



מؤسسة "شاليم" | **The Shalem Fund**
لتطوير خدمات للشخص ذو | for Development of Services for People with
التخلف العقلي في السلطات المحلية | Intellectual Disabilities in the Local Councils
פיתוח שירותים לאדם עם מוגבלות שכלית
התפתחותית ברשויות המקומיות

Gateways to Knowledge

An Anthology of Research Abstracts
In the Field of Intellectual Disabilities

These researches were supported by grants
from Shalem Fund for Development of Services
for People with intellectual disabilities
In the Local Councils in Israel



Tel-Aviv University



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The Chaim Sheba Medical Center
The Edmond and Lily Safra Children's hospital

2013

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Professor Talma Kushnir, Department of Sociology of Health and Gerontology,
Faculty of Health Sciences, Ben-Gurion University of the Negev

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Keren Shalem, Beit Dagan, 50200

Tel: 03-9601122 Fax: 03-9604744

www.kshalem.org.il

Forward

People with special needs, and especially those with intellectual disabilities, have a basic right to live a rewarding life in their own natural environment, to achieve their full potential and to be part of all social, cultural and occupational environments in accordance with their abilities and needs. This vision guides all of Keren Shalem's diverse activities aimed at developing community services for individuals with intellectual disabilities.

Keren Shalem encourages academic research activity in the field of intellectual disabilities. We extend our deepest thanks to the members of the research committee who have worked to establish and support a cadre of researchers on topics related to intellectual disabilities.

We are honored to present this anthology of abstracts from several institutes of higher education and Medical Center. This anthology include thesis of students and studies of Researchers from academic institutions were supported by grants from the Shalem Fund for Development of Services for People with Intellectual Disabilities in the Local Councils in Israel.

They tested various research questions about people with intellectual disabilities and evaluated several programs.

The Shalem Fund's support of research aims to influence work in this field in order to help achieve a better quality of life for individuals with intellectual disabilities. This anthology is also a method of distributing information and providing access to professional knowledge. We invite all those interested on researching any topic or issue that may contribute to the promotion of quality of life of people with intellectual disabilities to link to the Shalem Fund using our website:

www.kshalem.org.il

On behalf of Keren Shalem, we thank all who participated in the success of this important venture!

Prof. Talma kushnir

Chairperson of the Research
Committee Shalem Fund
Department of Sociology of Health and
Gerontology, Faculty of Health Sciences,
Ben-Gurion University of the Negev

Mr. Meir Dahan

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Ms. Riva Muskal

Director Shalem Fund

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Analyzing the decision of some Israeli Moslem women of normal intelligence to marry mentally impaired men

Ilham Aziri Zidan, University of Haifa, 2008
Supervised by: Dr. Roni Strier

This study deals with marriages in Israeli Arab society between Moslem women of normal intelligence and mentally retarded men. The full extent of this phenomenon is not known, but it is recognized by social workers and welfare agencies dealing with the mentally impaired and their families in Arab communities. However, no research on the subject has yet been undertaken. This study examined the process by which the women decided to marry a mentally retarded man. The study focused on the status and situation of the women before their decision to marry, their expectations from marriage and their extended family, and how they currently regarded the significance of that decision.

This is a qualitative study conducted in the tradition of phenomenological research, one that is suited to the study of complex societal issues such as this one. The study explores the phenomenon as it is reflected in the unique perception of those involved. Twelve interviewees participated, all of whom were married to men who had been diagnosed as suffering from mental impairment. All twelve interviewees were located through welfare agencies in various villages.

The findings show a correlation between the women's decision to marry and the low status of unmarried Arab women in their families and their society. Participants in the study maintained that their decision to marry mentally retarded men was influenced by such factors as familial, social, and spiritual pressures. Nevertheless, in most cases the decision to marry a mentally impaired man was not forced upon them, and in fact the women tended to regard their decision as granting them freedom from social repression and as an expression of their own autonomy, without overstepping the boundaries of gender and religion that prevail in traditional Arab society. The participants in this study describe their relationship with their husbands and with their new families as a system that requires understanding, support, and a different approach due to its unique nature. From a theoretical point of view the study exposed the limitations of

decision-making theory to explain decisions influenced by unique cultural and gender-based variables. This study focused solely on the decision making process of the normal partner, without going into the consequences of such a marriage for one who is mentally impaired and for his offspring. For this reason it is advisable to continue studying this phenomenon. The findings of this study are of great importance to professionals working with women in Arab society and to professionals in the field of intellectual disabilities. The findings reinforce the need for practical experience, and a social services policy that is sensitive to the social, gender-based and cultural characteristics of women in subjugated populations in Israel.

