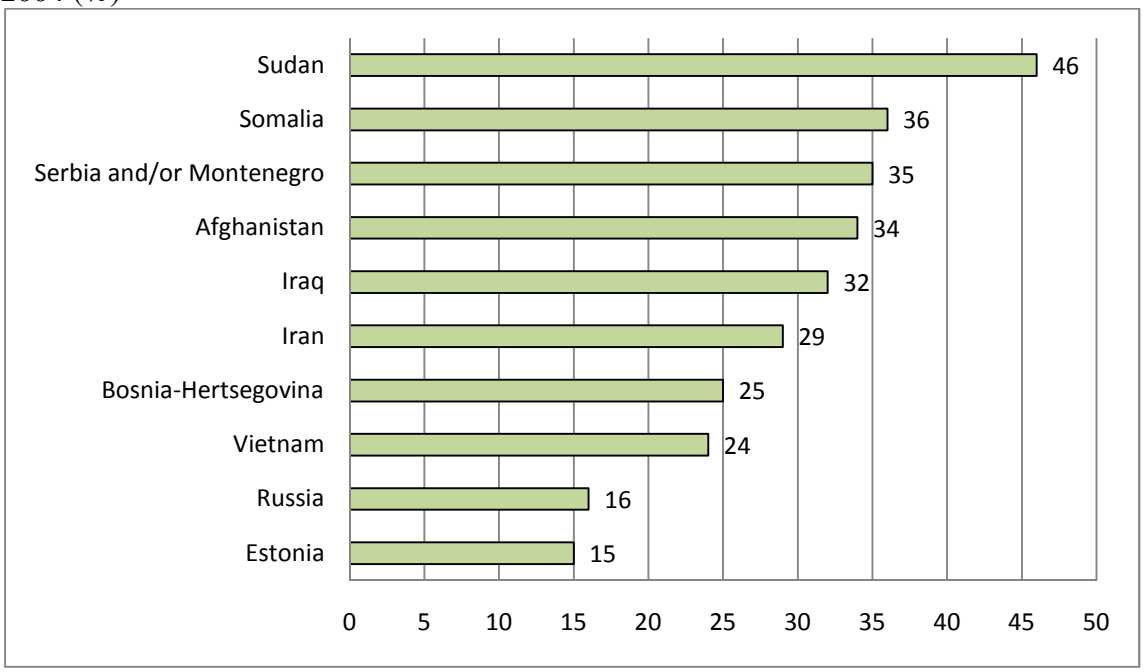
Malin & Gissler (2006) estimate that the number of foreign-speaking children will grow in the future as the majority of immigrants are young adults at the age of starting a family and on average immigrant families have more children than Finnish families (Malin, Gissler 2006). According to a population analysis of the capital city area, in 2025 almost a fifth of the 7–15-year-old children in the capital city area will be of immigrant background (Vuori 2007).

3.2 Immigrant children

According to UNICEF (2009) children in immigrant families are defined as children who live with at least one immigrant parent who is not born in the country of settlement. Children in immigrant families themselves may be first-generation immigrants or second-generation children born in the country of settlement. (UNICEF 2009) Immigrant children also include those minors who have moved to a country alone. These children are not included in the following figures of children in immigrant families, but the topic will be addressed briefly in chapter 3.2.2.

Children in immigrant families are an important group in society as they account for a large share of the overall child population in many affluent countries (UNICEF 2009). Also in Finland, immigrant children are a growing group in society, as the age-structure among immigrant population differs from the Finnish population. In 2004 almost a fifth of the immigrant population in Finland was children, and 77 per cent of immigrants were working age. As a comparison the proportion of working age among the Finnish population was 66 per cent. The growth of the proportion of children in refugee groups is in part due to family reunifications. Among some immigrant groups the proportion of children is significantly more than a fifth (graph 3.4). (Tilastokeskus 2005)

Graph 3.4. The proportion of children (0-14) in individual national groups in Finland in 2004 (%)



Graph by Shadia Gaily, source Tilastokeskus 2005

3.2.1 Special needs of immigrant children

Immigrant origin children may need special attention to be able to take part in Finnish society and its activities, in other words be integrated into society. According to the Finnish Act on the Integration of Immigrants and Reception of Asylum Seekers integration means *"the personal development of immigrants, aimed at participation in working life and society while preserving their own language and culture"*. Integration

also refers to "*measures taken and resources and services provided by the authorities to promote and support such integration, and consideration for the needs of immigrants in planning and providing other public services and measures".* (Ministry of the Interior 2009)

In this study the words seclusion, segregation and marginalization are used as antonyms for integration. These are used to refer to unsuccessful integration resulting in exclusion, disconnectedness and lack of participation.

Previous studies on the special needs of immigrant children have mostly been centered round the school performance of immigrant children. These results are, however, relevant for understanding the areas in which occupational therapy could be beneficial for immigrant children with special needs. For instance, pediatric occupational therapists work with children to help overcome certain aspects of learning difficulties. This includes assessing the child's basic skills, gross and fine motor skills as well as social performance capacity. In particular occupational therapists assess and test sensory disorders which can lead to learning problems.

According to Malin & Gissler (2006) there is no information available on immigrant children in need of special support and whether the need of special support is being satisfied (Malin, Gissler 2006). However, the high representation of minority children in special-education is internationally noted (Laaksonen 2007). The Programme for International Student Assessment (PISA) 2000 found that children in immigrant families in many European countries generally performed less well than children in native-born families. These findings are consistent with other studies which have shown that children in immigrant families are delayed in starting school and are more likely to repeat classes than children in native-born families. (UNICEF 2009; Clauss, Nauck 2009; Kirszbaum, Brinbaum & Simon 2009; Mencarini, Baldoni & Dalla Zuanna 2009; De Valk, Helga A G et al. 2009)

Sarvimäki & Kangasharju (2006) estimate that approximately 10 per cent of immigrant children in Finnish day care need special care. The corresponding figure among Finnish

children is 5 per cent. (Sarvimäki, Kangasharju 2006) As a comparison, a survey done at the Joensuu health center found that 4.7 per cent of Finnish 0-6-year-old children were diagnosed with a developmental disorder requiring rehabilitation (Herrgård, Renko 2000).

Mankinen & Pawli (2007) position that pupils of immigrant origin perform less well at school partly because of insufficient language skills. Language problems may at worst cause the child or adolescent to begin school later than his or her peers. (Mankkinen, Pawli 2007) According to Asikainen (2009) a misdiagnosed or undiagnosed speech and language disorder is a risk factor for learning problems and emotional difficulties. In some cases it even leads to marginalization. The risk for all these can be many times higher for immigrant children than for native Finnish children. (Asikainen 2009)

Laaksonen (2007) underlines that in addition to insufficient language skills many pupils of immigrant origin lack the basic skills required at school which Finnish pupils have acquired much earlier. Laaksonen suggests that immigrant children should be provided opportunities to develop their readiness for school much before school age. This is seen especially essential for those children coming from very different cultural backgrounds. (Laaksonen 2007) Also Vakimo (2001) considers that more focus should be put on teaching immigrant children inner control and sustaining the gradual development of personal responsibility. The demand for self-activity and self-steering is often placed prematurely in relation to the skills of the child. (Vakimo 2001) Occupational therapy could be able to provide immigrant origin children the opportunity to learn and practice these basic skills needed at school.

According to the Finnish Current Care, a unit which produces evidence-based treatment guidelines for the Finnish Medical Society Duodecim, occupational therapy is recommended to children with specific language impairment (SLI) if the child has significant problems in fine and gross motor skills, activity planning, visual perception and play. An occupational therapy assessment is recommended to be included in the diagnosis of SLI. (Suomalaisen Lääkäriseuran Duodecimin, Suomen Foniatrit ry:n ja Suomen Lastenneurologisen yhdistyksen asettama työryhmä 2010)

In addition to SLI, occupational therapy is also recommended to children with attention deficit hyperactivity disorder (ADHD). The Current Care recommendations state that depending on the child's symptoms an occupational therapy assessment may be needed. Individually planned support measures, which include occupational therapy assessment, should be commenced as soon as a child displays problems in performance or learning. According to literature, those children with ADHD who have sensory processing disorder may benefit from occupational therapy. (Suomalaisen Lääkäriseuran Duodecimin, Suomen Lastenneurologinen Yhdistys ry:n ja Suomen Lastenpsykiatriyhdistyksen asettama työryhmä 2007)

In her doctoral dissertation on immigrant pupils in special-education schools in the Turku region, Laaksonen (2007) found that over half of the immigrant pupils showed profound and multiple learning difficulties. Second most commonly, immigrant pupils demonstrated language problems, emotional and social difficulties and attention deficit. Sensory handicap and mild retardation were least common. Speech and language disorders were not only restricted to the Finnish language, but were apparent also in the child's native language. Immigrant pupils were also found to have different degrees of dyslexia. Psychological difficulties appeared as anxiety, aggressiveness, lack of concentration and traumatic experiences. Some pupils were described to have poor general performance, which encompassed weakness in memory and reasoning or general delay in cognitive development. (Laaksonen 2007) There is reason to believe that occupational therapy would be beneficial for children demonstrating such special needs.

3.2.2 Refugee children

Child refugees are an especially vulnerable group among immigrants. Refugee children grow up in abnormal and psychosocially unstable circumstances, which inevitably affect the child's development and behavior. Certain neurophysiologic changes in response to traumatic stressors have been demonstrated (Forland 2009). In Finland refugee children are entitled to child care clinic services after an investigation and check-up by the Immigration Department (Herrgård, Renko 2000).

Sourander (2007), a researcher on the mental health of refugee children and youth, asserts that appropriately developed personality traits, an adequately supportive environment and favorable external support sustain the survival of a child refugee. There is a danger that when left without sufficient support a child refugee becomes marginalized and his or her probability of integrating into the Finnish society becomes slim. Mental health problems are the greatest health threat of child refugees. (Sourander 2007) Refugee children may display behavior disorders, depression, apathy or self-destructive behavior. Psychological symptoms may, however, be caused by post-traumatic reactions and thus the root of the symptoms may not be a psychological disorder. Recovery is eased if the child or youth can be provided with treatment which is culturally acceptable and if his or her family and social relations can be supported. (Laaksonen 2007)

No service provider in Finland has specialized in the problems of refugee children. According to the bulletin of All Our Children ry, refugee children in Finland have difficulty in attaining psychosocial help and therapy (Yhteiset lapsemme ry 2009). Likewise Uusijärvi (2003) confirms that immigrant children have a lot of mental health symptoms and their guidance to treatment is problematic. According to the account of Uusijärvi, immigrant children are not directed to appropriate examinations and treatment partially as a result of the inadequate ability and readiness of Finnish professionals to work with children and families of a foreign cultural background. (Uusijärvi 2003)

A subgroup within the vulnerable group of refugee children is the children who arrive to Finland as unaccompanied minors. The number of minor unaccompanied asylum applicants has increased in Finland during the 21st century, and with it the total number of positive decisions on asylum for unaccompanied minors has also increased. According to Parsons (2010) there was a dramatic growth in the number of minor asylum seekers arriving unaccompanied to Finland in 2008 (Parsons 2010). However, as minor unaccompanied immigrant children are a very specific subgroup within immigrant children and their proportion is relatively very small, numbers ranging between 100 and 700 applicants yearly, I have chosen not to discuss their special needs in greater detail.

3.2.3 The risk of marginalization

The marginalization of an immigrant can be defined as prolonged exclusion, disconnectedness, lack of participation, isolation and under-privilege in the Finnish society. The marginalization of immigrants is often characterized by unemployment and lack of language skills. The seclusion and marginalization of immigrant youth can be caused by the collision of two cultures and the dispersion of identity because of this. (Lindström, Väänänen & Toivanen 2009; Mankkinen, Pawli 2007)

Many studies (such as The Living Conditions of Immigrants Mamelo 2002) have shown that immigrants have a greater risk of seclusion and rejection by society. One reason for this may be lack of social competence. For instance, a special-needs pupil of immigrant origin can be twice as susceptible for marginalization because of his or her ethnic background and his or her need of special support. (Pohjanpää, Paananen & Nieminen 2003; Laaksonen 2007)

As the goal of occupational therapy is to increase a client's ability to participate in everyday activities, problems related to exclusion, disconnectedness and lack of participation can and often are addressed in occupational therapy. When working with adolescents, the aim of occupational therapy can be the prevention of exclusion and the promotion of participation. Occupational therapy can help the teenager maintain and

develop skills in personal, social, academic, and vocational pursuits. In particular, occupational therapy can be of assistance in aiding young adults when leaving the education system.

3.3 Immigrant health

The number of immigrants is growing almost everywhere in Europe, which has made the use of health care services by immigrants a major international political and public health issue. There is scarce knowledge on how immigrants use health services, and comprehensive scientific study on immigrant health is lacking. Even on a European scale there is a lack of data on the accessibility and use of health care services by migrants, appropriateness of the care provided, client satisfaction and problems experienced when confronting the health care system. There is a widespread need to better understand how to ensure access to health care services and to deliver appropriate care to immigrants. (Dias, Severo & Barros 2008; Malin, Gissler 2006; Rauta 2005; Sarvimäki, Kangasharju 2006; Peltola, Metso 2008) To complicate matters, the use of services does not reflect need problem-freely. On the contrary, use of services has been claimed to reflect need inversely (Mannila 2008).

In Finland statistics on immigrant origin are not compiled in health care user registries. Municipalities are able to differentiate immigrant clients from the majority population only at a sum level. This produces general information on the number of immigrant origin clients, but fails to produce more detailed information on the content and quality of care. As a result, existing data on immigrant health is scattered and the needs and use of health services of specific immigrant groups is unknown. (Dias, Severo & Barros 2008; Malin, Gissler 2006; Rauta 2005; Sarvimäki, Kangasharju 2006)

In 2002 Statistic Finland conducted a study on the living conditions of immigrants (Mamelo study). The study population consisted of 20-64-year-old Russians, Estonians, Somalis and Vietnamese, and 2 250 study participants were either interviewed or surveyed. The results of the study demonstrated that on average immigrants had more health problems than the majority population and immigrant dental health was found to

be significantly poorer. Almost every fifth immigrant had a chronic illness which hindered work or social life. However, what researchers found most alarming was the amount of sleeplessness and depression among immigrants, as every third immigrant reported suffering from depression during the last month. (Pohjanpää, Paananen & Nieminen 2003)

Similar results are also reported in international studies (see f.ex. Fassaert, Hesselink & Verhoeff 2009; Sundquist 2001; Stronks, Ravelli & Reijneveld 2001). For instance according to a Swedish study by Hjern et al (2001), members of ethnic minorities seem to receive equal treatment for equal need with regards to consultations with a physician. However, the ethnic minority study groups expressed considerably more unmet needs than the Swedish-born study group. In addition, there was a tendency for minority members to report less continuity and compliance in care than Swedish-born residents. (Hjern et al. 2001)

Factors which comprehensively sustain and increase the health and welfare of immigrants include employment, equality with others, finding one's personal social status and the opportunity of social mobility. The welfare of family in Finland, success of children and knowledge of the safety and wellbeing of relatives left in the country of origin are also important factors which affect immigrant health and welfare. (Gissler, Malin & Matveinen 2006)

3.3.1 Immigrants as clients in health care

The Finnish Non-Discrimination Act (21/2004) obliges that all citizens be treated equally in both public and private activities (Ministry of Labour 2004). Accordingly equity in health and health care is a major goal of Finnish health policy. Nevertheless, there are significant socio-economic differences in the use of health services. There are also considerable differences in service provision between municipalities. As a constitutional right (§ 19) migrants residing permanently in Finland are entitled to the same services and social security as Finnish citizens. Yet, with the exception of young women, migrants use health services less than the Finnish core population. Among

immigrants, those arriving to Finland as refugees, use health care services the most. (Sarvimäki, Kallio 2007; Wahlbeck et al. 2008)

The Finnish social, health and rehabilitation services are criticized of complexity and dispersion, and service use can be difficult even for many native Finns. All the more, after finding the right services, immigrants may have difficulties being entitled to care and receiving wanted care, despite equal right to care. Clients of immigrant origin may not be familiar with doing business in Finland and poor language skills may make services use impossible, if for instance the appointment must be reserved via telephone. (Härkäpää, Peltola 2005)

As Peltola (2005) states, services designed to meet the needs of the majority population do not necessarily meet the needs of immigrants (Peltola 2005). Sarvimäki & Kangasharju (2006) highlight that in order to guarantee the basic rights of minorities, positive discrimination, attention and approval are needed (Sarvimäki, Kangasharju 2006). The opportunity of an immigrant to use Finnish social and health services is influenced by cultural know-how, experiences related to immigration and individual factors. The structural differences in the organization of social and health services between the country of origin and the new home country may also complicate service use. On the other hand, immigrants may also face prejudice, discrimination and racism when seeking help. (Peltola 2005)

3.3.2 Mental health

Immigrants – and in particular refugees and asylum seekers – have a relatively greater risk of mental health disorders. Mental health disorders have been found to be common among refugees and asylum seekers from several different ethnic groups. Especially traumatic disorders and depression are common among immigrants. Cultural differences, ignroance and prejudice hinder many immigrants from seeking psychiatric care. The attitudes of personnel may likewise prevent the realization of care. (Lindström, Väänänen & Toivanen 2009; Halla 2007)

Research on immigrant mental health has, however, shown mixed results. As referred in UNICEF's report Children in Immigrant Families in Eight Affluent Countries, recent research in Australia indicates that overall levels of mental illness among children in immigrant families are similar to or lower than levels among other children. This research result included lower rates of both neurotic and psychotic symptoms. Another study in Australia found children of immigrants to initially have better mental health than other children. Quite the opposite, a survey in Germany, found children in immigrant families to be more likely than children in non-immigrant families to have emotional problems. (UNICEF 2009)

Despite indications of higher prevalence of mental health disorders among the immigrant population, immigrants are under-represented as clients in psychiatric care. In many countries immigrants use less mental health services than the core population. According to Nadeau & Measham (2005) especially new migrants and refugees use conventional mental health care services less than majority culture youth (Nadeau, Measham 2005).

Rauta (2005) states, that immigrants have trouble receiving help for their mental health problems due to a magnitude of reasons (Rauta 2005). According to Lindström, Väänänen & Toivanen (2009) there are signs that this under-representation is the result of not only language and cultural barriers which hinder immigrants from seeking care, but also the lack of transcultural mental health expertise, problems in identifying and diagnosing mental health disorders, the availability of services and significant regional differences in thereof and the lack of guidance to care. It appears that immigrants are prevented from seeking mental health care by cultural differences, fear, shame, language problems and lack of knowledge. (Lindström, Väänänen & Toivanen 2009) On the other hand, Uusijärvi (2003) concludes that the mental health problems of immigrant children are like the problems of all other children and therefore immigrant children can be helped with normal health care services (Uusijärvi 2003).

4. THE CONCEPT OF REHABILITATION

In this chapter key terminology related to rehabilitation and disability is explored, drawing points in common between these two and immigration. When using the term *provision* I refer to the institutions where rehabilitation is in actual fact arranged and performed. Correspondingly, when using the term *compensation* I refer to the institutions which fund rehabilitation. When describing that rehabilitation is *available* through certain institutions, I include institutions both providing and compensating rehabilitation.

Research related to rehabilitation is done in many fields of study, including medicine, social and health sciences, economics, law and pedagogy. In addition, rehabilitation-related study is conducted in the fields of psychology, physiotherapy, occupational therapy and environmental planning. As a science, rehabilitation seeks to understand human performance and work ability, the foundations of wellbeing, and the means to influence the occupational performance of both individuals and population. (Kuntoutusasian neuvottelukunta 2003)

The definition of rehabilitation is broad and it aspires to attain the spectrum and lifespan of an individual. Rehabilitation can be defined as a process of change between an individual and an environment, with the aim of promoting function, independent coping, welfare and employment. (Sosiaali- ja terveysministeriö 2002) In 1969 WHO classified rehabilitation into medical, social, vocational and educational rehabilitation (World Health Organization 1969). Although the foundation of rehabilitation is in medicine, nowadays the participation and expertise of the client is both understood and emphasized (Uotinen 2008).

According to Rissanen, Kallaranta & Suikkanen (2008) the general goals of rehabilitation are to recover lost function, prevent individuals from losing the ability to function, maintain and improve occupation, promote participation, reduce environmental barriers as well as encourage and assure personal growth, positive outlook on life and family welfare (Rissanen, Kallaranta & Suikkanen 2008). In

accordance, as described in greater detail in chapter 4.2, the general goal of occupational therapy is to increase a client's ability to participate in everyday activities, to support the client's interaction skills and to advance cognitive and sensomotor skills as well as emotional resources.

4.1 Disability

As a term, disability describes general difficulty in function. Defining disability is based on statistical thinking of intelligence, and its purpose is to help find those individuals in need. Disability can be congenital or it can appear later in life as a result of injury or disease. Disability extends from mild to severe, and the differences in the possibilities of independent function are vast. (Nikkanen 2010; Koivikko, Autti-Rämö 2006)

According to the WHO (2010) disability is a blanket term which covers impairments, activity limitations, and participation restrictions. As defined by the WHO, impairment is a problem in body function or structure, activity limitation a difficulty encountered by an individual in carrying out a task or action, and participation restriction a problem in involvement in life situations. Yet disability is not only characterized by the individual features of a person but also the features of the society in which he or she lives. (WHO) According to the Finnish Act on Services and Assistance for the Disabled (1987), a disabled person is defined as an individual with long-term and particular difficulties in performing activities of daily living due to a disability or disease (Sosiaali- ja terveysministeriö 1987).