Obesity and Quality of Life among People with Intellectual Disabilities

Prof. Yael Latzer, Haifa University, 2009

Obesity is considered by the World Health Organization as “the Pandemic of the 21st Century”, which prevalence is increasing from year to year. It appears that the health condition of intellectually disabled people in society has attracted relatively little scientific attention. The relatively small number of medical and psychological studies conducted during the last three decades revealed that obesity ratio amongst intellectually disabled people is greater than in the general society.

In spite of the fact that obesity as quality of life effecting factor is in consensus, the relation between obesity and Quality of Life amongst intellectually disabled has not been researched. Quality of Life is recognized as a prime consideration in connection with planning and evaluating services for intellectually disabled. The importance entitlement of intellectually disabled to be provided with all possible conditions in achieving Quality of Life has been recognized during recent decades.

The purpose of this study was, accordingly, to examine the relation between obesity and Quality of Life amongst intellectually disabled in Israel and, should the aforesaid relation is found in existence, whether gender, dwelling, employment, physical activity and nutrition should be recognized as effecting factors.

One hundred and fifty six intellectually disabled employed in Rehabilitation Employment Centers between the Haifa and Netanya area have been sampled, for the purpose of the aforesaid hypothesis, while applying Cummins & Lau Questionnaire as Quality of Life criteria, likewise through using additional instruments such as Nutrition and Activity Knowledge Scale (NAKS), Health Questionnaire on life habits and Q-Sort Cards for examining eating habits. .

Our study revealed that overweight and obesity rates amongst intellectually disabled are greater than the general population in Israel while no relation between obesity and gender, dwelling intellectual disability level and Quality of Life has been found. At the same token, a significant relation between dwelling and physical activity, eating habits and access to medical services has been revealed through our study. Conclusions and recommendation are detailed hereunder.

“Reading the world”

A second chance for learning to read: The effects of a literacy intervention program on reading skills and well being

Prof. Shunit Reiter, University of Haifa, 2010

This dissertation looks at the importance of giving adults with cognitive disability a second chance in learning literacy skills that will increase their chances of social inclusion. The research is based on an adult literacy intervention program delivered in the university of Haifa further education department. The aim of the research is to examine the effects of the program on reading, writing, reading comprehension and memory skills, and its contribution to the well being of adults with cognitive disabilities.

Illiteracy can hinder the social inclusion of adults with cognitive disability as it affects many daily life activities such as reading signs, finding addresses, reading cooking instructions or planning a schedule using a diary. An illiterate person might exhibit low self esteem and self confidence which might lead to withdrawal from engaging with new and challenging tasks and hinder learning. Today more than ever, reading skills are a crucial component of activities of daily living (Hadar, 2000). Literacy skills allow people to understand the symbols and signs that compose modern economic, social and occupational reality (Mike, 1995; El’or, 1998). This central role of literacy makes it an important contributor to the wellbeing of disabled people (Downing, 2005). Well being theory understands meaningful existence as dependent on the degree to which the individual fulfills their potential, has a sense of control and satisfaction, has the active ability to make life choices and enjoys psychological well being (Schalock, 1988; Reiter, 1997).

The shift from a medical to a social model of disability and the literature concerning the effects of cognitive disabilities on literacy skills indicate that social attitudes and appropriate reading instruction programs are better indicators of successful reading acquisition than factors related to the cognitive impairment itself (Kliwer, Biklen, Kasa-Hendrickson, 2006; Browder et.al, 2006). The potential for change and learning in adulthood is explained by the theory of structural cognitive modifiability (Feuerstein, 1991) which understands humans as having the natural potential

for a change in a variety of cognitive functions at any age, as a result of environmental influences. The potential for change can be fulfilled through specific pedagogical intervention and mediation.

The research is based on a yearlong (3 semesters) intervention program, and included 448 hours of instruction over all, delivered twice a week by a professional team. Participant included 21 adults (aged 19-37) with mild to moderate cognitive impairment, who live in supported housing or with their families. The program was designed to suit participants' content world and specific learning styles. The program included reading acquisition, environmental reading (signs, advertisement), and media literacy, stories from the content world of participants and excursions to sites with written information (restaurant menu, museum, and library).

The research utilized a mixed method of quantitative and qualitative analysis. Reading, writing, memory and reading comprehension were assessed before and after the intervention program through nationally normalized tests (Wilcoxon signed-rank test, Wilcoxon rank sums). Focus group interviews were conducted with participants in the research group (n=21) and in the control group (n=19). Individual interviews were conducted with family members and residential staff.

The qualitative research hypotheses were that the program would improve participants' skills of decoding, fluency and accuracy in reading, reading comprehension, working memory, writing and spelling. We also hypothesized a lack of correlation between literacy skills and the independent variables of age and level of impairment (mild-moderate). The qualitative question looked at the effects of the program on participants' quality of life. Pre-intervention interviews were focused on participants' reasons and motivations for learning to read. Post intervention interviews examined the perceptions of participants, parents and residential staff about the contribution of the program to their quality of life.

Findings indicate that participants gained significant improvements in decoding, word reading, reading comprehension, working memory and writing. There was no change in participants' reading rate. After the program participants read and wrote accurately but slowly. No correlation was found between the level of impairment and level literacy. This indicates that having a cognitive disability does not prevent successful reading acquisition. Furthermore, participants demonstrated learning potential at least up to the age of 36 (age of oldest participant in the research). The qualitative data indicated that reading acquisition is related to other factors,

including the opportunity to learn as mature adults who understand the importance of reading as a major contributor to independence, community participation and quality of life. When asked about their motivations for learning to read, the main themes of participants' answers included the will to learn and develop, recognizing the importance of literacy to managing one's life diminishing dependency and increasing independency. Participants, parents and staff also described the program's contributions to self-confidence and agency, personal status in social and familial circles, learning and development as an opportunity to self-fulfillment, improvement in daily life activities, usage of community services, media and leisure activities.

The results indicate that with appropriate intervention adults with cognitive disabilities can learn to read and improve their well-being and quality of life. The research contributes to theoretical and practical knowledge and can serve as a model for other intervention programs for adults with cognitive disability which can improve their quality of life.

The Impact of the perception of social climate on Successful Aging of People with Intellectual disabilities

Hala Abass Abo Aid, University of Haifa, 2010
Supervised by: Dr. Ilana Duvdevani

The research aims

Successful aging is a challenge that humanity and society must learn and plan. In recent years, this challenge was investigated from different directions but to date has not been studied for the impact of social climate on the concept of aging people with intellectual disabilities. (Baltes & Baltes, 1990). The immediate social environment, in which the aging people lived in, is one of the important aspects, if not the crucial aspect of treatment process and promotion of people with developmental disabilities who live in residential and community settings. There is great importance to the environment which allows for and supports the process of human adaptation to life's challenges. Social climate is a key issue when talking about the therapeutic aspects, (Moos, 1996), therefore, the purpose of this study is to explain the nature of aging process in people with intellectual disabilities in light of their perception on the social climate of these frameworks. The data provided in this study can serve as information for developing appropriate services for people with intellectual disability, and provide basis for comparison between the perception of successful aging between the institutional housing and community settings. It may also raise the awareness of policy makers and professionals, to review the resident's subjective aspects of live, which will contribute to the development of a new professional approach.

Theoretical framework:

In recent years, more and more researchers have focused on successful aging and tried to define it. (Rowe & Kahn, 1987; Baltes & Baltes, 1990; Vaillant & Vaillant, 1990; Wong & Watt, 1991). Aging successfully is a process of psychological and social continuous adaptation and flexibility in behavior: the ability to redesign the function, the perception and behavior in light of the challenges and the effects which the physical, social and cultural influences, the ability to maximize profits and minimize losses.

There good performance will allow all the aging people who need social, material, psychological and cultural resources. (Baltes & Baltes, 1990)

This work will examine the concept of successful aging according to the model of Rowe and Kahn (1987). These researchers proposed a model of successful aging, which is based on a combination of three factors: health, performance, and full interests in the daily living. The combinations of the encounter between the three factors bring successful aging.

There is no doubt that the environment has an impact on quality of life in aging with intellectual disabilities, therefore, there is a very important concept in understanding the positive impact of social climate on the aging process of people with intellectual disabilities, and their influences on improving the quality of life. So the question remains whether there is a connection between the perception of social climate and the successful aging of persons with intellectual disabilities. Accordingly, the purpose of this research is to examine whether there was a relationship between those two factors.