A Finnish report by the Ministry of Social Services and Health (2006) confirms that no accurate research data or statistics exist on the prevalence of disability. As a result, analyzing the well-being and conditions of people with disabilities is problematic. (Ministry of Social Affairs and Health 2006) Estimates of the proportion of disabled in the population depend on the used definition. It has been discovered that defining disability according to medical evaluations produces a smaller proportion of disabled than defining disability based on the social dimension of disability. (Nikkanen 2010) The proportion of mentally disabled (IQ below 70) in the population is estimated to be

stable, although diagnostic criteria may have differed over decades (Autti-Rämö et al. 2008). From a global perspective, again depending on the used definition, disabled people represent between 10 and 20 per cent of the world's population. They are disproportionately poor, and have historically experienced diverse forms of social exclusion. (Shakespeare, Iezzoni & Groce 2009) Little is known about the prevalence of disability and situation of children with disabilities in countries with low and middle incomes (Gottlieb et al. 2009).

4.1.1 Disabled immigrants

Persons with disabilities belonging to minority groups constitute a minority within a minority, and thus face a double risk of social exclusion. Immigrants and asylum seekers with severe disabilities are easily isolated if their needs are not taken into account. (Ministry of Social Affairs and Health 2006; Koskela 2003) According to Sarvimäki & Kangasharju (2006) the needs of disabled immigrants have not been systematically studied (Sarvimäki, Kangasharju 2006). Similar findings are reported by Koskela (2003): there is a lack of statistical information on disabled immigrants and few studies and researches have been done on the topic (Koskela 2003).

Nevertheless there are disable, handicapped and other individuals in poor health especially among those immigrants who have come to Finland as refugees or asylum seekers. According to Peltola & Metso (2008) service providers in Finland are only now beginning to become conscious of this. Currently, the services provided for disabled immigrants are rather nonexistent and appropriate rehabilitation and rehabilitative work activity is not available. (Peltola, Metso 2008)

In a study on immigrants' rehabilitation and employment in Helsinki, Peltola & Metso (2008) theme interviewed 19 directors and employees of various service providers in Helsinki. According to these interviews, immigrant clients do not actively and spontaneously seek available services for the disabled. This passivity was seen to be mostly the result of fear, as in many countries of origin caring for disabled signified

being locked up in an institution. As a consequence the images and experiences of services for the disabled can be very negative. (Peltola, Metso 2008)

In 2003 a project by the Support Center for Disabled Immigrants Hilma conducted a survey on the services of disabled immigrants. Information on immigrant origin service users was gathered from Helsinki, Espoo and Vantaa. In the survey 565 immigrant origin individuals with disability or long-term disease were contacted. The majority of the reached clients were elderly, over 65-years-old. According to the results, one of the greatest challenges for disabled immigrants is receiving information on available services. The need to develop services to better cater for the needs of disabled immigrants was clearly recognized. Equally the need for a comprehensive study on the situation of disabled immigrants in Finland was documented. (Koskela 2003)

4.1.2 Disability allowance

The Social Insurance Institution (Kela) pays disability allowance for persons under 16 years of age to support the care of a disabled or chronically ill child. Children under 16 who live in Finland are eligible for disability allowance if the care and rehabilitation of the child causes especial strain and is considerably demanding compared to the care of a healthy child of the same age. In addition, the strain of care and rehabilitation must last longer than a period of six months. (Kela 2009)

The amount of the disability allowance is tied to the degree of care and commitment required from the family. The first rate is granted when the care and rehabilitation of a child causes at the very least weekly strain and obligation. The second rate is granted when strain and obligation is demanding and considerably time-consuming on a daily basis. The third rate is granted when the strain and obligation for caring for the child is around-the-clock. To be eligible for Kela compensated medical rehabilitation, a child must receive disability allowance at its middle or highest rate. (Kela 2009)

4.2 Introduction to occupational therapy

The American Occupational Therapy Association has defined occupational therapy practice in the following way:

> *Occupational therapy is the therapeutic use of everyday life activities with individuals or groups for the purpose of participation in roles and situations in home, school, workplace, community and other settings. Occupational therapy services are provided for the purpose of promoting health and wellness and to those who have or are at risk for developing an illness, injury, disease, disorder, condition, impairment, disability, activity limitation, or participation restriction. Occupational therapy addresses the physical, cognitive, psychosocial, and other aspect of performance in a variety of contexts to support engagement in everyday life activities that affect health, wellbeing and quality of life.*

From The American Occupational Therapy Association: Definition of occupational therapy practice for the AOTA Model Practice Act (Husey, Sabonis-Chafee Barbara & O´Brien Jane Clifford 2007)

The goal of occupational therapy is to increase a client's ability to participate in everyday activities such as eating, dressing, bathing, leisure, work, education and social participation. Occupational therapy aims at supporting and advancing the client's social skills and growth of emotional resources as well as practicing cognitive and sensomotor skills and readiness. The nature and content of occupational therapy interventions vary as they are based on the client's interests, motivations and goals. (Rissanen, Kallaranta & Suikkanen 2008; Husey, Sabonis-Chafee Barbara & O´Brien Jane Clifford 2007)

Occupational therapists work in various settings with clients of all ages and diagnoses, who have problems that interfere with their ability to function. These problems include genetic, neurological, orthopedic, musculoskeletal, immunological and cardiac dysfunctions, as well as psychological, social, behavioral or emotional disorders. (Husey, Sabonis-Chafee Barbara & O´Brien Jane Clifford 2007)

4.2.1 Pediatric occupational therapy

Pediatric occupational therapists provide intervention to children with physical, developmental and psychological problems. Physical disabilities which can be

addressed in occupational therapy include musculoskeletal disorders such as congenital anomalies and disorders as well as neuromuscular disorders such as cerebral palsy. Developmental disabilities include autism, Down syndrome, intellectual disabilities, developmental coordination disorder, developmental delay and other pervasive developmental disorders. (Case-Smith 2005; Husey, Sabonis-Chafee Barbara & O´Brien Jane Clifford 2007)

In some cases occupational therapy may be provided for children who experience childhood illnesses such as cancer, asthma or suffer from rare medical conditions. In other cases children may experience physical disabilities such as spinal cord injuries, head injuries, burns or orthopedic deformities. (Case-Smith 2005; Husey, Sabonis-Chafee Barbara & O´Brien Jane Clifford 2007)

Finally, children may receive occupational therapy for behavioral and psychological disorders. These include attention-deficit hyperactivity disorder, conduct disorder, learning disabilities or post-traumatic stress disorder. (Case-Smith 2005; Husey, Sabonis-Chafee Barbara & O´Brien Jane Clifford 2007)

The purposes of a pediatric occupational therapy are individual. Intervention may aim at improving a child's performance by using occupation as a means. Intervention may also focus on adapting occupation by providing assistive technology or modifying the child's environments. In general, the principal focus of pediatric occupational therapy intervention is on play development. Play is considered one of the primary occupations of childhood and it can be used as either the end goal of therapy or the means to improve motor, social or cognitive skills. Pediatric occupational therapy interventions often promote participation through educating the family, school personnel and other important individuals in the child's life. (Kramer, Hinojosa 2010; Husey, Sabonis-Chafee Barbara & O´Brien Jane Clifford 2007; Knox 2007; Mandich, Rodger 2006)

According to a study on the experiences and expectations of clients receiving medical rehabilitation for persons with severe disabilities by Järvikoski, Hokkanen & Härkäpää (2009), the significance of speech and occupational therapy was visible in the

improvement of communication skills and increase in participation. Speech therapy enabled communication between the child and the parent and increased the ability to use pictures to support speech. Occupational therapy improved the child's ability to take contact and social interaction in groups. On the whole, outpatient rehabilitation was experienced to improve the child's self-confidence, openness, concentration, mobility and activity. What is emphasized by Järvikoski, Hokkanen & Härkäpää is that medical rehabilitation for persons with severe disabilities was considered highly essential by both the disabled and their close relatives. Lack of rehabilitation was assessed to decrease quality of life, deteriorate health, emphasize the handicap and complicate or make impossible the activities of daily living. (Järvikoski, Hokkanen & Härkäpää 2009)

4.2.2 Immigrant children and occupational therapy

Only few qualitative studies have been conducted on the rehabilitation needs of immigrants and the abilities of the existing rehabilitation services to respond to these needs (see f. ex. Manelius, Härkönen & Turunen 2005; Peltola 2005; Peltola & Metso 2008). Also Rissanen, Kallaranta & Suikkanen (2008) confirm that immigrants are a new group of clients in rehabilitation, and the culture and preconditions of life of immigrants need to be studied (Rissanen, Kallaranta & Suikkanen 2008). The guiding results of these previous studies have shown that recognizing the rehabilitation needs of immigrants is problematic and guidance to rehabilitation services is very limited. Additionally mental health services function poorly and special groups such as illiterate immigrants and immigrants with learning difficulties lack appropriate rehabilitation services entirely. (Lindström, Väänänen & Toivanen 2009)

The occupational therapy of immigrant children has not been previously studied in Finland. Approximate results (see f. ex. Uusijärvi 2003) have shown that immigrant origin children and youth are over-represented as child welfare clients but under-represented as clients in therapeutic services. The Helsinki Deaconess Institute's My Way (Oma tie) -project (2006-2009) focused on identifying learning difficulties among immigrant youth. The report of the project describes that the approach of occupational therapy was found to be especially beneficial when evaluating the learning difficulties

of young immigrants. This is because, firstly, the occupational therapy approach emphasizes the occupational history of an individual and the personal experience of oneself as an actor. This is important, for instance, when evaluating the learning difficulties of a student who has no learning history in Finland. Secondly, the occupational therapy approach is advantageous when defining the full extent and impact of learning difficulties on the life of the young person. Occupational therapy was able to answer questions on how well the young person is able to respond to the challenges in his or her life. (Arvonen, Katva & Nurminen 2010)

Some international studies have been conducted on occupational therapy and immigrant children. For example, a German report by Lieberz & Heifer (2006) found 75 per cent of the clients in pediatric occupational therapy in the city of Mannheim to be of immigrant origin. Further, results showed differences in the practice of occupational therapy between native German children and immigrant origin children. Of German children, 80 per cent of the pediatric occupational therapy clients were boys. By contrast, the proportion of immigrant origin girls in occupational therapy was double compared to native German children. Adherence and commitment to care was lower among immigrant origin families. (Lieberz, Heifer 2006)

Similar results are described by Laaksonen (2007) in her doctoral dissertation on immigrant pupils in special-education schools. Albeit the number of immigrant origin boys in special-education schools was greater than the number of immigrant origin girls, the proportion of immigrant origin girls in special-education schools was relatively greater than the proportion of native Finnish girls. Like Lieberz & Heifer (2006), also Laaksonen concludes that the reasons for the differences in the proportion of immigrant origin girls versus majority girls cannot be answered within the conducted studies. (Laaksonen 2007)

4.3 Rehabilitation services in Finland

The municipalities of Finland are obliged to arrange primary health care services by the Public Health Law (66/1972, KTL), the Law of Secondary and Tertiary Care

(1062/1989, ESHL) and the Mental Health Law (1116/1990). Medical rehabilitation – and thus also occupational therapy – is included in the primary health care services which municipalities are obliged to provide. The Decree on Medical Rehabilitation (1015/1991) defines medical rehabilitation as aims to maintain and improve the physical, psychological and social ability of an individual while promoting and supporting his or her life control and independent mastery of activities of daily life. (Sosiaali- ja terveysministeriö 2008b)

In effect medical rehabilitation in Finland is available through a number of systems and the expenses and responsibilities of provision are divided among a variety of players. In the public sector rehabilitation services are available through health care and social centers, hospitals, social service institutions, educational establishments and employment offices. Private sector services are provided by rehabilitation centers, public health and disability organizations as well as independent practitioners. In addition to the above, rehabilitation is also available through State Treasury, insurance companies, occupational health services, earnings-related pension providers, the employment and economic development office and Finnish Student Health Services. (Sosiaali- ja terveysministeriö 2008b; Kela 2009)

The Social Insurance Institution of Finland (Kela) provides social security benefits for all residents of Finland. It has a statutory responsibility to provide vocational rehabilitation as well as medical rehabilitation for persons with severe disabilities. Thus the municipality is required to provide medical rehabilitation only for the parts which Kela is not responsible for. The municipalities' responsibility to arrange medical rehabilitation for its inhabitants is based on individual evaluations of the need for rehabilitation. Most of the rehabilitation provided by the municipality is medical rehabilitation. (Sosiaali- ja terveysministeriö 2008b)

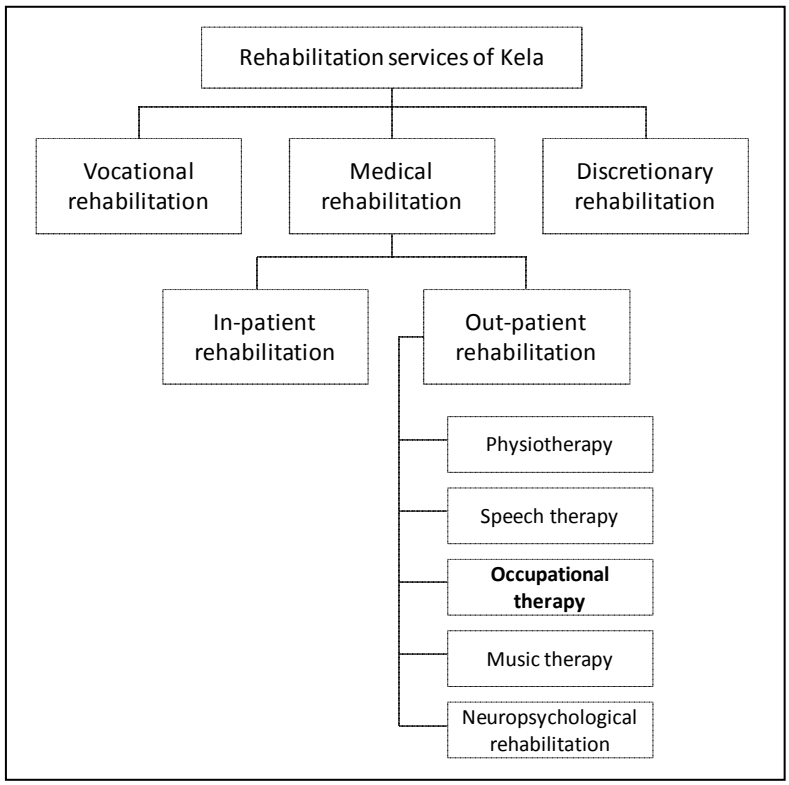
The municipality is responsible for ensuring that the provided rehabilitation services meet the need of rehabilitation both in terms of quality and quantity. However, the Municipal Law is flexible and it permits the municipalities to provide services either independently, jointly with other municipalities or by purchasing services from private

producers. Consequently, occupational therapy resources, emphasis and realization vary between municipalities. (Sosiaali- ja terveysministeriö 2008b; Sosiaali- ja terveysministeriö 1991)

4.3.1 Rehabilitation services of Kela

The rehabilitation services available through Kela are provided by rehabilitation centers, therapists or other providers selected and reimbursed by Kela. Three main types of rehabilitation services are available through Kela: vocational rehabilitation, medical rehabilitation for persons with severe disabilities and discretionary rehabilitation (graph 4.1). Medical rehabilitation for persons with severe disabilities is intended for persons under 65 with a medically diagnosed severe disability which needs at least one year of rehabilitation. The handicap must cause substantial difficulty in the daily life of the individual. In addition, as mentioned earlier, to be eligible for Kela compensated medical rehabilitation the individual must receive disability allowance or pensioners' care at its middle or highest rate. (Kela 2009)

Graph 4.1. Rehabilitation services provided by Kela



It is defined in the Rehabilitation Allowance Act (566/2005) that medical rehabilitation for persons with severe disabilities must be based on an individual rehabilitation plan (Nikkanen 2010). According to Peltola & Metso (2008) immigrant clients do not have the language skills and understanding necessary for filling in forms and applications. Appendixes and further accounts generally necessary when applying for benefits are often very troublesome, and written decisions and requests are often misunderstood. (Peltola, Metso 2008) Also Manelius, Härkönen & Turunen (2005) underline that immigrants may need special help and guidance in the realization of a rehabilitation plan. It may be impossible for clients to commit and motivate themselves to services they do not know about or know how to use, and thus even good plans may be void. (Manelius, Härkönen & Turunen 2005)

The interviews conducted by Peltola & Metso (2008) revealed several general problems in the services of Kela. Firstly, many of the benefits and support measures provided by Kela are in actual fact not applicable for immigrants because of limitations related to the system or other reasons. For example the need for interpretation can be considered as grounds for not providing mental health services for an immigrant. Secondly, many of Kela's support measures are provided for individuals who in some way are connected to the labor market, leaving long-term unemployed immigrants outside services. Lastly, the complexity of Kela's services leads to serious problems as immigrants have difficulty in comprehending the available services in their entirety. As a result immigrants do not understand the eligibility criteria used and do not know which services can be applied for. Lack of language skills also hinders doing business with Kela as interpreters are used too seldom. (Peltola, Metso 2008)

4.3.2 Occupational therapy in the capital city area municipalities

The capital city area of Finland consists of the cities of Helsinki, Espoo, Vantaa and Kauniainen. This chapter will discuss the occupational therapy services of Helsinki, Espoo and Vantaa but exclude the provision of occupational therapy in Kauniainen, due to the small size and small immigrant population of Kauniainen.

The city of Helsinki does not have its own pediatric occupational therapy services, but purchases the services from the private sector. Adult occupational therapy services are found under medical rehabilitation, which is situated under rehabilitation services and lastly, health services. Other medical rehabilitation services include podiatry, physiotherapy, assistive technology services and rehabilitation consultation. (Helsingin kaupunki.)

In the city of Espoo pediatric occupational therapy services are included in children's rehabilitation and therapy services, which in turn belong to family and social services. Other rehabilitation and therapy services include child care clinic, children's speech therapy and child psychology. Services are provided for in five areas, and in the year 2010 the city of Espoo had thirteen own pediatric occupational therapists. Unlike pediatric occupational therapy services, adult occupational therapy services belong to health services. (Espoon kaupunki)

In the city of Vantaa pediatric occupational therapy services belong to medical rehabilitation, which is found under rehabilitation and therapy services. Rehabilitation and therapy services in turn belong to health services. Other therapy services found under medical rehabilitation include physiotherapy, speech therapy and nutrition therapy. Occupational therapy services are provided for in five health centers and one hospital. (Vantaan kaupunki)

Pediatric occupational therapy services provided by the municipality are free-of-charge, but referral is needed. Consultation, however, can be provided even without a referral. Parents are encouraged to contact an occupational therapist if a child has deficiencies in hand and motor skills, has a lack of concentration or has trouble in social affairs. Evaluation consists of 2-3 appointments. After evaluation a period of therapy or a follow-up appointment are agreed upon. (Espoon kaupunki; Vantaan kaupunki)

In addition to the municipalities, pediatric occupational therapy is also provided by the Hospital District of Helsinki and Uusimaa (HUS). HUS is the largest university hospital district in Finland responsible for organizing specialized medical care. As the largest university hospital in Finland, Helsinki University Central Hospital (HUCH) is nationally responsible for treating severe and rare illnesses and ones calling for special

expertise and technology. For instance at Children's Castle, which is one of the main facilities of the HUCH Hospital for Children and Adolescents, occupational therapists work in the fields of child neurology and child psychiatry. (The Hospital District of Helsinki and Uusimaa a, b, c)

In the organization of Kela, occupational therapy is situated under outpatient therapy, which is a subclass of medical rehabilitation for persons with severe disabilities (graph 4.1). Outpatient therapy is composed of various individual therapies such as occupational therapy, physiotherapy, speech therapy, psychotherapy, music therapy and neurological rehabilitation. (Kela 2009)

4.4 The meeting point of immigration and rehabilitation

In general, society supports the integration of an immigrant for a period of three years after immigration. However, more often than not, the integration process does not cease after three years, but may continue even through life. (Valtioneuvosto 2008) The Finnish Act on the Integration of Immigrants and Reception of Asylum Seekers (1215/2005) seeks to *"promote the integration, equality and freedom of choice of immigrants through measures which help them to acquire the essential knowledge and skills they need to function in society, and to ensure the essential livelihood and welfare of asylum seekers by arranging for their reception"*. (Ministry of the Interior 2009)

The Act on the Integration of Immigrants and Reception of Asylum Seekers was renewed in the end of the year 2005, and with the new amendments also children and adolescents were given the right to an integration plan. Additionally, the integration plan can now be extended for a period of two years. (Ministry of the Interior 2009)

The development of social and health care services for immigrants has largely been the responsibility of the municipalities receiving the immigrants (Sosiaali- ja terveysministeriö 2008a). Local authorities have a general responsibility concerning the integration of immigrants and a responsibility for related coordination measures. Specific measures and services are listed in more detail in table 4.1. It is particularly

mentioned that the best interests of the child shall be considered in provision of all the measures and services referred to above. (Ministry of the Interior 2009)

Table 4.1. Measures and services of employment offices and municipalities promoting and supporting integration

1. Provide guidance, advisory services and information services;
2. Provide information about Finnish society and how it functions;
3. Provide Finnish or Swedish language teaching;
4. Provide adult skills training and take appropriate labor market policy measures;
5. Provide instruction in reading and writing, and teaching to augment basic education;
6. Provide interpretation services;
7. Take measures and provide services to promote equality in all its forms;
8. Take measures and provide services to meet the special needs of immigrant minors;
9. Take measures and provide services for special-needs groups;
10. Take other measures and provide services that encourage immigrants to acquire for themselves the skills and knowledge needed in society.