The following hypotheses were examined:

- Elderly people with intellectual disabilities, which have a positive perception of social climate in the institutional, and community settings, will perceive their health as better.
- Elderly people with intellectual disabilities, which have a positive perception of social climate in the institutional, and community settings, will have a higher level of daily function.
- Elderly people with intellectual disabilities, which have a positive perception of social climate in the institutional, and community settings, will have a higher level of emotional state.
- Elderly people with intellectual disabilities, which have a positive perception of social climate in the institutional, and community settings, will have a higher level of social and community belonging.
- Elderly people with intellectual disabilities, which have a positive perception of social climate in the institutional, and community settings, will have a higher level of successful aging.
- There will be differences between people who live in institution and people who live in community settings in their successful aging. The dimensions of successful aging for residents living in the community will be better than those with residents living in institutions.

Research method

The study population included a total of 101 participants, who were

diagnosed with intellectual disabilities and recognized by the service providers for the mentally retarded. Participants who share the study live in 12 institutional and community settings in Northern Israel. Participants were selected by the following criteria:

1. Hebrew speakers.
2. Living in the place for at least three months.
3. At least 50 years of age.

In order to examine the hypotheses used in this study:

1. Personal data questionnaire and demographers
2. Life functional assessment questionnaire (SELF) function that includes a questionnaire and emotional state questionnaire
3. Health Status Questionnaire (self-report)
4. Questionnaire social relevance, community and family: Quality of Life Questionnaire compiled by Keith (Schalock & Keith, 1993)
5. Social climate perception questionnaire: Community Oriented Programs Environment Scale - COPES. (Moos , 1996)

Main Findings

The attempt to explain the successful aging of the retarded residents using the perception of social climate raised partial findings. The analysis revealed that although in most cases we found significant positive correlations between climate dimensions of social perception and measure of successful aging, but their integration together yields significant results only in three cases.

The perception of social climate in the dimension of relationship and the dimension of personal growth explains self-image.

The perception of social climate in the dimension of relationship and the dimension of personal growth explains the feeling of belonging.

The general factor of successful aging, based on the data of the five measures proportionally, explain the perception of social climate in the relationship dimension and the self-growth dimension.

Applied scientific conclusions

The findings of this study may contribute to our understanding of the factors that influence the aging of the mentally disabled population, which may help design and facilitate the improvement for services to suit their needs, and as a result would improve their quality of life.

These findings require policy makers, and professionals to initiate intervention programs, which will effect an improvement on human perception for correcting methods and thoughts in relation to the social environment, by teaching self-advocacy skills, and to help mentally challenged adults to practice decision making, and to take part in what is happening in their environment. In addition it is necessary that intervention programs reinforce the values of reciprocal assistance and responsibility. Programs should be designed for both, the staff and the residents.

Training communication facilitators of people with cognitive disabilities and complex communication needs

Ph.D, Tal Lebel, University of Haifa, 2011

Communication, in all of its many forms, is valuable when utilized for interacting with others. Augmentative and alternative communication (AAC) is designed to enable people with complex communication needs to express themselves, and to participate in all of their daily activities. Research has shown that the success of the interactions of people, who communicate through the use of AAC, is largely dependent on the strategies and support they receive from their conversational partners.

The study is based on a large formative evaluation of a training program administered at Beit Noam, a day center for young adults with severe developmental disabilities, many of whom experience significant difficulties in communication. Participants included 23 volunteers (youths in the National Volunteer Service) who were integrated as regular workers in Beit Noam, and accompanied the students to all of their various activities. Since most of the activities in this facility occur in groups, the need arose to enable students who are not verbal to participate and be heard. The role of communication facilitator was developed, to serve as a mouthpiece for students who communicate through AAC, and mediate, from a communication's perspective, between them and the environment. The communication facilitators do not speak on behalf of the AAC users, but rather amplify their expressions to all other group members.

In order to reveal the participants' perceptions regarding the support for the AAC users, we applied a qualitative research methodology using a descriptive approach that enables the researcher to learn about complex phenomena through the eyes of the participants.

In this study, we used a wide range of research tools. The majority of the tools were textual (open-ended questionnaires, observations, interviews and documents) and a few of them were numerical (closed questionnaires). The qualitative data analysis was conducted in an inductive way using categories derived from the data itself. Responses to the closed questionnaires were analyzed using statistical tools.