Act on the Integration of Immigrants and Reception of Asylum Seekers (1215/2005) (Ministry of the Interior 2009)

In addition to the actions stated in the Act on the Integration of Immigrants and Reception of Asylum Seekers, immigrant origin people are specifically mentioned as a one of the special groups, which the Finnish National Action Plan to Reduce Health Inequalities 2008-2011 attempts to pay attention to. Stated in the Plan is that the service needs of immigrant origin people should be taken into account in the planning of services in all administrative areas of the municipalities. Key areas of consideration include health care and social care, with the additional aim of making immigrants aware of the services provided by the Finnish society. (Valtioneuvosto 2008) A plan to include the special needs of immigrants in health promotion is likewise mentioned in the Finnish Policy Programme for Health Promotion. In cooperation with other ministries, the Ministry for Social Affairs and Health means to prepare a plan containing measures for the development of immigrant social and health care services as part of the normal service system. (Sosiaali- ja terveysministeriö 2008a)

The basis for providing immigrant origin children occupational therapy can be seen as three-dimensional and based on:

- the right to integration,
- the right to services for disabled,
- and the right to basic services.

Firstly, those children who are eligible for integration measures and services have the right to the support listed in table 4.1. Occupational therapy can be theoretically viewed to fit under the last two measures and services promoting and supporting integration: services for special-needs groups and services that encourage immigrants to acquire for themselves the skills and knowledge needed in society. On the other hand, immigrant children with disabilities are entitled to the services ensured by the Act on Services and Assistance for the Disabled. Lastly, those immigrant children who are not eligible for neither integration measures nor services for disabled, but who nonetheless are in need of support measures and rehabilitation, the municipalities of Finland are obliged to arrange primary health care services by the Public Health Law (66/1972, KTL), the Law of Secondary and Tertiary Care (1062/1989, ESHL) and the Mental Health Law (1116/1990) among which occupational therapy is included.

The need to increase the multicultural competence of the social and health care personnel is recognized to be an essential part of promoting the integration of immigrants. With it, the demand to allocate more resources to support families, children and youth in risk of marginalization is also acknowledged. (Valtioneuvosto 2008) Acquiring the essential knowledge and skills needed to function in society is one dimension of integration which the Finnish Act on the Integration of Immigrants and Reception of Asylum Seekers seeks to promote. As the goal of occupational therapy is to increase a client's ability to participate in everyday activities – or in other words, the ability to function in society – occupational therapy could well be included in the services provided to cater for this dimension of integration.

5. AIMS

The overall aim of the study is to describe occupational therapy among immigrant children in Finland.

5.1 Specific aims

The specific aims of the study are:

1. To describe the extent to which immigrant children and their families have applied for Kela compensated occupational therapy.
2. To recognize possible differences in the compensation decisions received by immigrant children and Finnish children.
3. To examine the proportion of immigrant and Finnish children receiving occupational therapy in different age and gender groups.
4. To study whether the reasons for receiving occupational therapy vary between Finnish and immigrant children.
5. To assess the extent to which immigrant children receiving disability allowance at its middle or highest rate have received medical rehabilitation.

When appropriate, the findings of these specific aims are presented with comparative information on medical rehabilitation. In addition, when possible, the findings at national level are examined separately for the municipalities of the capital city area.

5.2 Assumptions

Based on previous studies and the literature presented in the literature review, the following assumptions are made. Firstly, based on the research of Härkäpää & Peltola (2005) it is assumed that immigrant origin clients may have difficulties being entitled to social, health and rehabilitation services. Based on Peltola & Metso (2008) it is assumed that immigrant families may lack the language skills and understanding necessary for filling in forms and applications.

Assumption 1: Immigrant origin children and families may have applied for medical rehabilitation less than Finnish families, and they may have received more rejected applications.

Secondly, based on Manelius & Härkönen (2005) it is assumed that immigrant origin clients may have greater difficulties committing and motivating themselves to care. Based on Lieberz & Heifer (2006) and Hjern et al (2001) it is assumed that adherence and commitment to care is lower among immigrant origin families.

Assumption 2: The interventions of medical rehabilitation of immigrant children may have been discontinued more often than the interventions of Finnish children.

Thirdly, based on Halla (2007) and Sourander (2007) it is assumed that immigrants may have a relatively greater risk and prevalence of mental health disorders.

Assumption 3: Immigrant origin children may have received occupational therapy for mental and behavioral disorders more than native Finnish children.

Lastly, based on the study of Lieberz & Heifer (2006) it is assumed that there are differences in the characteristics and practices of occupational therapy when comparing majority population children and immigrant children.

Assumption 4: There may be differences in the distribution of occupational therapy between age groups, the relation of boys and girls in occupational therapy and the primary disease groups resulting in occupational therapy when comparing majority population children and immigrant children.

6. METHODS

In this chapter the source of study data and results of the conducted preliminary survey of possible study data are introduced. Following this, the study subjects and data collection methods are discussed, and lastly the analytical approach, ethical review and funding of the study are presented.

6.1 Source of study data

A preliminary survey of possible study data began in November 2009. Five key players in the field of pediatric occupational therapy in the capital city area were identified and contacted. The process of the preliminary survey of possible study data sources is fully described in graph 6.1. A more detailed description of the process and results of the preliminary survey of study data sources are found in Appendix 1. The outcome of the process was that no comprehensive, already collected data would be able to be retrieved from any of the three capital area cities or the Hospital District of Helsinki and Uusimaa, other than data from individual occupational therapy records. Collecting data from individual occupational therapy records was rejected based on many of the same principles as described by Koskela (2003):

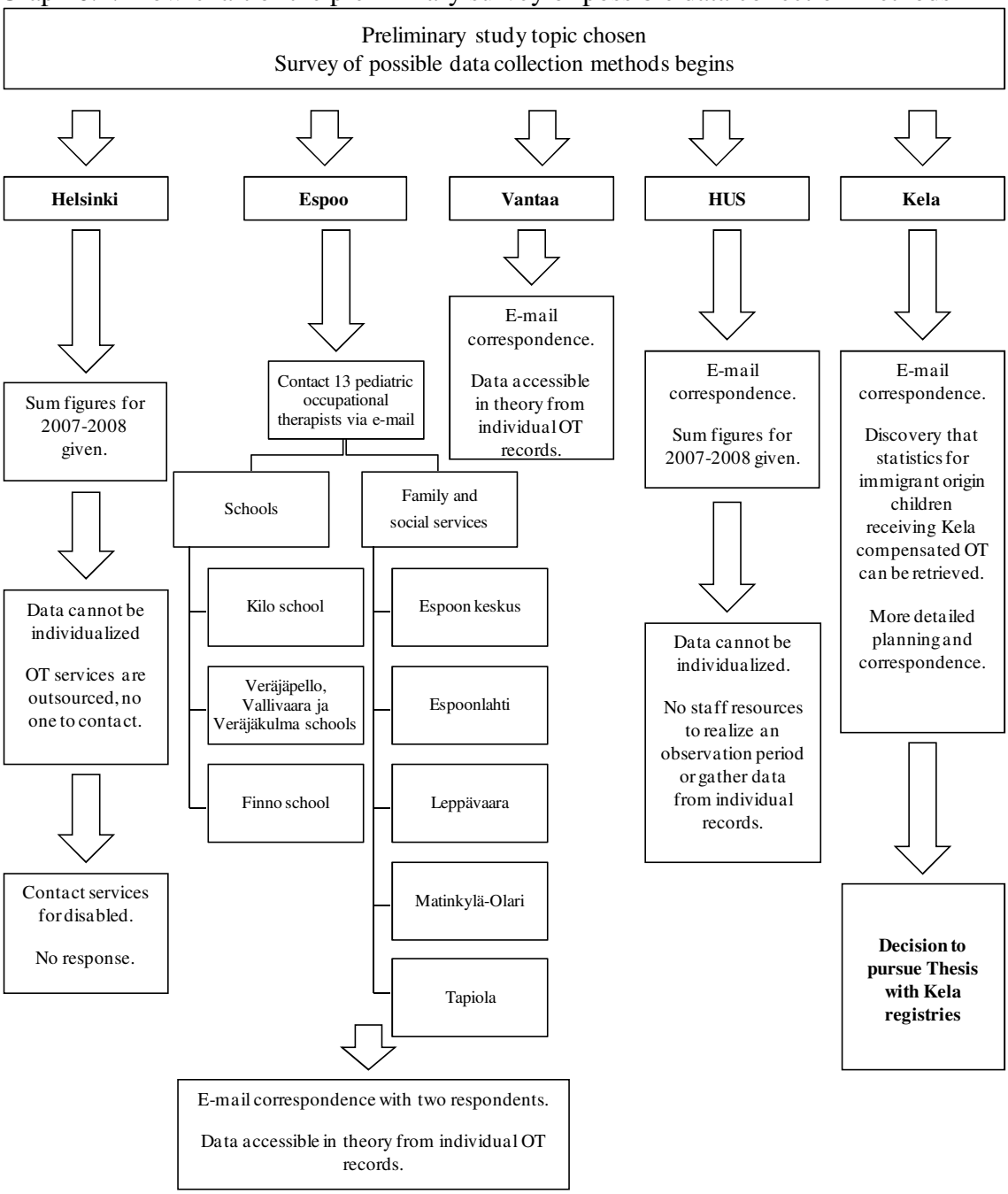
- the concept immigrant child is not clear-cut, and despite inclusion and exclusion criteria, data collection would have relied on the interpretation and individual selection of study subjects of each occupational therapist;
- the data collection would have relied on the memory of the occupational therapists and would have been laborious for occupational therapists;
- comprehensive, reliable data would not have been able to be collected.
  (Koskela 2003)

It was discovered that statistics for immigrant origin children receiving Kela compensated occupational therapy could be retrieved, with certain concessions, using statistics on children receiving disability allowance. In addition to the reality that no other serious contenders were available, the rationale for using Kela registries were that *all* children with severe disabilities who have received medical rehabilitation provided

by Kela would be included in the data, immigrant origin could be identified – although not flawlessly, but uniformly – from an already existing register and the relation of application for therapy and positive rehabilitation decisions could be examined.

The limitations of the material are described in more detail in chapter 8.3. Nonetheless, in light of the results of the preliminary survey of possible study data sources and in view of the available time frame and resources, Kela's registries represented the most comprehensive data available.

Graph 6.1. Flow-chart of the preliminary survey of possible data collection methods



6.2 Study subjects

The subjects of the study are 0-15–year-old children living in Finland who have received Kela compensated medical rehabilitation for persons with severe disabilities between the years 2003 and 2008 and whose nationality is other than Finnish. Special interest is taken in those children who received occupational therapy. The study subjects were chosen on the basis of available data. Immigrant children with Finnish nationality and second generation immigrant children could not be included in the study because such data was not available from the registries of Kela.

To identify study subjects, immigrant origin children were identified by nationality from Kela's disability allowance register. Afterwards this information was linked to Kela's rehabilitation register by Jyri Määttä from the IT Department of Kela and rehabilitation data was selected for the chosen study population. In this way children with other than Finnish nationality receiving occupational therapy could be identified.

6.2.1 Inclusion criteria

Inclusion criteria for the data requested from Kela were chosen as follows:

Inclusion criteria:

- 0-15-years of age
- other than Finnish nationality
- resident of Finland
- received Kela compensated medical rehabilitation for severely disabled between the years 2003 and 2008

All the individuals existing in the Kela's registers fulfilling the inclusion criteria were included in the study.

6.2.2 Basic information of the study subjects

The subjects of the study included non-Finnish national children (0-15–year-old) who received Kela compensated medical rehabilitation for persons with severe disabilities between the years 2003 and 2008. The definite number of this group is unknown, as registers are compiled of interventions, not of individual rehabilitees. However, what is used as an indicative figure is that 1 126 interventions of medical rehabilitation for persons with severe disabilities were given to non-Finnish national children in 2003-2008. The actual baseline characteristics of the interventions of medical rehabilitation are described in chapter 7.1.

The classification of countries 2007 by Statistics Finland was used to chart down all possible nationalities of the study subjects, as it contains the codes of all the countries in the world and it is used, among other things, when classifying people's nationality, country of residence and immigration (Statistics Finland). This classification was further divided into 15 classes conforming to the categorization used by Malin & Gissler (Malin, Gissler 2009). This categorization was done to divide the data into units which would be easier to analyze. Most importantly, the categorization of Malin & Gissler (2009) was chosen because it has been designed taking into consideration the immigrant structure in Finland. Thus, for instance, the most important group of African immigrants in Finland, the Somali, are categorized as their own class, and for similar reasons the Vietnamese are classified separately from other South East Asian countries (table 6.1). The principle of the classification is that each country is included in only one class. For example in the class South East Asian countries such as the Philippines, Thailand and Malaysia are included, but Vietnam is excluded, because it belongs to a class of its one. Similarly all other African countries are included in the class African, except for North African countries which belong to class 7 and Somalia which belongs to class 14. For the detailed list of the classification of countries see Appendix 2.

Table 6.1. Classification of the children's nationalities

1 Finnish
2 Nordic
3 Western
4 former Eastern Europe
5 former Soviet Union, Russia
6 Baltic
7 Middle Eastern, North African
8 South Asian
9 Chinese, Mongolian
10 Iranian, Iraqi, Afghan
11 South East Asian
12 Vietnamese
13 African
14 Somali
15 Latin American, Caribbean

Table by Shadia Gaily, conforming Malin & Gissler 2009

6.3 Data collection

The research plan and data request were submitted for approval to Timo Partio from the Statistics Department of Kela. The data collection was performed independently by Jyri Määttä from the IT Department of Kela. The results of the data collection will be described further on in this chapter, but before this the theoretical foundations of register-based study are shortly explained.

6.3.1 Register-based study

Register-based study can be divided into four main categories. The first and simplest way is using registers individually. The second way is linking information of risk population, or in other words of the study population, to a register. Thirdly, several registries can be combined to produce the most comprehensive information available from solely registries. Lastly, register-based study can be complemented with interviews and surveys. (Valkonen, Koskinen & Martelin 1998) As mentioned earlier, the method of study in this Thesis was the second of the above mentioned: linking information of immigrant origin children to Kela's rehabilitation register.

What is characteristic of register-based study is that the data has not been gathered for research purposes, and thus a number of unique features distinguish register-based study from other quantitative research. (National Institute for Health and Welfare 2007; Gissler 1999) An advantage of register studies is that no extra contact with the individuals is needed, and so problems of tracing and participation can be eliminated. Another gain is that the utilization of large databases makes studies of rare events feasible. (Gissler 1999) All the above mentioned were considered beneficial when weighing the different possibilities of studying occupational therapy among immigrant children. As stated by Hytti (1998) the benefit of using Kela's registries is that the background information is usually very reliable, although these registries only include information which is valid from the perspective of the benefit system (Hytti 1998).

A disadvantage of using register-based data is that the opportunity of the researcher to influence the study material is very slim when compared to interviews or surveys. It is common that critical information for the study is lacking from the registries. (Valkonen, Koskinen & Martelin 1998; Gissler 1999) As described in earlier chapters, the lack of complete information on the ethnicity of the children receiving occupational therapy was a considerable lack in the study. In addition to this, various diagnostic criteria and treatment practices may have changed over the study period. Also the availability of occupational therapy services may have affected the amount of positive compensation decisions children have received during the study period.

6.3.2 Data collection methods

As explained in chapter 6.2, information concerning the nationality of the child obtained from Kela's disability allowance register was linked to Kela's rehabilitation register to identify immigrant origin children receiving occupational therapy. Originally the study material was requested from Kela for years 2000-2008. However, as nationality has been reliably registered in Kela's registers only from 2003, the study material was delivered for the years 2003-2008.

In the end, Kela released the following study data to the researcher in four Excel files:

1. The rehabilitation decisions of medical rehabilitation for persons with severe disabilities: year, intervention, nationality, gender, quality of decision
2. Compensated interventions of medical rehabilitation for persons with severe disabilities: year, intervention, nationality, gender, age group and province
3. Compensated interventions of medical rehabilitation for persons with severe disabilities: year, intervention, nationality, disease group
4. Children receiving disability allowance: year, nationality, level of allowance, gender, province and age group

The data in the Excel files was statistical data including no personal details of the child. A sample of written occupational therapy reports had also been requested from Kela, but this qualitative part of the data request could not be delivered.

6.4 Research method

The research method of this study was quantitative. The study type was descriptive and the aim of the analysis and used statistical methods was to examine whether variables co-vary as the theory presented in the literature review predicted.

6.4.1 Statistical methods

Statistical analysis was done using Microsoft Excel. Mostly descriptive statistics were used. The most important baseline characteristics were age group, gender and nationality group as well as type of rehabilitation decision and medical rehabilitation intervention.

To compare the medical rehabilitation of immigrant children and Finnish children, the frequencies of observations were cross-tabulated. For instance, cross-tabulation was used to analyze the quality of rehabilitation decisions, discontinuation figures and profile of medical rehabilitation. By examining these frequencies, the relations between

the cross-tabulated variables could be identified. Analysis was done within the whole time period of 2003-2008 as well as by dividing the time period into two three-year periods. The two groups of Finnish and immigrant children were analyzed also within subgroups such as different age categories, gender and nationality groups. The results of the cross-tabulation are presented either as percentage differences or percentage proportions.

This describes the incidence (or number) of rehabilitation decisions and periods using

- absolute figures by groups and sub-groups,
- percentage distributions between groups and sub-groups,
- and percentage changes between time periods (within 2003-2008), but not using population proportions.

To calculate the population proportion of Finnish and immigrant children receiving medical rehabilitation for persons with severe disabilities, the number of interventions and rehabilitation decisions in both groups were compared with the population statistics requested from Statistics Finland. The used population statistics from Statistics Finland identified immigrant origin similarly based on nationality and the same age categories were used. To analyze differences between Finnish and immigrant children as well as to identify regional variations, the number of interventions per 1 000 were analyzed. This describes the incidence (or number) of rehabilitation decisions and periods as above, but using population proportions.

As the study material was retrieved from a national register and included complete data on the medical rehabilitation of persons with severe disabilities in Finland 2003-2008, no confidence intervals were calculated for the population proportion. For the same reason the level of statistical significance was neither calculated. As the study material did not provide information on variables such as the socioeconomic status of the families, parental education and time lived in Finland, multi-factor analysis was not possible.

6.4.2 Data handling and record keeping

A record was kept by the researcher of the contacts made in the preliminary survey of possible data collection methods (described in more detail in Appendix 1). As mentioned earlier, the data in the Excel files was statistical data including no personal details of the child. The study material received from Kela was saved in the personal computer and in two USB-memory sticks of the researcher. These were stored following good practice and unattainable for any outsiders.

The researcher signed an obligation of confidentiality with Kela, and stated in the research plan that if the study data would contain less than five children in individual cells, this information would be united so that the units disclosing the ethnicity of the child used in analysis and reporting would contain a minimum of ten children.

6.5 Ethical review

When permission to use data is applied for from the Social Insurance Institution, no standardized application form is available, but instead a free format application is requested in addition to the research plan (Kajantie et al. 2006). Permission for data access was granted by the Statistics Department of Kela. The permission was received based on the submitted research plan. Apart from the obligation of confidentiality signed by the researcher, no external permissions or ethical statements were necessary. All occupational therapists and other contact persons referred to in this Thesis have given written consent to the publishing of this material.

According to the ethical guidelines of the University of Tampere, Thesis supervisors are generally responsible that good research practice and ethical principles are followed in undergraduate studies. However, an ethical statement by the Ethics Committee of the University is required if a study design includes intervention, the principle of informed consent is not abided by, the study is directed at minors, exceptionally strong stimulus is included or the study poses long-term emotional trauma or threatens the safety of the participants. The study design of this Thesis did not meet any of these criteria. It is

separately mentioned that informed consent is not required in register-based studies (Tampereen yliopisto 2010).

The potential risk that the children receiving medical rehabilitation for persons with severe disabilities would be able to be identified from the results of the Thesis was taken into consideration. It was stated in the research plan that when disclosing the ethnicity of the child, cases would be united to form cells of a minimum of ten children. The potential risk that the results of the Thesis would be used in public debate against immigrant families was also taken into consideration. Good research practice and ethical principles (see f. ex. World Medical Association Declaration of Helsinki 2008; Aromaa et al. 2005) were followed by the researcher in planning the study, analysis and reporting. Results were reported in detail and no groundless causalities were suggested to avoid the possibility of later misrepresentation.

6.6 Funding

The researcher, also an employee at the National Institute for Health and Welfare (THL), was allowed to use some working time for the finishing of this Thesis. Software used to conduct the study and articles necessary in the literature review were likewise provided by THL. The study material provided by Kela was given to the researcher free-of-charge.

7. RESULTS

In this chapter the results of the study are presented. Main findings are described under six themes: baseline characteristics of medical rehabilitation, disability allowance, rehabilitation applications of immigrant families, interventions of medical rehabilitation, occupational therapy interventions, comparison between ethnic groups and percentage change in 2003-2008.

7.1 Baseline characteristics of medical rehabilitation

Baseline characteristics of the interventions of medical rehabilitation and disability allowance for both Finnish and immigrant children are presented in table 7.1. These include gender, age group, disability allowance and type of medical rehabilitation intervention.

Table 7.1 Baseline characteristics of the interventions of medical rehabilitation and disability allowance in 2003-2008 (%)

Characteristics	Categories	Finnish		Immigrant	
		N	%	N	%
Gender	Male	53 405	63	756	67
	Female	30 736	37	370	33
TOTAL		84 141	100	1 126	100
Age group	0-7-years	37 208	44	547	49
	8-15-years	46 933	56	579	51
TOTAL		84 141	100	1 126	100
Medical rehabilitation intervention	Speech therapy	24 074	29	471	42
	Physiotherapy	21 320	25	264	24
	Occupational therapy	19 734	23	228	20
	Other rehabilitation	19 013	23	163	14
TOTAL		84 141	100	1 126	100
Disability allowance	Lowest	167 625	59	1 591	51
	Middle	97 823	34	1 279	41
	Highest	19 714	7	232	8
TOTAL		285 162	100	3 102	100

7.2 Disability allowance

During the years 2003-2008, a total of 288 264 children received disability allowance, of which 3 102 (1.08 %) were immigrant children. Of the immigrant children receiving disability allowance, 1 591 (52 %) received disability allowance at its lowest level, 1 279 (41 %) at the middle level and 232 (7 %) at the highest level (table 7.2). This means that in principle 1 511 immigrant origin children were eligible for medical rehabilitation for persons with severe disabilities during 2003-2008. The relation of lowest and middle disability allowance was different among Finnish and immigrant children.

Table 7.2. Disability allowance among Finnish and immigrant children in 2003-2008 (%)

	Lowest	Middle	Highest	Total
Disability allowance of Finnish children	59%	34%	7%	285 162
Disability allowance of immigrant children	52%	41%	7%	3 102
All children	169 216	99 102	19 946	288 264

During the same time period of 2003-2008, a total of 85 267 interventions were given as medical rehabilitation for persons with severe disabilities. The interventions of Finnish children constituted 84 141 interventions and those of immigrant children 1 126 (1.34 %). The relation of disability allowance and medical rehabilitation is essential, because receiving disability allowance at its middle or highest level is a criterion to be eligible for medical rehabilitation for persons with severe disabilities. When comparing the figures of medical rehabilitation interventions with the number of children in principle eligible for medical rehabilitation – those receiving disability allowance at its middle or highest level – it appeared from this that on average each immigrant child eligible for medical rehabilitation received 0.75 interventions of medical rehabilitation for persons with severe disabilities. The comparative number of interventions for Finnish children was 0.72. However, as Kela´s register is compiled of interventions and not rehabilitees, it is impossible to say whether the slightly higher average of interventions among immigrant children is in fact due to a greater percentage of children eligible for rehabilitation actually receiving rehabilitation or whether the higher average is due to less children receiving more interventions per person.

The average annual number of children receiving disability allowance in 2003-2008 per 1 000 children is described in table 7.3. As can be seen, the population proportion of immigrant children receiving lowest rate disability allowance in Helsinki was less than half of the average among Finnish children. Interestingly, this divergence was present in neither Espoo nor Vantaa: immigrant children received disability allowance at its lowest level almost as often as Finnish children of the same municipality, and more than twice more often than immigrant peers in Helsinki. Still, the greatest difference in the average annual numbers of children receiving disability per 1 000 between Finnish and immigrant children was found in other parts of Finland. What should be noted is that with the exception of immigrant children receiving middle rate disability allowance in Vantaa, nowhere else was the average annual number of immigrant children per 1 000 higher than Finnish children.

Table 7.3. The average annual number of children receiving disability allowance in 2003-2008 per 1 000 children by municipalities of the capital city area

Municipality	Finnish		Immigrant	
	2003-2008 N	Average per 1 000 per year	2003-2008 N	Average per 1 000 per year
Helsinki				
Lowest	11 031	22.8	307	10.4
Middle	7 556	15.6	307	10.4
Highest	1 276	2.6	44	1.5
Espoo				
Lowest	6 647	23.0	139	21.0
Middle	4 269	14.8	93	14.0
Highest	816	2.8	23	3.5
Vantaa				
Lowest	6 180	28.0	148	25.4
Middle	3 754	17.0	146	25.1
Highest	638	2.9	<10	-
Other parts of Finland				
Lowest	143 767	30.5	997	12.5
Middle	82 244	17.5	733	9.2
Highest	16 984	3.6	162	2.0
Total	**285 162**	**50.0**	**3 102**	**25.5**
Lowest	167 625	29.4	1 591	13.1
Middle	97 823	17.2	1 279	10.5
Highest	19 714	3.5	232	1.9

7.3 Rehabilitation applications of immigrant families

During the study period of 2003-2008, 146 542 applications were submitted for medical rehabilitation for persons with severe disabilities (table 7.4). 90 per cent of the applications received a positive rehabilitation decision. When examining the share of positive rehabilitation decisions among Finnish and immigrant children, it is discovered that the proportion of positive decisions was three percentage points smaller among immigrant children. There were also considerable differences in the share of negative rehabilitation decisions between rehabilitation forms: where only 9 per cent of physiotherapy applications of immigrant children received a negative rehabilitation decision, the corresponding share among occupational therapy applications was 15 per cent. The relation was same among Finnish children, although the difference in percentage points was less than half of that among immigrant children.

Table 7.4. The rehabilitation applications by decision and form of medical rehabilitation in 2003-2008 (%)

	Positive	%	Negative	%	Total
Applications of Finnish children	144 424	90	14 308	10	144 424
Speech therapy	33 297	89	3 999	11	
Physiotherapy	40 459	92	735	8	
Occupational therapy	28 246	90	3 192	10	
Other rehabilitation	28 114	89	3 382	11	
Applications of immigrant children	1 843	87	275	13	2 118
Speech therapy	770	86	130	14	
Physiotherapy	482	91	45	9	
Occupational therapy	369	85	65	15	
Other rehabilitation	222	86	35	14	
All applications	131 959	90	14 583	10	146 542

7.3.1 Occupational therapy applications

During the study period of 2003-2008, 31 872 applications were submitted for occupational therapy. Of these, 434 (1.36 %) applications were submitted by immigrant families (table 7.5).

Table 7.5. The rehabilitation decisions for applied occupational therapy by gender in 2003-2008 (%)

	Positive	%	Negative	%	Total
Applications of Finnish children 2003-2005					
Boys	9134	91	851	9	9 985
Girls	4026	93	321	7	4 347
Applications of Finnish children 2006-2008					
Boys	10410	88	1443	12	11 853
Girls	4676	89	577	11	5 253
Total applications of Finnish children	28 246	90	3 192	10	31 438
Applications of immigrant children 2003-2005					
Boys	93	89	12	11	105
Girls	45	87	7	13	52
Applications of immigrant children 2006-2008					
Boys	130	82	28	18	158
Girls	101	85	18	15	119
Total applications of immigrant children	369	85	65	15	434
All applications	28 615	90	3 257	10	31 872

7.3.2 Discontinuation decisions

The proportion of discontinued rehabilitation decisions during 2003-2008 was similar among both Finnish and immigrant children: of all medical rehabilitation interventions 13 per cent of the interventions of Finnish children had been discontinued compared with 14 per cent of the interventions of immigrant children. Discontinuation figures were also examined according to gender, but no real differences could be found (Finnish boys 13 %, Finnish girls 14 %, immigrant boys 14 %, and immigrant girls 15 %). When comparing the discontinuation decisions of occupational therapy, the proportion of discontinued rehabilitation decisions was also fairly similar in both of the study groups: 12 per cent among Finnish children and 14 per cent among immigrant children.

7.4 Interventions of medical rehabilitation

Of all medical rehabilitation for persons with severe disabilities, the gender distribution of the interventions was similar among immigrant and Finnish children. However, the relative proportion of interventions of immigrant girls was smaller than that of Finnish girls (table 7.6).

Table 7.6. Interventions of medical rehabilitation by gender in 2003-2008 (%)

	2003-2005	2006-2008	2003-2008	%
Interventions of Finnish children	42 723	41 418	84 141	100
Boys	26 880	26 525	53 405	63
Girls	15 843	14 893	30 736	37
Interventions of immigrant children	512	614	1 126	100
Boys	349	407	756	67
Girls	163	207	370	33
All children	43 235	42 032	85 267	100

There was a resemblance in the distribution of interventions among age categories among immigrant and Finnish children (table 7.7). Interventions of medical rehabilitation were received by younger children more often among immigrant children than Finnish children.

Table 7.7. Interventions of medical rehabilitation for persons with severe disabilities among Finnish and immigrant children by age-groups in 2003-2008 (%)

Age group	Finnish	%	Immigrant	%
0-3-years	5 612	6.7	66	5.9
4-7-years	31 596	37.6	481	42.7
8-11-years	27 676	32.9	363	32.2
12-15-years	19 257	22.9	216	19.2
All interventions	84 141	100	1 126	100

Originally it was planned that medical rehabilitation interventions would be examined according to the child's nationality, gender, age and place of residence at different times. As the figures per nationality class turned out small, most of the analysis had to be done on a more general level, comparing Finnish children with immigrant children as a whole group, instead of according to the country classification or place of residence.

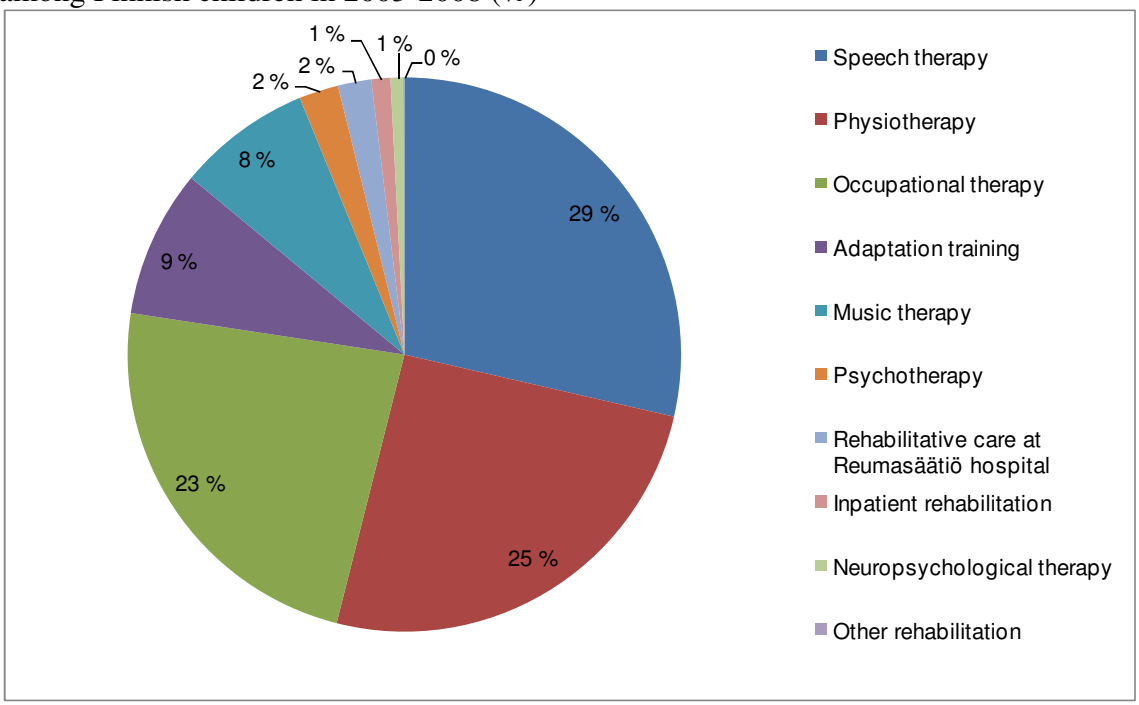
In table 7.8 the distribution of medical rehabilitation interventions of immigrant children are, however, displayed according to the classification of nationalities.

Table 7.8. Distribution of medical rehabilitation interventions of immigrant children among classification of nationalities in 2003-2008 (%)

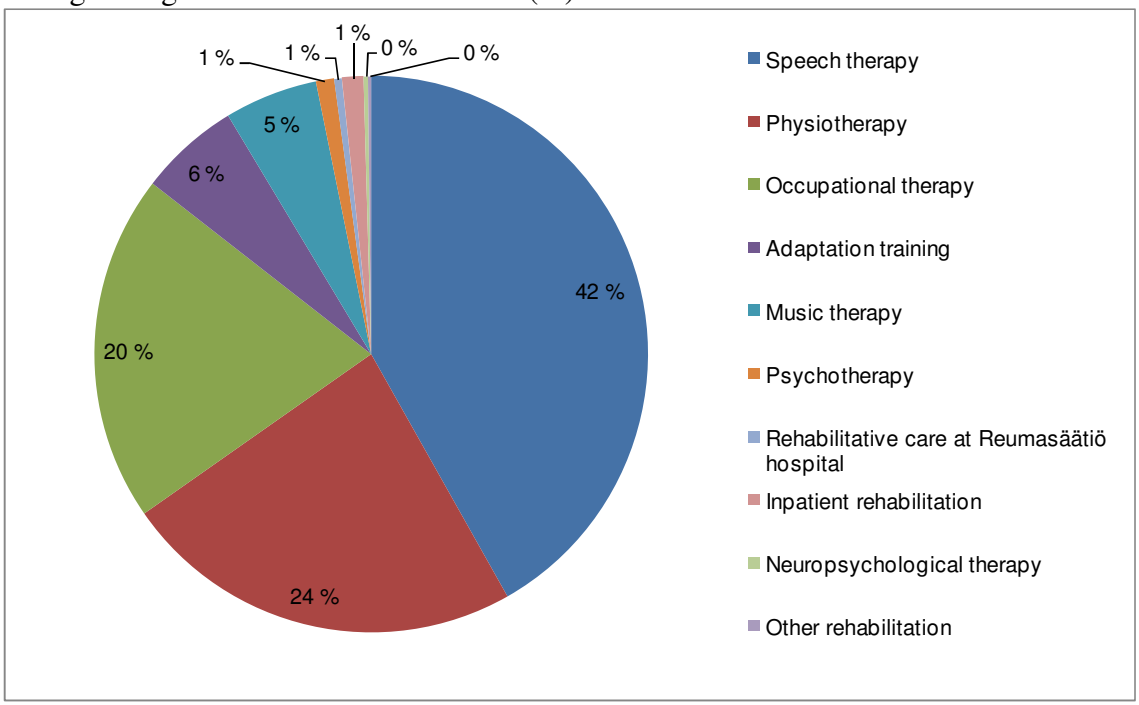
Nationality group	N	%
Russia and former Soviet Union	244	22
Iranian, Iraqi, Afghan	168	15
African	139	12
Somali	109	10
Baltic	102	9
Nordic	77	7
Former Eastern Europe	63	5
Middle Eastern, North African	52	5
Vietnamese	50	4
Western	43	4
South East Asian	35	3
Chinese, Mongolian	21	2
Latin American, Caribbean	13	1
South Asian	10	1
TOTAL	1 126	100

The distribution of the provided medical rehabilitation interventions among Finnish and immigrant children was also compared (graphs 7.1 and 7.2). The most significant difference in the provided interventions was that 42 per cent of rehabilitation among immigrant children was speech therapy compared with 29 per cent among Finnish children. Following speech therapy, 24 per cent of rehabilitation among immigrant children was physiotherapy (compared with 25 per cent among Finnish children), and 20 per cent was occupational therapy (compared with 23 per cent among Finnish children).

Graph 7.1. Medical rehabilitation interventions for persons with severe disabilities among Finnish children in 2003-2008 (%)



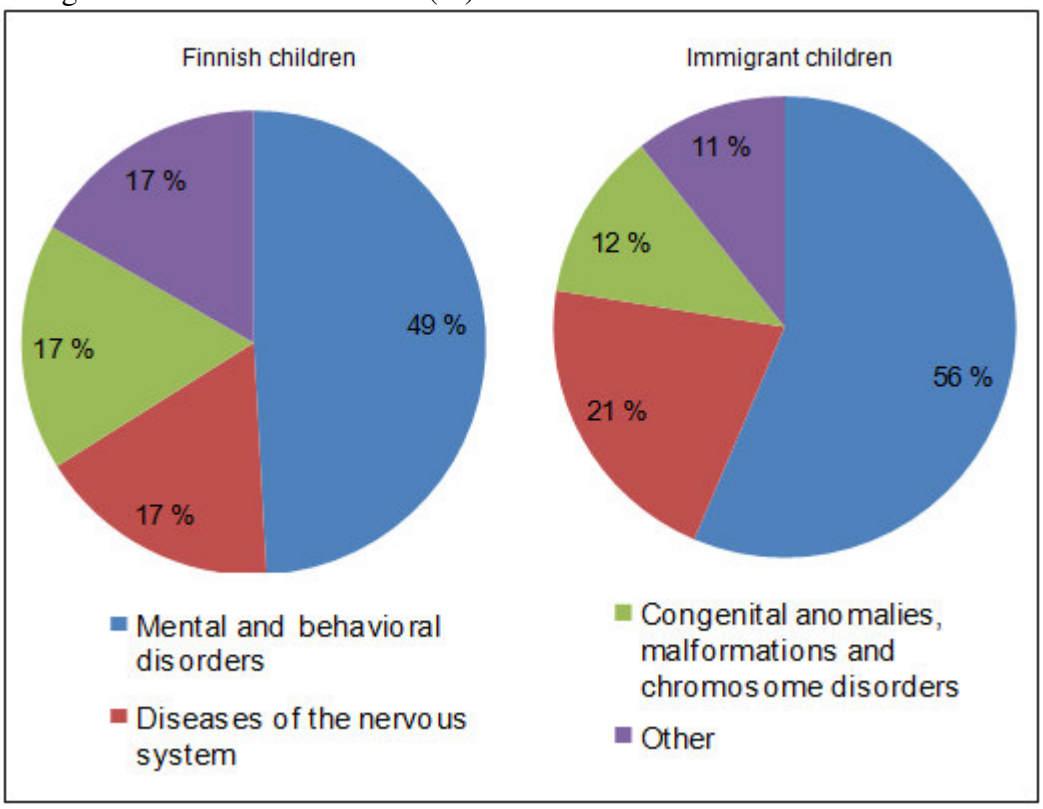
Graph 7.2. Medical rehabilitation interventions for persons with severe disabilities among immigrant children in 2003-2008 (%)



7.4.1 Primary reasons for medical rehabilitation

The reasons for receiving medical rehabilitation for persons with severe disabilities are classified by Kela according to disease groups. When analysing the primary reasons for medical rehabilitation among Finnish children and immigrant children, it was discovered that the principal disease groups among both groups were mental and behavioural disorders (Finnish children, *N* 41 327; immigrant children *N* 635), diseases of the nervous system (Finnish children, *N* 14 253; immigrant children *N* 238) and congenital anomalies, malformations and chromosome disorders (Finnish children, *N* 14 488; immigrant children *N* 133) (graph 7.3). The fourth most common reason for medical rehabilitation among immigrant children was diseases of the ear and mastoid (*N* 34). Instead, rheumatic diseases were a clearly more common reason for medical rehabilitation among Finnish children (*N* 3 965) than diseases of the ear and mastoid (*N* 1965). Among immigrant children the number of children with rheumatic diseases was only 11. As the number of immigrant cases in most other disease groups was ten or less, these disease groups are reported jointly as other. In addition to diseases of the ear and mastoid and rheumatic diseases, these include diseases of the eye, internal, nutritional and metabolic diseases as well as infections and parasitic diseases, listed here in order of frequency among immigrant children.

Graph 7.3. Primary reasons for medical rehabilitation among Finnish children and immigrant children in 2003-2008 (%)



7.4.2 Population proportion of medical rehabilitation

To analyze the population proportion of children receiving medical rehabilitation for persons with severe disabilities, statistics on the population of foreign national citizens was requested from Statistics Finland. As the data received from Kela included sum figures for the years 2003-2005 and 2006-2008, the median number of interventions per year had to be separately calculated. Following, the population proportion of the interventions (per 1 000) was calculated by dividing the median number of interventions per year with the median population of 0-15-year-old foreign national citizens and this sum was multiplied by 1 000.

As is shown in table 7.9, the average annual number of interventions of medical rehabilitation per 1 000 is 1.6 times greater among Finnish children than among immigrant children. As with the average annual numbers of disability allowance, differences can be found between the municipalities. What should be noted is that the

higher average of immigrant children receiving middle rate disability allowance in Vantaa also led to these children receiving the highest number of yearly interventions. As a result, 0-7-year-old immigrant children in Vantaa were three times more likely to receive medical rehabilitation than peers in Espoo. However, such differences were not found among the older age group, but instead 8-15-year-old immigrant children of Espoo received medical rehabilitation slightly more often than peers in Vantaa and Helsinki. As with the average annual numbers of disability allowance per 1 000, the greatest differences in the average annual number of medical rehabilitation between Finnish and immigrant children were found in other parts of Finland.