The study follows the development of volunteers' perceptions regarding

their role as facilitators while considering the contribution of the program designed to improve their abilities to enable the students' to carry out communication.

The Aging Experience as Seen by Elderly women with Intellectual Disability and Developmental Disability

Niry David, Haifa University, 2011

Supervised by: Dr. Doron Israel, Dr. Ilana Duvdevani

The life expectancy of people with intellectual disability and developmental disability (ID/DD) has been on the rise in recent years, as it has in the general population. This population is growing, and more people are expected to reach old age in the future. Many professionals, in and out of the Israeli Ministry of Social Affairs and Social Services, are debating the necessary adjustments required so that people with ID/DD can live a quality life. While these brainstorming sessions are carried out by professionals, there is no representation of the opinions of people with ID/DD.

The life expectancy of women with ID/DD is higher than that of men with ID/DD, and so the women inevitably experience the difficulties that accompany the aging process for a longer period of time. The aging experience of women with ID/DD is a unique one. Compare to men, they are more exposed to different illnesses, to depression, to a problematic economic state, and only a few of them experience a gender role as defined by society in a cultural context.

In 2004 an international study was conducted, which examined the experience of elderly women with ID/DD. Walsh & LeRoy (2004) published most of the findings of that comprehensive study in their book. No Middle Eastern countries were included in the study.

The objective of the current study is to examine and describe the aging experience in the words of the women themselves, and to explore their ideas regarding the present and the future. This paper will present the unique Israeli story. It will consider another contextual point of view, which displays the Israeli culture. 19 elderly women with ID/DD were interviewed for this study, each of whom has different living arrangement within the community.

Many aspects were raised during the interviews, and five major themes emerged from the main points of discussion. The first theme emphasizes the importance of work for these women, and the fact that they do not want to retire when they reach an older age, like the rest of the population. Work

plays a very important role in these women's lives; it makes their day to day life more interesting, expands their social world, and allows them to be occupied for much of the day. Most women said that they wished to keep working to a very late age, and some said they wished to keep working indefinitely. Some women mentioned making a few adjustments at work, such as working fewer hours, so that work would better suit their abilities at that age.

The second theme addresses the women's feelings about their own aging. There is a fear of what's to come, a fear which seems at times to be related to stereotypes about old age. The elderly women reference mostly the external characteristic of old age, and tend to view the old woman as needy and sickly. They prefer to not be defined as an old woman, even though they can feel the decline in their physical condition and deterioration of their abilities.

The third theme focuses on a general feeling that these women are sometimes not allowed to do what they want to do. The lack of control that they feel in extensive and fundamental areas in their lives came up in many of the interviews. It seems that the staff and the families determine many things in the women's lives, sometimes they agree with these decisions and sometimes they protest them, but the women almost always resign themselves to them. The main areas where the women had mentioned a lack of control: where they lived, their roommates, and controlling their money.

The fourth theme emphasizes the importance of the spousal relationship in these women's lives. 10 of the 19 women interviewed were in a relationship. They all emphasize the importance of their spouse, who has become their best friend, and is always there for them, providing strong and important support. The women are sometimes worried about the health of their spouse, and their lives are affected by changes in their spouse's condition: from moving house to suit the needs of the spouse (a less independent apartment or living on a different floor), to their inner happiness in day to day life.

The fifth and final theme focuses on the women's positive self image. Most of the interviewees view themselves in a positive light. They define their health as good, even if they have certain illnesses and even if they have to take pills on a regular basis, and for the most part they rate their health as being better than that of their friends who are of similar age. Additionally, they view themselves as having control over their own lives,

they make their own decisions, solve problems and do what they want, even if sometimes the staff and their families make the decisions for them.

The findings of the international study were compared with the findings of the current study. There seem to be many areas in which we resemble the rest of the world, but there is also uniqueness typical to Israeli society, that is affected by the values and policies here. One area where the differences were apparent was the place of the family in these women's lives. These women have more contact with their families. They meet with them and the family plays an important role in their lives, compare to most of the other countries that were studied, where the bonds are less meaningful, and the encounters less frequent. The policies of the Israeli Ministry of Social Affairs and Social Services, the National Insurance Institute of Israel and the local municipal councils also influence the women here and the differences, especially the financial support of these women in Israel. One example is the attention to these women's leisure time. Women in Israel attend more leisure activities, since there is funding especially for that. The National Health Insurance Law is another major factor in the differences between Israel and the rest of the world, as all of the participants in the current study are covered by this law; they have better access to regular medical checkups, to proper medical care and to medications that are subsidized by the state. In other countries women have less medical checkups, take less medication, and receive less medical care.