Table 7.9. The average annual number of children receiving medical rehabilitation in 2003-2008 per 1 000 children by age and municipalities of the capital city area

Municipality	Finnish		Immigrant	
	N	Average per 1 000 per year	N	Average per 1 000 per year
Helsinki				
0-7-years	2 908	12.2	157	9.9
8-15-years	3 006	12.2	150	10.9
Espoo				
0-7-years	1 557	10.6	30	7.8
8-15-years	1 942	13.7	43	15.4
Vantaa				
0-7-years	1 437	13.1	76	23.8
8-15-years	1 663	15.0	33	12.5
Other parts of Finland				
0-7-years	31 306	14.2	284	7.3
8-15-years	40 322	16.1	353	8.7
Total	**84 141**	**14.8**	**1 126**	**9.3**
0-7-years	37 208	13.8	547	8.8
8-15-years	46 933	15.6	579	9.7

7.5 Occupational therapy interventions

During the years 2003-2008, a total of 19 962 occupational therapy interventions were given to children 0-15 years-old. Of these, 228 (1.14 %) were interventions of immigrant children. Half of the occupational therapy interventions of immigrant children were given to children 4-7 years-old (table 7.10), and a greater percentage of occupational therapy interventions were given to older children among the Finnish children.

Table 7.10. Occupational therapy interventions by age-groups in 2003-2008 (%)

	Finnish	%	Immigrant	%
Interventions of 0-3-year-old children	607	3	<10	<3
Interventions of 4-7-year-old children	8 955	45	115	50
Interventions of 8-11-year-old children	7 224	37	82	36
Interventions of 12-15-year-old children	2 948	15	24	11
All interventions	19 734	100	228	100

There was difference in the gender distribution of occupational therapy interventions to the gender distribution all interventions of medical rehabilitation. When compared to the proportion of Finnish girls, immigrant girls represented a relatively greater proportion in occupational therapy interventions, but a smaller proportion in all medical rehabilitation interventions.

The distribution of occupational therapy interventions among different nationalities is displayed in table 7.11. Vietnamese, South Asian, South East Asian, Chinese and Mongolian cases were united to be able to display the number of cases in units of more than ten. In the same way Middle Eastern, North African and Latin American and Caribbean cases had to be united to form a group Other. To compare the distribution of occupational therapy interventions among nationality groups with the distribution of all medical rehabilitation interventions among nationality groups, see table 7.8.

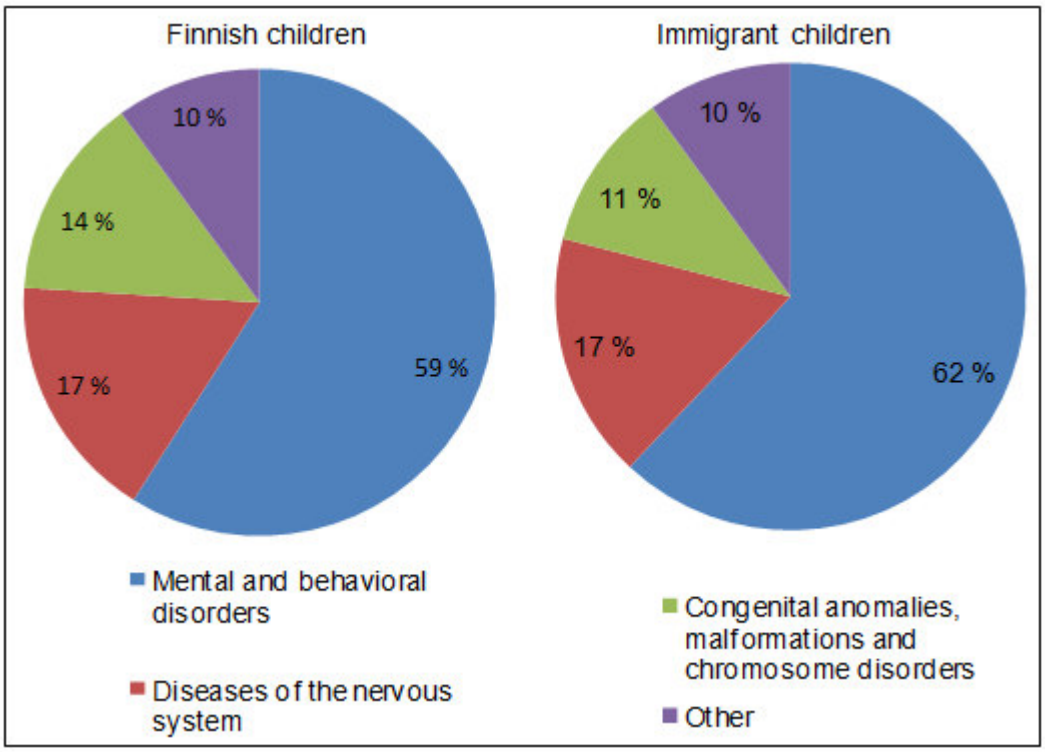
Table 7.11 Distribution of occupational therapy interventions of immigrant children among classification of nationalities in 2003-2008 (%)

Nationality group	N	%
Russia and former Soviet Union	39	17
Iranian, Iraqi, Afghan	39	17
African (excl. Somali and North African)	30	13
Nordic	25	11
Somali	24	11
Baltic	17	7
Former Eastern Europe	16	7
Western	10	4
Asian (Incl. Vietnamese, South Asian, South East Asian, Chinese, Mongolian,)	18	8
Other (Incl. Middle Eastern, North African and Latin American and the Caribbean)	10	4
TOTAL	228	100

7.5.1 Primary reasons for occupational therapy

The three primary disease groups to receive occupational therapy were the same as for all interventions of medical rehabilitation (graph 7.4). The principal disease groups among both groups were mental and behavioural disorders (Finnish children, N 11 587; immigrant children N 142), diseases of the nervous system (Finnish children, N 3 344; immigrant children N 38) and congenital anomalies, malformations and chromosome disorders (Finnish children, N 2 774; immigrant children N 26). All other disease groups constituted a total of ten percent and the number of cases per individual disease group were relatively small (in total: Finnish children, N 1 981; immigrant children N 22). The distribution of cases among these other disease groups was fairly even among both groups, with many of the groups including no immigrant cases.

Graph 7.4. Primary reasons for occupational therapy among Finnish children and immigrant children in 2003-2008 (%)



7.5.2 Population proportion of occupational therapy

The proportion of population in occupational therapy in the municipalities of the capital city area per 1 000 was also analyzed. The results of the analysis were quite meagre as the average annual number of occupational therapy interventions per 1 000 children was less than five in all categories. As with the average annual number of all interventions of medical rehabilitation, it appeared that in the case of other parts of Finland, the population proportion of immigrant children receiving occupational therapy interventions was only half of the proportion of Finnish children. However, as the number of occupational therapy interventions was so small, this result can only be considered an estimate.

Table 7.12. The average annual number of children receiving occupational therapy in 2003-2008 per 1 000 children by age and municipalities of the capital city area

Municipality	Finnish		Immigrant	
	N	Average per 1 000 per year	N	Average per 1 000 per year
Helsinki				
0-7-years	662	2.8	35	2.2
8-15-years	534	2.2	21	1.5
All	1 196	2.5	56	1.9
Espoo				
0-7-years	327	2.2	-	-
8-15-years	270	1.9	-	-
All	597	2.1	<10	-
Vantaa				
0-7-years	293	2.7	-	-
8-15-years	268	2.4	-	-
All	561	3.5	19	3.3
Other parts of Finland				
0-7-years	8 280	3.7	69	1.8
8-15-years	9 100	3.6	75	1.8
All	17 380	3.7	144	1.8
Total	**19 734**	**3.5**	**228**	**1.9**
0-7-years	9 562	3.5	122	2.0
8-15-years	10 172	3.4	106	1.8

7.6 Comparison between ethnic groups

To include some assessment of the role of ethnicity on rehabilitation decisions, discontinuation figures and distribution of forms of medical rehabilitation, the ratio of positive and negative applications, the level of discontinuation and profile of medical rehabilitation was compared between four ethnic groups: Russian, Iranian, Iraqi and Afghan, African and Somali. These were the four largest groups when considering the distribution of all medical rehabilitation among ethnic groups.

7.6.1 Comparison of applications

When considering both all applications and applications of occupational therapy separately, 90 per cent of the applications of Finnish children were positive. Similarly among Iraqi, Iranian and Afghan children, the ratio of positive and negative rehabilitation decisions was the same for all applications and applications of occupational therapy (table 7.13). Of immigrant applications, only the applications of Iraqi, Iranian and Afghan children received a positive decision more often than Finnish children. On the contrary, while 86 per cent of all the applications of African origin children received a positive rehabilitation decision, only 76 per cent of occupational therapy applications received a positive rehabilitation decision. This means that while one in ten Finnish children applying for occupational therapy received a negative rehabilitation decision, almost every fourth application of African origin children was rejected.

Table 7.13. Rehabilitation decisions between ethnic groups in 2003-2008 (%)

Ethnic group	All applications			Occupational therapy applications		
	N	**Positive (%)**	**Negative (%)**	**N**	**Positive (%)**	**Negative (%)**
Finnish	144 424	90	10	28 246	90	10
Russian	483	86	14	77	88	12
Iraqi, Iranian, Afghan	335	93	7	52	93	7
African (excl. Somali)	266	86	14	52	76	24
Somali	173	88	12	32	86	14

The ratio of positive rehabilitation decisions and discontinued rehabilitation decisions were also analyzed (table 7.14). It appeared from the analysis that less than one in ten rehabilitation interventions were discontinued in all ethnic groups when all forms of rehabilitation were considered. The proportion of discontinued rehabilitation decisions was smallest among Russian children. When considering only occupational therapy

interventions the differences between ethnic groups seem to be greater, but it should be noted that the number of discontinued occupational therapy interventions was less than ten in all immigrant groups.

Table 7.14. The proportion of discontinued interventions in relation to positive rehabilitation decisions between ethnic groups in 2003-2008 (%)

Ethnic group	All interventions			Occupational therapy interventions		
	N	**Discontinued interventions**	**%**	**N**	**Discontinued interventions**	**%**
Finnish	130 116	11 183	8.6	28 246	2 397	8.5
Russian	416	22	5.3	77	<10	7.8
Iraqi, Iranian, Afghan	312	26	8.3	52	<10	9.6
African (excl. Somali)	230	21	9.1	52	<10	15.4
Somali	153	14	9.2	32	<10	6.3

7.6.2 Comparison of interventions

The profiles of medical rehabilitation interventions were compared to identify differences in the proportions of the three most common forms of medical rehabilitation: speech therapy, physiotherapy and occupational therapy. All other forms of medical rehabilitation were classified as other. The results of the analysis revealed noticeable differences in the profiles of medical rehabilitation (table 7.15). For instance, among Russian, African and Somali children, the proportion of speech therapy was considerably higher than among Finnish children, ranging from 40 per cent among Russian children and 50 per cent among Somali children. By contrast, among Iraqi, Iranian and Afghan children the proportion of speech therapy was identical with Finnish children (29 %).

There were also differences in the share of physiotherapy interventions given in each ethnic group: physiotherapy was most common among Iraqi, Iranian and Afghan

children (36 %) and least common among African children (17 %). The proportion of occupational therapy was rather consistent (21–23 %) in all other ethnic groups except for Russian children, among whom occupational therapy was significantly less common (16 %). What should also be noticed is that while almost every fourth intervention of medical rehabilitation among Finnish children was other forms of rehabilitation (such as music therapy, psychotherapy and neuropsychological rehabilitation), the proportion of other therapy was markedly smaller among immigrant children with only every tenth Somali child receiving other forms of rehabilitation.

Table 7.15. Profile of medical rehabilitation between ethnic groups in 2003-2008 (%)

	Finnish	**Russian**	**Iraqi, Iranian, Afghan**	**African**	**Somali**
Speech therapy	24 074 (29 %)	99 (40 %)	48 (29 %)	64 (46 %)	55 (50 %)
Physiotherapy	21 320 (25 %)	63 (26 %)	61 (36 %)	23 (17 %)	20 (19 %)
Occupational therapy	19 734 (23 %)	39 (16 %)	39 (23 %)	30 (21 %)	24 (22 %)
Other	19 013 (23 %)	43 (18 %)	20 (12 %)	22 (16 %)	10 (9 %)
Total	**84 141**	**244**	**168**	**139**	**109**

7.7 Percentage change in 2003-2008

Percentage change was calculated to express the change in the number of applications and interventions of both Finnish and immigrant children between 2003-2005 and 2006-2008. Percentage change represents the relative change between the old value and the new value. It was calculated by dividing the difference between the old value and the new value by the old value.

7.7.1 Percentage change of applications

The percentage change of all medical rehabilitation applications was analyzed by ethnic groups. Among Finnish children there was a 2 per cent increase in the number of applications between 2003-2005 and 2006-2008. As a comparison, there was a 49 per cent increase in the total number of rehabilitation applications among all immigrant children. However, as can be seen from table 7.16, there were distinct differences in the percentage change of applications among ethnic groups. For example, the number of applications by African origin children increased by 234 per cent, where as the number by Iraqi, Iranian and Afghan children decreased by 18 per cent.

The relative percentage change per 1 000 could not be analyzed by ethnic groups as the population statistics from Statistics Finland included too crude data of immigrant population (e.g. categories EU27, Africa, Asia). To provide guiding comparative information, the median populations of 0-15-year-old Finnish and immigrant children were calculated for years 2003-2005 and 2006-2008. It appeared from this that while there was a 2 per cent decrease in the Finnish 0-15-year-old population, there was a 7 per cent increase in the immigrant 0-15-year-old population. This may explain the greater increase in immigrant applications in part, but as the difference in percentage change was considerably greater than the difference in population, the changes in population cannot explain changes in application numbers in full.

Table 7.16. Percentage change of rehabilitation applications between ethnic groups in 2003-2008 (%)

Ethnic group	**2003-2005 N**	**2006-2008 N**	Percentage change
Finnish	64 543	65 573	+ 2 %
Russian	142	274	+ 93 %
Iraqi, Iranian, Afghan	165	147	- 18 %
African (excl. Somali and North African)	53	177	+ 234 %
Somali	65	88	+ 35 %

There was a 19 per cent increase in the amount of occupational therapy applications of Finnish boys and a 21 per cent increase among Finnish girls. The ratio of positive and negative rehabilitation decisions was similar among Finnish boys and girls during both time periods, but among both, there was a 4 percentage point increase in the proportion of negative rehabilitation decisions. Among immigrant children, there was a 50 per cent increase in the number of occupational therapy applications among boys and an astounding increase of 129 per cent among immigrant girls. There was a 2 percentage point increase in the negative rehabilitation decisions among immigrant girls, and 6 percentage point increase among immigrant boys. As a comparison, the share of negative rehabilitation decisions among immigrant boys was over 1.5-fold compared with Finnish boys.

To explain the cause for the greater increase of occupational therapy applications among immigrant girls, the changes in the number of 0-15-year-old immigrant population between 2003-2005 and 2006-2008 was also calculated. It appeared from this that changes in population were not the reason for the growth in application numbers: between 2003-2005 and 2006-2008 the population of immigrant boys increased by 7.7 per cent and the population of immigrant girls similarly by 6.8 per cent. By contrast the population of both Finnish boys and girls decreased by 1.9 per cent.

7.7.2 Percentage change of interventions

The percentage change in medical rehabilitation interventions is described in table 7.17. The total difference in percentage change between Finnish and immigrant children was 23 percentage points.

Table 7.17. Percentage change in medical rehabilitation interventions between 2003-2005 and 2006-2008

	2003-2005	2006-2008	Percentage change
Finnish	42 723	41 418	-3 %
Immigrant	512	614	20 %

The percentage change in occupational therapy interventions are described in table 7.18. The changes in population between 2003-2005 and 2006-2008 were calculated from the

population statistics of Statistics Finland to estimate the influence changes in population could have on the percentage changes in occupational therapy interventions.

Table 7.18. Percentage change in occupational therapy interventions by age-groups between 2003-2005 and 2006-2008 (%)

	2003-2005	2006-2008	Percentage change	Percentage change in population statistics
Finnish children				
0-7-year-old	4610	4952	+ 7 %	+0.54 %
8-15-year-old	5007	5165	+ 3 %	-4.10 %
All interventions	9 617	10 117	+5 %	
Immigrant children				
0-7-year-old	50	72	+ 44 %	+12.93 %
8-15-year-old	51	55	+ 8 %	+1.69 %
All interventions	101	127	+26 %	

It appeared that the increases in interventions loosely correlated with the changes in population. The greatest increases in both population and the number of interventions were among 0-7-year-old immigrant children. A decrease in the population of 8-15-year-old Finnish children appeared as the smallest increase in the number of interventions.

8. DISCUSSION

In this chapter the main findings, strengths and limitations and scientific conclusions of the study are discussed. In addition the relation to previous studies, public health implications and further research proposals are presented.

8.1 Main findings of the study

As a review, the specific aims of the study were:

- to describe the extent to which immigrant children and their families have applied for Kela compensated occupational therapy,
- to recognize possible differences in the compensation decisions received by immigrant children,
- to examine the proportion of immigrant and Finnish children receiving occupational therapy in different age and gender groups,
- to study whether the reasons for receiving occupational therapy vary between Finnish and immigrant children,
- and to assess the extent to which immigrant children receiving disability allowance at its middle or highest rate have received medical rehabilitation.

Firstly, the study found that immigrant children and families have increasingly applied for both Kela compensated medical rehabilitation for persons with severe disabilities and for occupational therapy. Between 2003-2005 and 2006-2008, there was a 49 per cent increase in the total number of rehabilitation applications of immigrant children, and a 76 per cent increase in the number of occupational therapy applications of immigrant children. Likewise, the number of medical rehabilitation and occupational therapy interventions increased among immigrant children by 20 and 26 per cent, respectively.

Secondly, it was discovered that the applications of medical rehabilitation of immigrant children and families were rejected more often than the applications of Finnish children. Greatest differences were found when examining the difference in compensation decisions between ethnic groups. While one in ten Finnish children applying for

occupational therapy received a negative rehabilitation decision, almost every fourth application of African origin children was rejected. The proportion of discontinued interventions was fairly equal in all groups.

Third, the proportion of occupational therapy interventions of all medical rehabilitation interventions was similar among Finnish and immigrant children. The average annual number of children receiving occupational therapy interventions per 1 000 children was 3.5 among Finnish children and 1.9 among immigrant children. The relative proportion of immigrant girls receiving occupational therapy was greater than the proportion of Finnish girls. Occupational therapy interventions were received by younger children more often among immigrant children than Finnish children. The greatest ethnic groups to receive occupational therapy were Russian, Iranian, Iraqi and Afghan, African and Nordic children. Among all medical rehabilitation, Somali children replaced Nordic children as the fourth largest ethnic group to receive medical rehabilitation. Forms of medical rehabilitation were distributed differently between ethnic groups, and the proportion of speech therapy was markedly greater among immigrant children than Finnish children.

Fourth, the primary reasons for receiving occupational therapy were found to be identical to all interventions of medical rehabilitation. The principal disease groups among both Finnish and immigrant children were mental and behavioural disorders, diseases of the nervous system and congenital anomalies, malformations and chromosome disorders. The proportion of mental and behavioural disorders was slightly higher among immigrant children for both medical rehabilitation and occupational therapy.

Last, each immigrant child eligible for medical rehabilitation was found to receive on average 0.75 interventions of medical rehabilitation. The comparative number of interventions for Finnish children was 0.72. However, the average annual numbers of children receiving disability allowance, occupational therapy and medical rehabilitation per 1 000 children were found to be greater among Finnish children than among immigrant children.

When comparing different municipalities in the capital city region, an association was found between the average annual number of children receiving raised disability allowance and the average annual number of medical rehabilitation interventions. There was less fluctuation in the average annual number of Finnish children receiving raised disability allowance in different municipalities than among immigrant children of different municipalities. What could not be evaluated is whether immigrant children in other parts of Finland in actual fact have poorer possibilities of receiving medical rehabilitation, or whether the immigrant children living in the capital city area are in greater need of special support than their peers elsewhere.

8.2 Strengths of the study

This study set off to describe occupational therapy among immigrant children in Finland. The aims of the study and the material for the literature review were chosen to support study on occupational therapy. As it turned out, specific literature on occupational therapy among immigrant children was scarce, and as a result a wider scope of themes, ranging from immigration and migrant health on the one hand and disability and provision of rehabilitation services on the other hand, were included in the literature review. Though this inevitably increased the length of the literature review, it laid the essential foundation necessary to be able to understand and analyze the coming study material from Kela.

As the qualitative part of the requested study material was not able to be delivered, the depth of the received study data was shallower than what had been hoped for and expected. The number of immigrant cases in each ethnic group was also markedly smaller than what had been anticipated. As a result, the variety of possible statistical methods and the available variables for analysis were restricted. So being, instead of focusing purely on occupational therapy, as had been the initial goal, the specific aims of the study were answered not only on the part of occupational therapy, but also for medical rehabilitation as a whole.

This choice to expand analysis and report results also outside the immediate study questions was well thought-out and studied. The results of medical rehabilitation were considered essential for understanding the context of the results of occupational therapy.

8.2.1 Reliability

As the study material came from a national register and consisted of comprehensive national data sets, reliability of study data is one of the key strengths of the study. The reliability of the data is the responsibility of the register authority, and therefore it can be presumed that, like most register authorities, also Kela has performed regular checks and calibrations on both the rehabilitation and the disability allowance registers. Reliability of the Kela data is probably improved by the fact that the data are largely based on financial reimbursement or benefit data, and are therefore likely to be accurately recorded. As stated by Kajantie et al (2006) The Social Insurance Institution registers are reasonably accurate and reliable, and thus they form a valuable data source for health services research (Kajantie et al. 2006).

Data in the disability allowance and rehabilitation registries is collected systematically and uniformly and without the purpose of being used for specific research. Owing to the register-based design, the study is not prone to differential misclassification bias. On the other hand, the selection of variables that could be included in the analysis was largely dependent on the availability of data in the source registers, making some variables of interest, e.g. socioeconomic status of the families, parental education and time lived in Finland, absent in this study.

8.2.2 Internal validity

Assessing the internal validity of a study means critical appraisal of the quality of the study design. The study was ensured against many threats to internal validity by the register-based study design. Had the study data been collected in any of the alternative data collection methods presented in graph 6.1, it would not have been possible to

differentiate whether data was prone to selection bias and different forms of measurement biases such as recall bias and expectation bias (Grimes, Schultz 2002).

As the study material included *all* interventions of medical rehabilitation in Finland during 2003-2008, the main findings of the study are considered to be supported by the evidence presented in the study data. For example, it is presumed valid to assume that there may be an association between immigrant origin and higher proportion of rejected applications. Plausible alternative explanations are, for instance, that socioeconomic status of the families, parental education and time lived in Finland are confounding factors. These explanations could not be tested or ruled out within the frames of the study design, but argumentation supporting the assumption that immigrant families may lack the language skills and understanding necessary for applying successfully for social, health and rehabilitation services was found in literature. Similarly, the other assumptions made in the main findings of the study are supported by literature, as more carefully described in chapter 8.5.

8.2.3 External validity

Assessing the external validity of a study involves review of the applicability and generalizability of the study results. Because the study data was from a comprehensive national register, the results are applicable to the medical rehabilitation services of Kela. As the study period included a greater part of the 2000s, the results can be generalized to describe the Kela compensated medical rehabilitation and occupational therapy among immigrant children in the 2000s.

What is problematic as regards both applicability and generalizability is that we cannot be sure that the level of utilization in the Finnish core population, which is used as the reference, reflects the adequate level of medical rehabilitation and occupational therapy use and can therefore be considered an adequate gold standard. Furthermore, even if the consumption in the Finnish core population does serve as an adequate gold standard, it might be possible that the lower use of these services among immigrant children is compensated by, for example, the higher use of other services.

Moreover, generalizability and further calculations of population proportions is difficult. As mentioned by Koskela (2003), the comparison of study results is complicated because the statistics on foreign population are compiled in different ways in all three capital city area municipalities: in Espoo statistics are gathered based on native language, in Helsinki according to nationality and in Vantaa by nationality or country of birth (Koskela 2003).

8.3 Limitations of the study

Several limitations must also be recognized. Weaknesses of the study include the limited detail available on the ethnicity of the children and the relatively small number of study subjects. Recognizing these limitations, the obtained study material can, however, be considered guiding and the results drawn from the material significant as such.

8.3.1 Identifying immigrant origin

It is recognized, that optimally the study subjects would have consisted of children who have received occupational therapy provided by the municipality and immigrant background would have been differentiated by the child's mother tongue. However, as described in chapter 6.1, due to the completely restricted availability of such data, such a study design would not have been possible to conduct within the resources and time frame of a Master's Thesis. It is acknowledged that firstly, because of the way rehabilitation services are provided in Finland, most Finnish and immigrant children receive other than Kela compensated occupational therapy, and secondly many of the immigrant children receiving Kela compensated occupational therapy may not be included in the study subjects (including only foreign-national children). It should also be noted that immigrant origin children included in the study subjects of this study may include an over-representation of recent immigrants to Finland, as many longer resided children may already have Finnish citizenship.

8.3.2 Restrictions of the study data

The most important weakness of the study data, which significantly restricts generalizability of results, is the limited number of immigrant cases in Kela compensated medical rehabilitation. In the study material used in this Thesis, the proportion of immigrant clients seems to be very negligible. Of all medical rehabilitation interventions and occupational therapy interventions the proportion of immigrant clients was only 1.34 and 1.14 per cent, respectively. This result may in part be due to the problems expressed earlier regarding identifying immigrant origin: second-generation immigrants and immigrants with Finnish nationality are not included in the immigrant cases of this study. However, more probably, this discrepancy is a result of the Finnish service system, as rehabilitation services for children are primarily provided in primary and secondary health care. In other words, if the study data would have been possible to be retrieved from municipal registers, the number of immigrant cases would most probably have been considerably higher.

As guiding information it can be pointed out that if the proportion of immigrant children in Kela compensated medical rehabilitation is compared with the figures reported by individual occupational therapists in Appendix 1, it is apparent that the number of immigrant clients in Kela compensated occupational therapy is only the tip of the iceberg. In the Matinkylä-Olari region of Espoo, an occupational therapist calculated that during the year 2008 a third of all her clients were immigrant origin children (Kotkavuori 2009). In Vantaa, individual occupational therapy records were added up to find 10 per cent of all clients in 2008 to have been of immigrant origin (Kulmala 2009). An occupational therapist from the audiophoniatric children's ward of HUS estimated 25 per cent of the clients to be multicultural clients (Heikkilä 2009). Although not scientific data, these examples prove that both in primary and secondary health care, the magnitude of immigrant children in occupational therapy seems to be very much different from what the number of immigrant children in Kela compensated occupational therapy would lead to presume.

It is recognized that this study topic could have been approached by a qualitative study method, which would have been able to produce more in-depth information on the quality and content of occupational therapy among immigrant children and the experiences of the immigrant families receiving occupational therapy. The possibilities of conducting an observational period at a pediatric occupational therapy unit or organizing focus group discussions either among occupational therapists or the parents of immigrant children in occupational therapy were initially discussed. However, these approaches were not pursued as the data collection would have relied on the time and goodwill of occupational therapists and parents. As according to literature, disabled immigrants, and presumably also the parents of disabled children, often face a double-burden of being a minority within a minority, extra contact and attention was not considered just. Likewise, also occupational therapists expressed an outside observer or focus group discussion to be of an extra burden to them.

As mentioned earlier, initially the study did include a qualitative part as a sample of written occupational therapy reports was asked for from Kela together with the data request. The same inclusion criteria were included for the written occupational therapy reports as for the quantitative data. The information regarding the personal details of the child and the occupational therapist were asked to be removed, and no direct quotes were to be used of the reports. The aim of analyzing the reports was to describe the type of care immigrant children have received in occupational therapy through the following themes:

- content of occupational therapy
- achievement of set goals
- changes in the performance capacity of the child
- cooperation with the parents
- the parents' evaluations of the effects of occupational therapy

Although these written occupational therapy reports have knowingly been used in at least one Master thesis in occupational therapy, Kela was unable to gather this information, and thus the qualitative share of this Thesis had to be rejected.

8.4 Scientific conclusions

The results of the study show that there is an increasing number of immigrant children and families both applying and receiving Kela compensated medical rehabilitation and occupational therapy in Finland. Immigrant children in the municipalities of the capital city area seem to receive disability allowance, medical rehabilitation and occupational therapy more often than peers in other parts of Finland, but differences can also be found between the capital city municipalities.

The calculations of population proportion have shown that the average annual number of children (per 1 000) receiving disability allowance, medical rehabilitation and occupational therapy in 2003-2008 is smaller among immigrant children than Finnish children. The average annual number of Finnish children receiving disability allowance per 1 000 is twofold compared with the number of immigrant children. Likewise, compared with the number of immigrant children, the average annual number of Finnish children receiving medical rehabilitation and occupational therapy per 1 000 is 1.6 and 1.8 times greater, respectively.

The rehabilitation applications of immigrant children are rejected more often than the applications of Finnish children. Greatest differences are found in the ratio of positive and negative rehabilitation decisions between ethnic groups: applications of African origin children have been rejected considerably more often than applications of Finnish children. Differences in the number of discontinued interventions are minor.

Mental and behavioral disorders are the primary reason for medical rehabilitation and occupational therapy among both Finnish and immigrant children, but are more common among immigrant children. Speech therapy is the most common form of rehabilitation among both Finnish and immigrant children, although considerably more common among immigrant children.

8.5 Relation to previous studies

Findings in this study are in accordance with several other studies carried out both nationally and internationally. The applications of medical rehabilitation of immigrant children and families were found to be rejected more often than the applications of Finnish children. This finding is in agreement with the hypotheses presented by Härkäpää & Peltola (2005) and Peltola & Metso (2008): immigrant families may lack the language skills and understanding necessary for filling in forms and applications, which may result as difficulties being entitled to social, health and rehabilitation services (Härkäpää, Peltola 2005; Peltola, Metso 2008). A recently published report by Kela also confirms that insufficient language skills may cause problems in doing business with Kela (Heinonen, Tervola & Laatu 2011).

On the other hand, the role and responsibility of physicians and other health care personnel involved in the application process must also be taken into consideration. According to Hirstiö-Snellman & Mäkelä (1998), some primary health care personnel find working with immigrant patients difficult. Health care professionals experience immigrant patients to have unrealistic expectations towards the service system, to be more likely to consult a doctor needlessly and to be poorly committed to care involving lifestyle changes. All this may have an influence on the content of medical certificates and thus also the rehabilitation decisions received by immigrant children and families. (Hirstiö-Snellman, Mäkelä 1998)

Also Halla (2007) states that the attitudes and preconceptions of a physician have more influence when working with immigrants than when treating Finnish patients. Unless confessed and worked upon, a physician's prejudice and even racist preconceptions may affect a doctor-patient relationship negatively. (Halla 2007) Upon the same theme, Oroza (2007) discusses that, at the very least, indirect discrimination is present in health care, and the matter should be openly discussed (Oroza 2007). It should be noted that in addition to affecting the type of attention the patient receives, cultural differences may also influence the diagnosis received by the patient. For example, according to Halla (2007) cultural differences may lead to both under and over-diagnosis of psychiatric

diseases (Halla 2007). All these provider level factors may also affect the medical certificates and rehabilitation decisions of immigrant children and families.

From a third point of view, the higher proportion of rejected applications among immigrant children may also be caused by problems on the system level. According to the recent report of Kela, the complex and difficult to understand social legislation of Finland and the practices related to the execution of benefits causes clients with the poorest skills to have the greatest problems in doing business with Kela. According to the authors of the report, Heinonen, Tervola & Laatu (2011), the complexity of the application forms of Kela, the limited information and publicity regarding benefits and applying for thereof and the lack of cooperation between different authorities causes problems for clients on a system level (Heinonen, Tervola & Laatu 2011). As a conclusion, it is suggested that as summarized by Masaud, McNicholas & Skokauskas (2010), the use of health services among ethnic minorities – and here, the rehabilitation decisions received by immigrant children and families – may be hindered on three main levels: a patient level, a provider level and a system level (Masaud, McNicholas & Skokauskas 2010).

Contrary to Manelius, Härkönen & Turunen (2005), Lieberz & Heifer (2006) and Hjern et al (2001), immigrant origin families were not found to have greater problems in compliance and commitment. In this study immigrant children did not portray significantly higher numbers of discontinued interventions. This may be explained by the difficult and lengthy process of applying for Kela compensated rehabilitation, resulting in most families receiving rehabilitation being motivated and committed to care. It should, however, be noted that individual difficulties of committing and motivating to care cannot be examined from statistical data.

Immigrant origin children were found to receive occupational therapy for mental and behavioral disorders more often than native Finnish children. This finding is in accordance with the articles of Halla (2007) and Sourander (2007) stating that immigrants may have a relatively greater risk and prevalence of mental health disorders (Halla 2007; Sourander 2007). Similarly, according to a recently published report on

tortured and severely traumatized asylum-seeking and refugee children and youth and their need for psychiatric services by Suikkanen (2010), the prevalence of mental health problems among refugee and asylum-seeking children and youth in Finland is high. The study found a third of the under 24-year-old asylum seekers and refugees arriving to Finland to be severely traumatized and to display symptoms. (Suikkanen 2010) It should, however, be noted that before receiving a Finnish residence permit, these asylum-seeking children and adolescents are not eligible for Finnish social security benefits and Kela compensated rehabilitation.

On the other hand, a review by Masaud, McNicholas & Skokauskas (2010) concludes that conversely, many recent studies have reported immigrant children to have similar rates of mental health problems to children in the host community. Nevertheless, also Masaud, McNicholas & Skokauskas put forward that many psychiatric diagnoses, such as depression, anxiety, anorexia nervosa, somatic symptoms, conduct and behavioral problems, low self-esteem, academic difficulties, ADHD and pervasive developmental disorders, have been reported to be higher in immigrant children. (Masaud, McNicholas & Skokauskas 2010)

The number of occupational therapy applications of immigrant girls was found to have increased considerably between 2003-2005 and 2006-2008, with the increase being substantially greater than that among immigrant boys. Interestingly, this discovery could not be explained by changes in population. Possible alternative explanations could not be found from literature.

When compared to the proportion of Finnish girls, immigrant girls were found to represent a relatively greater proportion in occupational therapy interventions, but a smaller proportion in all medical rehabilitation interventions. The finding regarding occupational therapy was supported by literature: also Lieberz & Heifer (2006) and Laaksonen (2007) have found the proportion of immigrant origin girls in occupational therapy and special-educations schools to be higher than the proportion of native Finnish girls. While Lieberz & Heifer and Laaksonen could not propose reasons for the higher share of immigrant origin girls, a Dutch study by Vollebergh et al (2005) found

immigrant parents to report higher problem rates of internalizing problem behaviors, social problems and attention problems in their daughters than non-immigrant parents (Vollebergh WA et al. 2005). This could be a plausible explanation for the higher share of immigrant girls receiving occupational therapy, but it would, however, need further study to confirm this in immigrant parents in Finland.

This study found that in the division of occupational therapy interventions by age-groups, interventions of immigrant children were more concentrated in the youngest age-groups (0-7 yrs). By contrast, the proportion of interventions given to older children (8-15 yrs) was greater among Finnish children. These findings are opposite to the study of Lieberz & Heifer (2006) in which the mean age of immigrant children in occupational therapy was found to be higher than the mean age of native German children.

Contrary to the conclusions which could be drawn from the literature on consanguineous marriage among immigrant populations (see f. ex. Forland 2009; Harlap et al. 2008), in this study congenital malformations were found to be a less common reason for medical rehabilitation and occupational therapy among immigrant children than among Finnish children. When beginning this study, the issue of consanguineous marriage was assumed to be relevant for studying the rehabilitation of immigrant children, because marriages between relatives are highly prevalent in many countries of origin and children born to parents who are closely related are at considerably higher risk of illness and death from rare recessive diseases and at moderately higher risk of suffering from conditions with multifactorial etiologies.

The common plea for more research on the health, wellbeing and service use of immigrants and the need for targeted resources and positive discrimination, voiced in almost all literature (see f. ex. Halla 2007; Malin, Gissler 2006), were also identified from the contacts made with occupational therapists in the preliminary survey of study data sources. As expressed by many of the contacted occupational therapists, also Suikkanen (2010) concludes that regular training on encountering and treating patients of foreign cultural background is needed in the public sector (Suikkanen 2010).

Lastly, the relation of this Thesis to other dissertations was also assessed. The relevance and topicality of immigrant health can be identified from the increasing number of final projects and theses done on immigrant health in both universities and universities of applied sciences. Various final projects have been carried out on different aspects of immigrants as clients in health care (see f. ex. Koskimies & Mutikainen 2009; Heikkurinen 2007; Kunnari & Panayotova 2007). Although more pragmatic than scientific in nature, some final projects have also been conducted on the occupational therapy of immigrant clients. For instance, Ahola & Orjatsalo (2009) conducted a final project for the Immigration Unit of Helsinki City Social Services Department, with the aim of finding out how occupational therapy has been used with immigrant clients internationally. Upon gathered research material from international publications and occupational therapy literature, the study concluded that occupational therapy can support immigrants to adjust into a new country by helping clients to cope with everyday challenges, creating a supportive environment and promoting the mental wellbeing of client (Ahola, Orjatsalo 2009).

8.6 Public health implications

The results of this Thesis show that immigrant children receive negative rehabilitation decisions more often than their Finnish peers. The greater numbers of rejected applications and the smaller population proportions of immigrant children receiving medical rehabilitation raise a question of the equity of medical rehabilitation services in Finland. Considering the problems an immigrant family applying for medical rehabilitation can face on a patient, provider and system level, are immigrant children and families at an equal position of applying and receiving medical rehabilitation? If there is reason to doubt this, measures of positive discrimination should be introduced without delay.

Measures of positive discrimination could include increasing the information, service and measures of support available for immigrant families applying for Kela compensated medical rehabilitation. This study can be used as an initiative to begin evaluating the reasons for the greater share of negative rehabilitation decisions among

immigrant children and start assessing how immigrant families can be supported in the application procedure.

The results of this Thesis also show that mental and behavioral disorders are more common among immigrant children receiving medical rehabilitation than among Finnish children. Based on literature, mental and behavioral disorders are most common among immigrant children with a refugee background, but it may also be possible that immigrant background has led to the over-diagnosing of mental and behavioral disorders among immigrant children. On an even more general level, it may be necessary to consider if there is something in the way that the surrounding society sees children with an immigrant background which causes these children to display more mental and behavioral problems than their Finnish peers.

The results of this study prove that immigrant children exist as clients in Kela compensated rehabilitation, although small in number. This can be seen as a clear indication that teaching on multicultural rehabilitation should be included in the vocational training of all rehabilitation professionals, including occupational therapists. This result can hope to be noted by key persons in universities of applied sciences.

Before comprehensive training on multicultural rehabilitation is available, this study can be used by individual occupational therapists who wish to deepen their understanding of rehabilitation and occupational therapy among immigrant children. The results may serve as a discussion opener and hopefully will awaken and encourage many occupational therapists to pursue and take the tools of occupational therapy to the field of integration and immigrant work.

8.7 Further research proposals

As the qualitative part of this study was unfeasible, it is proposed as a further research topic that the written occupational reports from Kela be used to study the content of occupational therapy among immigrant children, evaluate achievement of set goals, describe changes in the performance capacity of the children, assess cooperation with the parents and explore parents' evaluations of the effects of occupational therapy.

More study is necessary for evaluating why the applications of immigrant children are rejected more often than Finnish children and how immigrant families could be supported in the application procedure. Further study is also needed to assess whether immigrant children in different municipalities have equal possibilities of disability allowance and rehabilitation.

As this study could only evaluate Kela compensated occupational therapy among immigrant children, it is proposed that a similar assessment of occupational therapy provided in primary and secondary health care should also be initiated. Further study could confirm the assumption made in this study that the number of immigrant clients in Kela compensated occupational therapy is only the tip of the iceberg.

8.7.1 Migration data in Finland

The most crucial factor influencing the possibilities of future research on migrant health in Finland is the availability of migration data. The need for more reliable, more systematic and more harmonized statistical data on migration is acknowledged in most literature written on the topic in Finland, and the problem has also been acknowledged on an international level. PROMINSTAT is a research project for promoting comparative quantitative research in the field of migration and integration in Europe. The project has compiled meta-information on statistical datasets on migration, integration and discrimination and has coordinated the initiation of country reports on national data collection systems. The PROMINSTAT database includes a comprehensive inventory of statistical datasets available in Finland on migration, integration and discrimination. (PROMINSTAT)

The current availability of statistical datasets is described as follows in the Finnish country report written by Wilkman (2009). Statistics Finland provides information on migration under the subject area *population* of the StatFin service. This service provides a set selection of variables, but more precise search requests can be submitted to Statistics Finland, as was also done in this study. It is possible to link migration related

variables to any research theme to produce statistics, but negotiations on legislative obstacles and cost are necessary. (Wilkman 2009)

According to Wilkman (2009), the quality of the migration data in Finland is sufficient in international comparison. However, there are certain insufficiencies in the availability of Finnish migration statistics. Firstly, information on nationality and citizenship are missing from the Population Register data. Secondly, educational establishments do not compile statistics of their students according to, for instance, country of birth or different languages. Lastly, statistics on immigrants are based on citizenship and thus they lack information on the ethnic background of the individual. (Wilkman 2009) To a certain extent, these same insufficiencies were experienced in the carrying out of this study, and they should also be taken into consideration when planning future studies.

As a result of the problems related to migration data, identification of immigrants was one of the most central weaknesses of this study. The discussion and problems presented in chapters 3 and 8.3.1 are in accordance with the gaps and needs identified in the PROMINSTAT final report. According to the report, the most basic requirement for migration research is to be able to identify immigrants in a dataset. However, several datasets do not hold any or only limited information which indicates migration background. (Kraeler, Reichel 2010)

The PROMINSTAT final report suggests that, firstly, nationally representative data from routine health records linked with other relevant sources of information on the country's population and, secondly, EU cross-national surveys related to health and social issues can provide stratified data for migration research in the field of health. The PROMINSTAT database provides an opportunity to identify possible sources of information for research specifically on Finland and for cross-country comparisons. Sadly, according to the PROMINSTAT final report, there is no real possibility for European cross-sectional comparative studies in the field of migration and health. (Kraeler, Reichel 2010)

8.7.2 Future possibilities

An improvement in the availability of data regarding primary care visits is soon to take place. During my data collection process I had the opportunity to attend a seminar on the National Primary Care Visit Register (AvoHILMO). As of 2011, individual level data on outpatient primary care visits will be collected to a national register. Data will be collected on every event occurring at the primary health care level, and the data contents will include, among other things, information of individual social security number (and hence age and gender), place of residence and diagnoses (Forsström, Saukkonen & Tuomola 2010). Thanks to this, study on immigrant health will be much easier in the future as information on, for instance, the native language of the client will be more readily available. Using the data available from AvoHILMO it would be possible to study occupational therapy among multicultural children, not merely immigrant children. This would give a better picture of the genuine extent immigrant origin children are receiving occupational therapy.