The aging experience of women with ID/DD is a complicated but a positive one. They live in joy, even when they encounter hardships along the way. After a lifetime of dealing with being women with disabilities in a competitive and judgmental society such as ours, they now have to deal with the challenges of old age as well. Their optimism, their positive attitude towards life and their positive self image help them to overcome the difficulties they encounter along the way. Nowadays these difficulties include dealing with their own and their loved ones health issues, the loss of people that were dear to them, the fear of the unknown regarding old age, the loss of autonomy, coping with feeling powerless, fatigued and so on.

These women's worlds are rich and full of content. Their work is very important to them and takes up a considerable part of their days; their leisure activities are diverse and most of them attend several enrichment classes; they have at least one good friend and many more friends within their work and living situations; half of them are in a spousal relationship;

most of them have a supportive family that is involved in their lives; and a staff that is generally attentive and is there for them.

When examining the experience of aging women with ID/DD within the context of theories of Successful Aging, one could say that in some aspects they have a promising future ahead of them, and in other aspects the future is less promising. However, almost every aspect can be changed, with the right adjustments and the understanding of the importance of changing it. The Successful Aging theory by Rowe & Kahn (1997, 1999) refers to successful aging as a combination of health, functioning and a full interest in day to day life. It seems that health is the only problematic component for these women. They are mostly independently functional, and they have full interest in day to day life, at work, during their leisure time and with their friends. It is important to raise awareness for a healthy lifestyle, and for prevention and maintaining health. In regards to functioning, skills should be preserved through the advancement programs. Additionally, interest in day to day life can be increased by deepening friendships, adjusting work even at an older age, and matching and expanding the enrichment classes.

Another theory of successful aging presents resilience as a key concept. Resilience is defined as an individual's ability to cope with difficulties. Resilience represents a combination of internal characteristics such as inner strength and self-efficacy, and external characteristics such as social support which helps to cope with the conditions in life. Resilience is created when one faces hardship in life and manages to overcome it, thus most events in life become routine, and only a few become stressors. It seems that these women have been through quite a few hardships in life. They have been coping their whole lives with a disability within the competitive and judgmental society we live in. Additionally, they had coped with different life experiences, such as moving away from home and into a residential program, the death of one of their parents and having to change jobs frequently. Moreover, these women live in an age of constant political and conceptual changes, which have directly affected their lives, everything from moving away from home and into an institution, and back to community residential programs, to the level of independence that has been afforded to them over the years. It seems that through coping with these complicated experiences these women developed resilience, which is allowing them to cope more easily at their old age.

Another theoretical term is "Quality of Life", which is a holistic term

that includes a wide range of experiences. The quality of life approach is based on the Humanistic Approach, which emphasizes human unity, and every individual's potential for self development. The term quality of life by Schalock (2004) is a term that represents an individual's wish for life conditions that relate to 8 central dimensions in that individual's life: emotional well-being, interpersonal relations, material well-being, personal development, physical well-being, self-determination, social inclusion and rights. It seems that in the current study some of the dimensions exist for these women and others do not. Generally, emotional well-being, interpersonal relations, personal development, physical well-being exist in most women to some degree. Many of the women expressed dissatisfaction with their financial state, emphasizing that they would like more money. Their social inclusion is not always complete, and their friends are almost always disabled as well, and their classes take place inside their living compound and not at the local community center. Self-determination exists partially, each woman according to her personal character. However, standing up for right is almost nonexistent. Panitch (1983) mentioned 3 rights of people with disabilities: the right to meaningful activity, the right to as much independence as possible and the right to participate in making decisions that affect their lives. It seems that two of these rights are violated for these women on a daily basis. Authority figures are making many of their decisions for them, and their voice is not heard among policy makers.

To conclude, this study presents the experiences of aging women with ID/DD in their own words. Almost all of them said that they are happy and mostly optimistic about their lives. But upon deeper observation, there are still many factors that make their lives difficult. If we hear their voice and understand what they want to tell us, we could increase their chances and the chances of the entire ID/DD community of a successful aging.

The Impact of type of residence on Perception of quality of life of people with intellectual disabilities

Sigal Levite-Bernstein, Tel-Aviv University, 2011

Supervised by: Prof. Riki Savaya

Most of older people with intellectual disabilities live with their families at home, but large minority of this population live in residential settings. There are few setting types for people with intellectual disabilities, for example – institution, group home and apartment. These settings provide a wide range of services and used as alternative to the family. The residential settings differ in their formal definitions, such as number of residents, and in their characteristics, such physical characteristics and policy. One of the criteria to evaluate settings for people with intellectual disabilities is the quality of life of residents. The concept of quality of life became central in the field of rehabilitation in the last twenty years. Ensuring quality of life for people with disabilities has become the main target for services to this population.

The assumption is that higher quality of the residential setting will yield higher functioning and higher quality of life among the residents (Haller, 2002). In recent years, researchers have begun to examine the impact of various types of residential settings on the welfare of people with intellectual disabilities (Haller, Miller & Factor, 1998). Researchers are arguing that no community or institutional setting is the index's factor to promote its residents, but the quality of services provided in it. It is possible, even in institutional settings, to establish the services on selection (McTernan & Ward, 2005). Studies that examined the key factors of residents' satisfaction regarding residential contexts show that if more emphasis is given to qualities such as settings designed more like home, freedom and choice, daily activities, policies that encourages individualizing and person centered approach, will increase residents' satisfaction (Rourke, Grey, Fuller & Mcclean, 2004).

The following hypotheses were examined:

1. Perception of quality of life of protected apartments' residents will be higher than that of people living in other residential settings: an institution, group home and family.

2. Perception of quality of life of people with intellectual disabilities will be higher in residential settings which provide privacy, allowing them participation in decision-making, more forgiving towards problem behavior, and allow flexible procedures of the residents.
3. Perception of quality of life of the individual will be higher among people with intellectual disabilities living in residential settings with physical features that are considered “good” (in terms of comfort and aesthetics, safety, attractiveness, physical size, privacy, geographic location and accessibility to those with physical disabilities), compared with people with intellectual disabilities living in residential settings with physical features that are not considered “good”.
4. Of all predictors and background variables (age, employment, health status) and contact with family, the variable that best explain the individual’s perception of the quality of life will be policy used in residential setting.

Among the major findings, a significant difference was found between quality of life perception of residents in institution and in apartment, when respondents reported higher quality of life in the apartment. A significant difference was found between the quality of life perception of residents in institution and in family home, when respondents in family home reported higher quality of life. Second finding was higher quality of life among residents of settings which allows more flexible policy, and where the physical characteristics were “good”. Third finding was significant difference between quality of life of residents who live in public residential settings and those who live within the private, when quality of life was higher in public settings. It has also been found that when controlling for all other variables - perception of quality of life was significantly explained only by the setting’s policy.

This study has practical implications. The findings highlight the impact of the residential setting and its characteristics on the perception of quality of life of the residents. These findings may help to design more appropriate services and improve existing services. Residential setting staff members can take the findings which indicate a connection between perception of quality of life of residents and the setting policy and make changes in policy, while introducing elements that allow residents

More choice and influence. Findings support the growing phenomenon in recent years, with some institutions opened “extensions” in the community - small houses for a small number of residents living in conditions less

restrictive. It seems that this trend is positive and may have a positive effect on quality of life. Consequently, the policy makers should encourage the opening of “extensions”.

The findings related to connection between perceptions of quality of life to ownership the residential setting, indicating priority of the public settings, are especially important in the current period, when the trend of privatization of welfare services in the Israel is underway. There is a need to continue to conduct research which will compare residential settings - by various factors, and evaluate how privatization affects the individual. If further studies will introduce similar findings, policymakers should take it into account when they move the rest of the institutions into private management.

Gratitude, Well Being and Personal Growth Among Ultraorthodox and Secular Mothers with\ without a Child with an Intellectual Disability

Shirly Zimmerman, Bar Ilan University, 2011
Supervised by : Dr. Liora Findler

Parenting a child is a big challenge, one that entails many difficulties, which might be enhanced if the child is diagnosed with an intellectual disability. Many parents confronted with this reality may find themselves facing a wide range of emotions and social difficulties. Coping is a joint task for both parents, but in most families it is the mother that undertakes the caring for the child, which may in turn lead to greater stress for the mothers and a dramatic decline of her well-being. Faced with this stress some mothers find this burden overwhelming while others handle the challenges and difficulties with success and even grow from it.