The National Institute for Health and Welfare (THL) is currently conducting the first Finnish large-scale population survey of the health and wellbeing of ethnic minority adults and their families. The study sample consists of 3 000 adults aged 18–64 years who are of Russian, Somali and Kurdish origin. The study will produce information on the health and wellbeing, work ability and need for services and treatment of migrants, as well as the factors influencing these. The home-interview includes questions on use of rehabilitation services and social functioning, and the health examination includes physical functional performance tests and an interview on use of assistive devices and physical functioning. Data from the study could be used to evaluate the subjective and objective need for rehabilitation and the physical and social functioning of adult migrants in Finland.

In the field of rehabilitation, a comprehensive development project on the rehabilitation of persons with severe disabilities (Vaikeavammaisten kuntoutuksen kehittämishanke VAKE) is being carried out by Kela in 2006-2013. One of the aims of the project is to test methods and instruments for the evaluation of the impact of rehabilitation for

persons with severe disabilities (Halin, Sahiluoto & Suomela-Markkanen 2010). Using the tried and tested methods and instruments identified in the VAKE project, the impact of medical rehabilitation among immigrant children could reliably be studied in the future.

9. CONCLUSIONS AND RECOMMENDATIONS

Immigrant children and families have increasingly applied for both Kela compensated medical rehabilitation for persons with severe disabilities and for occupational therapy. The applications of immigrant children and families were rejected more often than the applications of Finnish children, with greatest differences found between ethnic groups. Discussion is needed on what the current service system can do to ensure equal treatment for equal need and how immigrant families can be supported to secure equal opportunity for rehabilitation and fair application procedures.

Immigrant children in the municipalities of the capital city area seem to receive disability allowance and rehabilitation more often than peers in other parts of Finland, but differences were also found between the capital city municipalities. What cannot be answered within the frames of this study is how the objective need for rehabilitation is in relation to the provided therapy, and what the probability is that an immigrant child in need of rehabilitation receives adequate care in relation to the same probability of a Finnish child.

Mental and behavioral disorders were found to be the leading cause for rehabilitation among both Finnish and immigrant children. Multicultural competence and expertise are needed to recognize and assist the immigrant children in need of special support. The professional skills of the social and health care personnel are an essential part of promoting the integration of immigrants. To ensure this both open dialogue, targeted resources and high-quality training are needed.

Municipalities are to promote and support integration by providing services, which encourage immigrants to acquire the skills and knowledge needed in society. Through the therapeutic use of everyday life activities, occupational therapy has the potential to increase the participation of not only children eligible for Kela compensated medical rehabilitation, but also children lacking school readiness, adolescents at risk of school dropout and families struggling with newly adopted roles in society. The tools of occupational therapy should readily be introduced to the field of immigrant work.

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REFERENCES

Ahola, S. & Orjatsalo, S. 2009, *Maahanmuuttaja toimintaterapeutin asiakkaana*, Opinnäytetyö, Metropolia ammattikorkeakoulu, Helsinki.

Aromaa, A., Huovinen, P., Kantanen Marja Leena, Penttinen, J., Sarjakoski, M., Suutari, J., Syrjänen, R., Venäläinen, R. & Virtamo, J. (eds) 2005, *Good Research Practice in the National Public Health Institute*, 3.1st edn, National Public Health Institute, Helsinki.

Aronpuro, A. 2009, *Maahanmuuttaja-asiakkaista*, E-mail correspondence 18.11.2009.

Arvonen, A., Katva, L. & Nurminen, A. 2010, *Maahanmuuttajien oppimisvaikeuksien tunnistaminen,* PS-Kustannus, Jyväskylä.

Asikainen, M. *, Maahanmuuttajataustaisten lasten ja nuorten kielihäiriöisyyden seulonta ja diagnosointi – altistaako nykykäytäntö oppimisvaikeuksiin, sosio-emotionaalisiin ongelmiin ja syrjäytymiseen?* [Homepage of Helsingin Diakonissalaitos], Available: http://www.hdl.fi/fi/maahanmuuttajat/23 [2009, 10/27].

Autti-Rämö, I., Maaniemi, K., Raitasalo, R., Martikainen, J. & Sourander, A. 2008, "Mielenterveyden ja käyttäytymisen häiriöiden vuoksi lasten hoitotukia saaneet vuosina 2000–2007", *Suomen Lääkärilehti,* vol. 45, no. 63, pp. 3865.

Case-Smith, J. (ed) 2005, *Occupational Therapy for Children*, 5th edn, Mosby, Inc., Missouri.

Clauss, S. & Nauck, B. 2009, *The situation among children of migrant origin in Germany*, UNICEF, Florence.

De Valk, Helga A G, Noam, K.R., Bosch Alinda M & Beets, G.C.N. 2009, *Children in immigrant families in the Netherlands: A statistical portrait and a review of literature*, UNICEF, Florence.

Dias, S.F., Severo, M. & Barros, H. 2008, "Determinants of health care utilization by immigrants in Portugal", *BMC Health Services Research,* vol. 8, no. 207.

Espoon kaupunki a*, Lasten kuntoutus ja terapia*. Available: http://www.espoo.fi/default.asp?path=1;28;11866;11404;38331 [2010, 01/29].

Espoon kaupunki b*, Lasten toimintaterapia*. Available: http://www.espoo.fi/default.asp?path=1;28;11866;11404;38331;38345 [2010, 01/29].

Fassaert, T., Hesselink, A.E. & Verhoeff, A.P. 2009, "Acculturation and use of health care services by Turkish and Moroccan migrants: a cross-sectional population-based study", *BMC Public Health,* vol. 9, no. 332.

Forland, F. 2009, *Migration and health - challenges and trends*, Norwegian Directorate of Health, Oslo.

Forsström, J., Saukkonen, S. & Tuomola, P. 2010, *AvoHILMO: Perusterveydenhuollon avohoifon ilmoitus 2011. Määrittelyt ja ohjeistus*, Terveyden ja hyvinvoinnin laitos, Helsinki.

Gissler, M. 1999, "Routinely Collected Registers in Finnish Health Research" in *Statistics, Registries, and Science: Experiences from Finland*, ed. J. Alho, Statistics Finland, Helsinki.

Gissler, M., Malin, M. & Matveinen, P. 2006, *Maahanmuuttajat ja julkiset palvelut: terveydenhuollon palvelut ja sosiaalihuollon laitospalvelut*, Työministeriö, Helsinki.

Gottlieb, C., Maenner, M., Cappa, C. & Durkin, M. 2009, "Child disability screening, nutrition, and early learning in 18 countries with low and middle incomes: data from the third round of UNICEF's Multiple Indicator Cluster Survey (2005–06)", *The Lancet,* vol. 374, pp. 1831.

Grimes, D.A. & Schultz, K.F. 2002, "Bias and causal associations in observational research", *The Lancet,* vol. 359, pp. 248-252.

Halin, J., Sahiluoto, T. & Suomela-Markkanen, T. 2010, "VAKE-hankkeen väliraportti", Available from: http://www.kela.fi/in/internet/liite.nsf/(WWWAllDocsById)/A249A0DF35964256C22576F700204E69/$file/100330VAKEväliraportti.pdf.

Halla, T. 2007, "Psyykkisesti sairas maahanmuuttaja", *Duodecim,* vol. 123, pp. 469.

Härkäpää, K. & Peltola, U. 2005, *Maahanmuuttajien työllistymisen tukeminen ja kuntoutusluotsaus: Majakka-Beacon -hankkeen loppuraportti*, Kuntoutussäätiö, Helsinki.

Harlap, S., Kleinhaus, K., Perrin, M., Calderon-Margalit, R., Paltiel, O., Deutsch, L., Manor, O., Tiram, E., Yanetz, R. & Friedlander, Y. 2008, "Consanguinity and Birth Defects in the Jerusalem Perinatal Study Cohort", *International Journal of Human and Medical Genetics,* vol. 66, pp. 180.

Heikkilä, M. 2009, *Maahanmuuttaja-asiakkaista*, E-mail correspondence 18.11.2009.

Heinonen, H., Tervola, J. & Laatu, M. 2011, "Haastavat asiakkuusprosessit Kelassa. Tutkimus haastavista asiakasryhmistä ja sosiaaliturvan (toimeenpanon) ongelmista", vol. 20, Available from: http://hdl.handle.net/10138/24597.

Helsingin kaupunki. Terveyskeskus , *Toimintaterapiasta apua arkeen*. Available: http://www.hel.fi/wps/portal/Terveyskeskus/Artikkeli?WCM_GLOBAL_CONTEXT=/terke/fi/Terveyspalvelut/Kuntoutuspalvelut/Toimintaterapia [2010, 01/29].

Herrgård, E. & Renko, R. 2000, "Lapsen neurologisen kehityksen seuranta – milloin on syytä huoleen?", *Duodecim,* vol. 116, pp. 2038.

Hirstiö-Snellman, P. & Mäkelä, M. 1998, *Maahanmuuttajat sosiaali- ja terveyspalveluiden asiakkaina*, Sosiaali- ja terveysministeriö, Helsinki.

Hjern, A., Haglund, B., Persson, G. & Rosen, M. 2001, "Is there equity in access to health services for ethnic minorities in Sweden?", *European Journal of Public Health,* vol. 11, no. 2.

Husey, S.M., Sabonis-Chafee Barbara & O´Brien Jane Clifford 2007, *Introduction to Occupational Therapy,* 3rd edn, Mosby, Inc., Missouri.

Hytönen, M., Laurell, H., Mannila, K., Marttila, I. & Routio, M. 2002, *Maahanmuuttajatyön käsikirja*, Helsingin kaupungin sosiaalivirasto, Helsinki.

Hytti, H. 1998, "Kansaneläkelaitoksen rekisterien käyttö väestö- ja terveystutkimuksessa" in *Rekisteriaineistot yhteiskunta- ja terveystutkimuksessa*, eds. T. Valkonen, S. Koskinen & T. Martelin, Gaudeamus Kirja / Oy Yliopistokustannus, Helsinki.

Järvikoski, A., Hokkanen, L. & Härkäpää, K. (eds) 2009, *Asiakkaan äänellä - Odotuksia ja arvioita vaikeavammaisten lääkinnällisestä kuntoutuksesta*, Kuntoutussäätiö, Helsinki.

Kajantie, M., Manderbacka, K., Maccallum, A., Notkola, I., Arffman, M., Forssas, E., Karvonen, S., Kortteinen, M., Leyland, A. & Keskimäki, I. 2006, *How to carry out register-based health services research in Finland?*, STAKES, Helsinki.

Kallio, L. 2009, *Lasten toimintaterapiasta*, E-mail correspondence 16.11.2009.

Kela 2009, *Guide to Benefits*, Edita Prima, Helsinki.

Kirszbaum, T., Brinbaum, Y. & Simon, P. 2009, *The children of immigrants in France: the emergence of a second generation*, UNICEF, Florence.

Knox, S.H. 2007, "Play" in *Occupational Therapy for Children*, ed. J. Case-Smith, 5th edn, Mosby, Inc., Missouri.

Koivikko, M. & Autti-Rämö, I. 2006, "Mitä on kehitysvammaisen hyvä kuntoutus?", *Duodecim,* vol. 122, pp. 1907.

Koskela, A. 2003, *Vammaiset maahanmuuttajat vähemmistönä vähemmistössä - vammaispalveluiden ja kehitysvammaisten erityishuoltoohjelman mukaisten*

palveluiden käyttäjät vuosina 1998 - 2002 Espoossa Helsingissä ja Vantaalla, Helsingin Invalidien yhdistys r.y., Helsinki.

Kotkavuori, T. 2009, *Tarkennus maahanmuuttajalasten tt-käynteihin*, E-mail correspondence 25.11.2009.

Kraeler, A. & Reichel, D. 2010, "Statistics on Migration, Integration and Discrimination in Europe: PROMINSTAT Final Report", Available from: http://www.prominstat.eu/drupal/?q=system/files/PROMINSTAT_FINAL_REPORT.pdf.

Kramer, P. & Hinojosa, J. 2010, *Frames of Reference for Pediatric Occupational Therapy,* 3rd edn, Lipincott Williams & Wilkins, Maryland.

Kulmala, T. 2009, *Vantaalta tilastotietoa*, E-mail correspondence 2.12.2009.

Kuntoutusasian neuvottelukunta 2003, *Kuntoutuksen tutkimuksen kehittämisohjelma*, Edita, Helsinki.

Laaksonen, A. 2007, *Maahanmuuttajaoppilaat erityiskouluissa*, Väitöskirja, Turun yliopisto, Turku.

Lieberz, K. & Heifer, K. 2006, "Hohes Risikopotenzial bei ausländischen Kinder. Die Ergotherapie als wichtiger Integrationsfaktor – Vergleich zwischen deutschen und ausländischen Kindern.", *Ergotherapie & Rehabilitation*, no. 8, pp. 7.

Lindström, K., Väänänen, A. & Toivanen, M. 2009, *Maahanmuuttajien integroituminen suomalaiseen yhteiskuntaan elämän eri osa-alueilla*, Työterveyslaitos, Kuntoutussäätiö, Terveyden ja hyvinvoinnin laitos, Helsinki.

Malin, M. & Gissler, M. 2009, "Maternal care and birth outcomes among ethnic minority women in Finland", *BMC Public Health,* vol. 9, no. 84, pp. 21.01.2011.

Malin, M. & Gissler, M. 2006, "Maahanmuuttajien terveys- ja sosiaalipalveluiden saatavuus, laatu ja käyttö oikeanmukaisuuden näkökulmasta" in *Hyvinvointivaltion rajat: Riittävät palvelut jokaiselle* Stakes, Helsinki.

Mandich, A. & Rodger, S. 2006, "Doing, being and becoming: their importance for children" in *Occupational Therapy with Children. Understanding Children's Occupations and Enabling Participation*, eds. S. Rodger & J. Ziviani, Blackwell Publishing Ltd., Oxford.

Manelius, L., Härkönen, T. & Turunen, H. 2005, "Maahanmuuttajien kuntoutustutkimus", *Kuntoutus,* vol. 2.

Mankkinen, T. & Pawli, J. 2007, *Vanhemmuus ja toimiva viranomaisyhteistyö - lasten ja nuorten syrjäytymisen ennalta ehkäisyn avaimet*, Sisäasianministeriö, Helsinki.

Mannila, S. 2008, "Maahanmuuttajien terveys", *Suomen Lääkärilehti,* vol. 32, no. 63.

Masaud, T., McNicholas, F. & Skokauskas, N. 2010, "Overcoming the challenges of managing mental health in migrant children", *Pediatric Health,* vol. 4, no. 6, pp. 603-611.

Mencarini, L., Baldoni, E. & Dalla Zuanna, G. 2009, *The situation of children in immigrant families in Italy: changes and challenges*, UNICEF, Florence.

Ministry of Labour 2004, *Non-Discrimination Act 21/2004*, Unofficial translation, Helsinki.

Ministry of Social Affairs and Health 2006, *Government Report on Disability Policy 2006*, Ministry of Social Affairs and Health, Helsinki.

Ministry of the Interior 2010, *Aliens Act*, (301/2004, amendments up to 549/2010 included), Helsinki.

Ministry of the Interior 2009, *Act on the Integration of Immigrants and Reception of Asylum Seekers*, (493/1999; amendments up to 324/2009 included), Helsinki.

Myrskylä, P. 2010, "Maahanmuutossa suuria vuosivaihteluita", *Tieto&trendit*, no. 4-5.

Nadeau, L. & Measham, T. 2005, "Immigrants and Mental Health Services: Increasing Collaboration with Other Service Providers", *The Canadian Child and Adolescent Psychiatry Review,* vol. 14, no. 3, pp. 73.

National Institute for Health and Welfare 2007, 28.11.2007-last update*, Register-based research* [Homepage of National Institute for Health and Welfare], Available: http://retki.stakes.fi/EN/registerbasedresearch/Register-based.htm [2010, 10/2010].

Nikkanen, P. 2010, *Vaikeavammaisen henkilön kuntoutussuunnitelman rakentumisen käytännöt*, Kansaneläkelaitos, Helsinki.

Oroza, V. 2007, "Maahanmuuttaja yleislääkärin vastaanotolla", *Duodecim,* vol. 123, no. 4, pp. 441-447.

Parsons, A. 2010, *The best interests of the child in asylum and refugee procedures in Finland*, The Ombudsman for Minorities, Helsinki.

Partio, T. 2009, *Toimintaterapiatilastojen yksilöimisestä*, E-mail correspondence 30.11.2009.

Peltola, U. 2005, "Asiakkaana maahanmuuttaja", *Kuntoutus,* vol. 28, no. 2, pp. 62.

Peltola, U. & Metso, L. 2008, *Maahanmuuttajien kuntoutumisen ja työllistymisen tukeminen Helsingissä*, Kuntoutussäätiö, Helsinki.

Pohjanpää, K., Paananen, S. & Nieminen, M. 2003, *Maahanmuuttajien elinolot – Venäläisten, virolaisten, somalialaisten ja vietnamilaisten elämää Suomessa 2002*, Tilastokeskus, Helsinki.

Pösö, R. 2009, *Vammaisetuustilastoista*, E-mail correspondence 13.11.2009.

PROMINSTAT*, Promoting Comparative Quantitative Research in the field of Migration and Integration in Europe*. Available: http://www.prominstat.eu [2011, 01/23].

Rauta, A. 2005, *Selvitys maahanmuuttajien mielenterveyspalvelujen tarpeesta ja saatavuudesta*, Sosiaali- ja terveysministeriö, Helsinki.

Rautio, T. 2009, *Toimintaterapiatilastoista*, E-mail correspondence 11.11.2009.

Rissanen, P., Kallaranta, T. & Suikkanen, A. (eds) 2008, *Kuntoutus*, 2nd, Kustannus Oy Duodecim, Helsinki.

Sarvimäki, M. & Kangasharju, A. 2006, *Maahanmuuttajat ja julkiset palvelut: pienten lasten hoito ja sosiaalihuollon avopalvelut*, Työministeriö, Helsinki.

Sarvimäki, P. & Kallio, A. 2007, *Maahanmuuttajien palvelut ja työllistyminen sosiaalialalle*, Sosiaali- ja terveysministeriö, Helsinki.

Shakespeare, T., Iezzoni, L. & Groce, N. 2009, "Disability and the training of health professionals", *The Lancet,* vol. 374, pp. 1815.

Sosiaali- ja terveysministeriö 2008a, *National Action Plan to Reduce Health Inequalities 2008–2011*, Ministry of Social Affairs and Health, Helsinki.

Sosiaali- ja terveysministeriö 2008b, *Uusi terveydenhuoltolaki. Terveydenhuoltolakityöryhmän muistio. Loppuraportti*, Yliopistopaino Kustannus, Helsinki.

Sosiaali- ja terveysministeriö 2002, "Kuntoutusselonteko 2002", vol. 6, Available from: http://pre20031103.stm.fi/suomi/eho/julkaisut/ehosisallys29.htm.

Sosiaali- ja terveysministeriö 1991, *Asetus lääkinnällisestä kuntoutuksesta*, Helsinki.

Sosiaali- ja terveysministeriö 1987, *Laki vammaisuuden perusteella järjestettävistä palveluista ja tukitoimista*, Helsinki.

Sourander, A. 2007, "Turvapaikkaa hakevien pakolaislasten ja -nuorten mielenterveys", *Duodecim,* vol. 123, no. 4, pp. 479.

Statistics Finland*, Classification Guide* [Homepage of Statistics Finland], Available: http://www.stat.fi/meta/luokitukset/luokitusopas2004_en.html#_toc528562312 [2011, 21/01].

Stronks, K., Ravelli, A.C.J. & Reijneveld, S.A. 2001, "Immigrants in the Netherlands: Equal access for equal needs?", *Journal of Epidemiology and Community Health,* vol. 55, pp. 701.

Suikkanen, S. 2010, *Selvitys kidutettujen ja vaikeasti traumatisoituneiden turvapaikanhakija- ja pakolaislasten ja -nuorten määrästä sekä heidän psykiatristen palvelujen tarpeestaan*, Helsingin Diakonissalaitos, Helsinki.

Sundquist, J. 2001, "Migration, equality and access to health care services", *Journal of Epidemiology and Community Health,* vol. 55, pp. 691.

Suomalaisen Lääkäriseuran Duodecimin, Suomen Foniatrit ry:n ja Suomen Lastenneurologisen yhdistyksen asettama työryhmä 2010, *Lasten ja nuorten kielellinen erityisvaikeus (dysfasia)*, Käypä hoito 27.4.2010, Duodecim, Helsinki.

Suomalaisen Lääkäriseuran Duodecimin, Suomen Lastenneurologinen Yhdistys ry:n ja Suomen Lastenpsykiatriyhdistyksen asettama työryhmä 2007, *Lasten ja nuorten aktiivisuuden ja tarkkaavuuden häiriön (ADHD) hoito*, Käypä hoito 4.11.2007, Duodecim, Helsinki.

Tampereen yliopisto 2010, 30.9.2010-last update*, Milloin tarvitaan eettisen toimikunnan lausunto?*. Available: http://www.uta.fi/tutkimus/etiikka/arviointitmk/milloin.html [2010, 12/10].

The Hospital District of Helsinki and Uusimaa a, *Children's Castle -brochure*.

The Hospital District of Helsinki and Uusimaa b*, Key Functions*. Available: http://www.hus.fi/default.asp?path=59,404,4024 [2010, 10/2010].

The Hospital District of Helsinki and Uusimaa c*, Toiminta- ja taideterapia*. Available: http://www.hus.fi/default.asp?path=1,32,660,546,956,5414,5597 [2010, 10/2010].

Tiilikainen, M. 2007, "Etniset vähemmistöt Suomessa - Kasvava monimuotoisuus on haaste hyvinvointiyhteiskunnan palveluille ja yhdenvertaisuudelle", *Duodecim,* vol. 123, pp. 437.

Tilastokeskus 2009, *Ulkomaalaiset ja siirtolaisuus 2008,* Tilastokeskus, Helsinki.

Tilastokeskus 2005, *Ulkomaalaiset ja siirtolaisuus 2004*, Tilastokeskus, Helsinki.

Ukkonen, A. 2009, *Helsingin toimintaterapiapalveluista*, E-mail correspondence 4.11.2009.

UNICEF 2009, *Children in immigrant families in eight affluent countries: their family, national and international context*, UNICEF, Florence.

Uotinen, S. 2008, *Vanhempien ja lasten toimijuuteen konduktiivisessa kasvatuksessa*, Väitöskirja, Jyväskylän yliopisto, Jyväskylä.

Uusijärvi, A. 2003, *Miten Helsingissä hoidetaan maahanmuuttajataustaisen lapsen mielenterveyttä? Selvitys maahanmuuttajataustaisten lasten mielenterveystilanteesta ja palvelujärjestelmän kehittämishaasteista*, Helsingin kaupunki, Helsinki.

Vakimo, T. 2001, *Meissä olisi mahdollisuus, mutta meitä ei halua kukaan! - selvitys maahanmuuttajien ja muiden erityisryhmien erityisopetuksen ja erityisen tuen tarpeesta*, Helsingin Diakoniaopisto, Helsinki.

Valkonen, T., Koskinen, S. & Martelin, T. (eds) 1998, *Rekisteriaineistot yhteiskunta- ja terveystutkimuksessa*, Gaudeamus Kirja / Oy Yliopistokustannus, Helsinki, Finland.

Valtioneuvosto 2008, "Valtioneuvoston selonteko eduskunnalle kotouttamislain toimeenpanosta (VNS 4/2008 VP)", Available from: http://www.intermin.fi/intermin/images.nsf/files/75b8e2d283fdb4acc22574d600432065/$file/kotouttamislakiselonteko_021008.pdf.

Vantaan kaupunki , *Toimintaterapia*. Available: http://www.vantaa.fi/i_perusdokumentti.asp?path=1;135;137;220;4725;4798;4890 [2010, 01/29].

Vollebergh WA, ten Have M, Dekovic M, Oosterwegel A, Pels T, Veenstra R, de Winter A, Ormel H & Verhulst F 2005, "Mental health in immigrant children in the Netherlands", *Social Psychiatry and Psychiatric Epidemiology,* vol. 40, no. 6, pp. 18.01.2011.

Vuori, P. 2009, *Ulkomaan kansalaiset Helsingissä*, Presentation 27.10.2009. Helsingin kaupungin tietokeskus.

Vuori, P. 2007, *Kunta- ja palvelurakenneuudistus - Pääkaupunkiseudun väestöanalyysi*, Muistio 2.4.2007. Helsingin kaupungin tietokeskus. Available from: http://www.helsinki.fi/maantiede/kaumaa/segregaatio3/PKS_vaestoennuste2007_25_Vuori.pdf.

Wahlbeck, K., Wahlbeck, K., Manderbacka, K., Vuorenkoski, L., Kuusio, H., Luoma, M. & Widström, E. 2008, *Quality and Equality of Access to Healthcare Services,* Stakes, Helsinki.

WHO*, Disabilities*. Available: http://www.who.int/topics/disabilities/en/ [2010, 06/24].

Wilkman, S. 2009, "Country Report Finland", Available from: http://www.prominstat.eu/drupal/?q=system/files/PROMINSTAT_Finland.pdf.

World Health Organization 1969, *WHO Expert Committee on Medical Rehabilitation. Second Report*, World Health Organization, Geneva.

World Medical Association Declaration of Helsinki 2008, "Ethical Principles for Medical Research Involving Human Subjects", Available from: http://www.wma.net/en/30publications/10policies/b3/17c.pdf.

Yhteiset lapsemme ry 2009, 4/16-last update*, Pakolaislasten vaikea saada psykososiaalista apua*. Available: http://www.yhteisetlapsemme.fi/oodi-tiedote.html [2010, 2/4].

APPENDIX 1: PRELIMINARY SURVEY OF STUDY DATA SOURCES

The following passages are a detailed account of the preliminary survey of study data sources. The aim of this description is to expose the amount of investigative work necessary for carrying out a study related to occupational therapy among immigrant children, to give credit to the informants who participated in this study, but also to demonstrate the encountered problems related to migration data, so that needed changes in the compilation of statistics can be advanced.

To discover whether data on pediatric occupational therapy would be accessible from the city of Helsinki, I contacted Leea Kallio and Aino Ukkonen from Helsinki Health Center's Administration and Service Center. On request I received total figures of occupational therapy visits in 2007-2008. However, these figures could not be individualized even to consist only pediatric clients. Immigrant origin could have, in theory, been defined using information of the native language of the child. Individual occupational therapy figures, however, could not be retrieved. (Ukkonen 2009, Kallio 2009) Thus reliable and relevant data could not be attained from Helsinki.

In the city of Espoo pediatric occupational therapy services are provided for by thirteen occupational therapists. Each occupational therapist was contacted by e-mail in November 2009 to discover the possibilities to obtain figures of pediatric occupational therapy in Espoo. Only two occupational therapists responded to my inquiry. However, both considered the topic interesting and figures on immigrant origin occupational therapy clients to be obtainable from individual records. For instance Tiina Kotkavuori, an occupational therapist from the Matinkylä-Olari region, reported that in 2008 she had a total of 63 clients of which 21 (33 %) were of immigrant origin. In the same year her total number of occupational therapy interventions was 283 of which 88 (31 %) were of immigrant origin children. (Kotkavuori 2009) Anna Aronpuro, an occupational therapist from the Espoo center region, responded willingly to my e-mail inquiry, but reported that as she had only began work in the area two months earlier, she would be able to produce data just for this short period. (Aronpuro 2009)

Despite these positive, encouraging contacts it was decided that calculating the number of immigrant origin clients from individual client records would not produce the type of reliable quantitative data I was searching for. It would have been a challenge to motivate all thirteen occupational therapists to engage in the activity and as seen in Aronpuro's case, defining the time period of study would have been difficult. Yet the most problematic question in this approach would have been defining who should be considered an immigrant origin client as the background information available for each client differed as well as other client records available for each occupational therapist. As a consequence, this approach was also rejected.

In the city of Vantaa occupational therapy services are provided for in five health centers and one hospital. To inquire about the proportion of immigrant origin clients in Vantaa, I contacted the occupational therapist in charge, Taina Kulmala. Like my contacts in Espoo, Kulmala responded positively to my query, but cautioned that figures on the topic would have to be gathered one by one from different files and occupational therapists, and thus the quality of the data would not be very reliable. Nevertheless, as guiding information Kulmala gathered that 1921 clients had received occupational therapy in Vantaa in 2008, of which 523 clients were 0-14-years-old. Of these children 56 (10 %) were of immigrant origin. Alternatively, 0-14-year-old clients had received 2231 interventions, of which 159 (7 %) were interventions of immigrant origin children. (Kulmala 2009) Although these individual figures were intriguing, cooperation with Vantaa was not pursued on the same grounds as with Espoo.

As occupational therapy services can also be provided by the Helsinki University Central Hospital, the occupational therapist in charge of pediatric neurology Terttu Rautio, the occupational therapist in charge of child psychiatry Kaija Kovanen and an occupational therapist at the audiophoniatric children's ward and phoniatric policlinic Maija Heikkilä, were contacted. From Rautio I received sum level figures of occupational therapy interventions from the children's neurological, pediatric diseases and pediatric surgery wards. The figures could not be stratified to municipal level and neither could the native languages or nationalities of the children be identified. At this point, to achieve information on the immigrant origin children treated at the Hospital for

Children and Adolescents, the idea of either calculating the number of children in concern from individual occupational therapy records as well as the idea of an observation period was introduced to the staff. The reception from the staff was negative as this was seen to increase the already heavy work load of the occupational therapists. In addition, like already described in the case of Espoo, here too defining immigrant origin children was considered difficult and gathering complete and comprehensive data would have been near impossible because of substitutes and changes in personnel. (Rautio 2009)

Like Rautio, Maija Heikkilä from the audiophoniatric children's ward and phoniatric policlinic of HUS stated that exact statistics would be impossible to retrieve. According to the estimate of the doctor in charge of the audiophoniatric children's ward, the general proportion of multicultural clients is 25 per cent, with multicultural referring to immigrant families, multilingual families and families where one or both parents are non-native Finns. The total number of children treated yearly at the audiophoniatric children's ward is 240, which makes an estimate of 60 multicultural children yearly. The majority of these therapies are paid for by Kela. Heikkilä estimated the proportion of multicultural children at the phoniatric policlinic to be smaller, as multicultural children are often referred directly to clinical tests at the ward. Lastly, the figures of children receiving outsourced occupational therapy from the ward and policlinic in question were small and Heikkilä did not recall of any multicultural children. (Heikkilä 2009)

Rautio advised that the names of outsourced occupational therapists could be requested from HUS Logistics, but with the problems already encountered regarding data collection from individual records, this measure was not resorted to.

Timo Partio was contacted to inquire on the availability of rehabilitation statistics and the possibility to individualize these statistics to identify immigrant origin children. Kela informed of not needing to know the nationality of the beneficiary hitherto, and thus rehabilitation statistics in themselves did not include information on the clients' native language or nationality. However, by contacting Reeta Pösö, Kela's designer responsible for disability statistics, I discovered that the nationality of the child could be

retrieved from disability statistics. This knowledge led to the decision to pursue designing the Thesis using Kela's registries. (Partio 2009, Pösö 2009)

APPENDIX 2: CLASSIFICATION OF COUNTRIES

Code	Marking	Alt. Marking	Country	Class
248	AX	ALA	Ahvenanmaa	1
246	FI	FIN	Suomi	1
352	IS	ISL	Islanti	2
578	NO	NOR	Norja	2
752	SE	SWE	Ruotsi	2
744	SJ	SJM	Svalbard ja Jan Mayen	2
208	DK	DNK	Tanska	2
74	BV	BVT	Bouvet'nsaari	2
528	NL	NLD	Alankomaat	3
530	AN	ANT	Alankomaiden Antillit	3
16	AS	ASM	Amerikan Samoa	3
20	AD	AND	Andorra	3
660	AI	AIA	Anguilla	3
10	AQ	ATA	Antarktis	3
533	AW	ABW	Aruba	3
36	AU	AUS	Australia	3
56	BE	BEL	Belgia	3
826	GB	GBR	Britannia	3
86	IO	IOT	Brittiläinen Intian valtameren alue	3
92	VG	VGB	Brittiläiset Neitsytsaaret	3
136	KY	CYM	Caymansaaret	3
184	CK	COK	Cookinsaaret	3
724	ES	ESP	Espanja	3
239	GS	SGS	Etelä-Georgia ja Eteläiset Sandwichsaaret	3
238	FK	FLK	Falklandinsaaret	3
242	FJ	FJI	Fidži	3
234	FO	FRO	Färsaaret	3
292	GI	GIB	Gibraltar	3
304	GL	GRL	Grönlanti	3
316	GU	GUM	Guam	3
312	GP	GLP	Guadeloupe	3
831	GG	GGY	Guernsey	3
334	HM	HMD	Heard ja McDonaldinsaaret	3
372	IE	IRL	Irlanti	3
380	IT	ITA	Italia	3
40	AT	AUT	Itävalta	3
832	JE	JEY	Jersey	3
162	CX	CXR	Joulusaari	3
124	CA	CAN	Kanada	3
296	KI	KIR	Kiribati	3
166	CC	CCK	Kookossaaret	3
300	GR	GRC	Kreikka	3
196	CY	CYP	Kypros	3
438	LI	LIE	Liechtenstein	3

442	LU	LUX	Luxemburg	3
470	MT	MLT	Malta	3
833	IM	IMN	Mansaari	3
584	MH	MHL	Marshallinsaaret	3
474	MQ	MTQ	Martinique	3
175	YT	MYT	Mayotte	3
583	FM	FSM	Mikronesia	3
492	MC	MCO	Monaco	3
499	ME	MNE	Montenegro	3
500	MS	MSR	Montserrat	3
520	NR	NRU	Nauru	3
570	NU	NIU	Niue	3
574	NF	NFK	Norfolkinsaari	3
585	PW	PLW	Palau	3
612	PN	PCN	Pitcairn	3
580	MP	MNP	Pohjois-Mariaanit	3
620	PT	PRT	Portugali	3
250	FR	FRA	Ranska	3
260	TF	ATF	Ranskan eteläiset alueet	3
254	GF	GUF	Ranskan Guayana	3
258	PF	PYF	Ranskan Polynesia	3
638	RE	REU	Réunion	3
652	BL	BLM	Saint Barthélemy	3
654	SH	SHN	Saint Helena	3
663	MF	MAF	Saint Martin	3
666	PM	SPM	Saint-Pierre ja Miquelon	3
670	VC	VCT	Saint Vincent ja Grenadiinit	3
276	DE	DEU	Saksa	3
90	SB	SLB	Salomonsaaret	3
882	WS	WSM	Samoa	3
674	SM	SMR	San Marino	3
756	CH	CHE	Sveitsi	3
772	TK	TKL	Tokelau	3
776	TO	TON	Tonga	3
796	TC	TCA	Turks- ja Caicossaaret	3
798	TV	TUV	Tuvalu	3
540	NC	NCL	Uusi-Kaledonia	3
554	NZ	NZL	Uusi-Seelanti	3
548	VU	VUT	Vanuatu	3
336	VA	VAT	Vatikaani	3
876	WF	WLF	Wallis ja Futuna	3
840	US	USA	Yhdysvallat (USA)	3
850	VI	VIR	Yhdysvaltain Neitsytsaaret	3
581	UM	UMI	Yhdysvaltain pienet erillissaaret	3
8	AL	ALB	Albania	4

70	BA	BIH	Bosnia ja Hertsegovina	4
100	BG	BGR	Bulgaria	4
191	HR	HRV	Kroatia	4
807	MK	MKD	Makedonia	4
498	MD	MDA	Moldova	4
616	PL	POL	Puola	4
642	RO	ROU	Romania	4
688	RS	SRB	Serbia	4
703	SK	SVK	Slovakia	4
705	SI	SVN	Slovenia	4
203	CZ	CZE	Tšekki	4
348	HU	HUN	Unkari	4
51	AM	ARM	Armenia	5
31	AZ	AZE	Azerbaidžan	5
268	GE	GEO	Georgia	5
398	KZ	KAZ	Kazakstan	5
417	KG	KGZ	Kirgisia	5
762	TJ	TJK	Tadžikistan	5
795	TM	TKM	Turkmenistan	5
804	UA	UKR	Ukraina	5
860	UZ	UZB	Uzbekistan	5
112	BY	BLR	Valko-Venäjä	5
643	RU	RUS	Venäjä	5
428	LV	LVA	Latvia	6
440	LT	LTU	Liettua	6
233	EE	EST	Viro	6
12	DZ	DZA	Algeria	7
784	AE	ARE	Arabiemiirikunnat	7
48	BH	BHR	Bahrain	7
818	EG	EGY	Egypti	7
376	IL	ISR	Israel	7
887	YE	YEM	Jemen	7
400	JO	JOR	Jordania	7
414	KW	KWT	Kuwait	7
422	LB	LBN	Libanon	7
434	LY	LBY	Libya	7
504	MA	MAR	Marokko	7
512	OM	OMN	Oman	7
275	PS	PSE	Palestiina	7
634	QA	QAT	Qatar	7
682	SA	SAU	Saudi-Arabia	7
760	SY	SYR	Syyria	7
788	TN	TUN	Tunisia	7
792	TR	TUR	Turkki	7
50	BD	BGD	Bangladesh	8

356	IN	IND	Intia	8
462	MV	MDV	Malediivit	8
524	NP	NPL	Nepal	8
586	PK	PAK	Pakistan	8
144	LK	LKA	Sri Lanka	8
344	HK	HKG	Hongkong	9
156	CN	CHN	Kiina	9
446	MO	MAC	Macao	9
496	MN	MNG	Mongolia	9
158	TW	TWN	Taiwan	9
4	AF	AFG	Afganistan	10
368	IQ	IRQ	Irak	10
364	IR	IRN	Iran	10
64	BT	BTN	Bhutan	11
96	BN	BRN	Brunei	11
608	PH	PHL	Filippiinit	11
360	ID	IDN	Indonesia	11
626	TL	TLS	Itä-Timor	11
392	JP	JPN	Japani	11
116	KH	KHM	Kambodža	11
408	KP	PRK	Korean demokraattinen kansantasavalta (Pohjois-Korea)	11
410	KR	KOR	Korean tasavalta (Etelä-Korea)	11
418	LA	LAO	Laos	11
458	MY	MYS	Malesia	11
104	MM	MMR	Myanmar	11
598	PG	PNG	Papua-Uusi-Guinea	11
702	SG	SGP	Singapore	11
764	TH	THA	Thaimaa	11
704	VN	VNM	Vietnam	12
174	KM	COM	Komorit	13
24	AO	AGO	Angola	13
204	BJ	BEN	Benin	13
72	BW	BWA	Botswana	13
854	BF	BFA	Burkina Faso	13
108	BI	BDI	Burundi	13
262	DJ	DJI	Djibouti	13
232	ER	ERI	Eritrea	13
710	ZA	ZAF	Etelä-Afrikka	13
231	ET	ETH	Etiopia	13
266	GA	GAB	Gabon	13
270	GM	GMB	Gambia	13
288	GH	GHA	Ghana	13
324	GN	GIN	Guinea	13
624	GW	GNB	Guinea-Bissau	13
120	CM	CMR	Kamerun	13

132	CV	CPV	Kap Verde	13
404	KE	KEN	Kenia	13
140	CF	CAF	Keski-Afrikan tasavalta	13
178	CG	COG	Kongo (Kongo-Brazzaville)	13
180	CD	COD	Kongo (Kongo-Kinshasa)	13
426	LS	LSO	Lesotho	13
430	LR	LBR	Liberia	13
732	EH	ESH	Länsi-Sahara	13
450	MG	MDG	Madagaskar	13
454	MW	MWI	Malawi	13
466	ML	MLI	Mali	13
478	MR	MRT	Mauritania	13
480	MU	MUS	Mauritius	13
508	MZ	MOZ	Mosambik	13
516	NA	NAM	Namibia	13
562	NE	NER	Niger	13
566	NG	NGA	Nigeria	13
384	CI	CIV	Norsunluurannikko	13
226	GQ	GNQ	Päiväntasaajan Guinea	13
646	RW	RWA	Ruanda	13
894	ZM	ZMB	Sambia	13
678	ST	STP	São Tomé ja Príncipe	13
686	SN	SEN	Senegal	13
690	SC	SYC	Seychellit	13
694	SL	SLE	Sierra Leone	13
736	SD	SDN	Sudan	13
748	SZ	SWZ	Swazimaa	13
834	TZ	TZA	Tansania	13
768	TG	TGO	Togo	13
148	TD	TCD	Tšad	13
800	UG	UGA	Uganda	13
716	ZW	ZWE	Zimbabwe	13
706	SO	SOM	Somalia	14
28	AG	ATG	Antigua ja Barbuda	15
32	AR	ARG	Argentiina	15
44	BS	BHS	Bahama	15
52	BB	BRB	Barbados	15
84	BZ	BLZ	Belize	15
60	BM	BMU	Bermuda	15
68	BO	BOL	Bolivia	15
76	BR	BRA	Brasilia	15
152	CL	CHL	Chile	15
188	CR	CRI	Costa Rica	15
212	DM	DMA	Dominica	15
214	DO	DOM	Dominikaaninen tasavalta	15

218	EC	ECU	Ecuador	15
222	SV	SLV	El Salvador	15
308	GD	GRD	Grenada	15
320	GT	GTM	Guatemala	15
328	GY	GUY	Guyana	15
332	HT	HTI	Haiti	15
340	HN	HND	Honduras	15
388	JM	JAM	Jamaika	15
170	CO	COL	Kolumbia	15
192	CU	CUB	Kuuba	15
484	MX	MEX	Meksiko	15
558	NI	NIC	Nicaragua	15
591	PA	PAN	Panama	15
600	PY	PRY	Paraguay	15
604	PE	PER	Peru	15
630	PR	PRI	Puerto Rico	15
659	KN	KNA	Saint Kitts ja Nevis	15
662	LC	LCA	Saint Lucia	15
740	SR	SUR	Suriname	15
780	TT	TTO	Trinidad ja Tobago	15
858	UY	URY	Uruguay	15
862	VE	VEN	Venezuela	15