In recent years research literature increasingly examines resources that can contribute to the emotional wellbeing and personal growth when faced with a crisis in general and raising a child with an intellectual disability in particular. Since well-being and personal growth varies from one person to the other, from culture to culture and from one family to the other, and can possibly be linked to a wide range of resources: cultural, familial and personality, this research focuses, for the first time, on the personal resource,(attachment) the cultural resource (belonging to the ultra-orthodox society) and the familial resource (grandparents perceived social support) as well as the importance of gratitude towards this support to the well-being and personal growth of mothers of children with/without intellectual disability in the ultra-orthodox society as opposed to the secular society. Research aim was to examine the difference and similarity in gratitude, personal growth and well-being and the contributing recourses among mothers with/without intellectual disability in the ultra-orthodox society as opposed to the secular society.

187 mothers participated in this research, 98 (52.4%) mothers of children with an intellectual disability and 89 (47.6%) mothers of children with no illness or disability. 91 (48.7%) of them were ultra-orthodox and 96 (51.3%) secular.

The mothers answered a packet of questionnaires as follows: Post traumatic

growth questionnaire (Tedeschi & Calhoun, 1996), Grandparents functional support assessment (Dunst, Trivett & Deal, 1988), Mothers social network size (Kazak & Wilcox, 1984 Self report measurement of adult attachment (Clark & Shaver, 1998), Gratitude questionnaire (McCullough, Emmons & Tsang, 2002) Well being (Bech, 1998) and personal data.

Our findings show that ultra-orthodox mothers reported lower levels of avoidance and anxiety attachment and that their well-being, personal growth and gratitude were higher. Furthermore, findings show that ultra-orthodox mothers have a larger social network but the support they get from grandparents is similar to the support the secular mothers get. Research findings also show that grandparent's social support was lower among mothers of children with intellectual disabilities and their well-being was lower as well. On the other hand, no differences were found in neither social network size, gratitude towards grandparents, nor in personal growth between mothers of children with an intellectual disability and mothers of children in the control group.

In addition, mother's parents' support was higher than the father's parent's support, and accordingly the mothers' gratitude towards her own parents support was higher than the gratitude they felt towards their husbands' parents. Based on the type of support, research shows that grandparents' emotional support was higher than their instrumental support.

In relating to the type of support the research shows that the grandparents' emotional support was higher than the instrumental support.

The current study also examined the association between all the research variables and found that mothers characterized with lower levels of avoidance reported a higher level of personal growth and well-being as well as stronger feelings of gratitude towards parents. In addition, mothers with lower anxiety levels reported greater personal growth and higher gratitude levels both to parents and to in-laws. As far as the relationship between anxiety and well-being findings show differences between mothers of children with intellectual disabilities and mothers in the control group, namely, among mothers of children with an intellectual disability a higher negative association existed: the higher the anxious attachment lower was their well-being.

This research also shows that grandparents support is significant and related to their wellbeing but not to their personal growth. In addition there is an association between grandparents' support and gratitude towards them. Furthermore, the research indicated that gratitude is not only related to

grandparents' support but also related, among ultra-orthodox mothers, to the mother's well-being and personal growth.

Regression analysis regarding gratitude indicated that the gratitude towards the mother's parents was different from the gratitude towards the father's parents and that the variables that contributed to gratitude towards the mother's parents were not necessarily the ones that contributed to gratitude towards the father's parents. The most significant factor of gratitude towards the parents in general was the grandparents support and in cases that the father's parents were more supportive was less gratitude towards the mother's parents and the mother felt she has to rely on the father's parents. Furthermore there is no indication that gratitude is associated to the child's development but rather to mother's attachment orientation and to her cultural affiliation which contributed to gratitude only towards mothers' parents and not fathers parents.

As for wellbeing and personal growth, the findings indicated that belonging to the ultra-orthodox society was a major factor related both to growth and well-being. On the other hand, the presence of a child with an intellectual disability in the family was related to lower well-being of the mothers but had no contribution to their personal growth. Attachment and social network size contributed to well-being and growth but grandparents support did not. Examining the interaction indicated no difference in regards to well-being and growth among mothers of children in the control group between ultra-orthodox and secular mothers while on the other hand among mothers of children with intellectual disabilities well-being and growth were higher among ultra-orthodox mothers than those of secular ones.

Summary of research findings show that there are differences between mothers affiliated to different groups. This indicates that there is a great distinction between ultra-orthodox mothers and secular ones both in regards to inner and external resources and it is possible that this difference is related to their ability to feel well-being and growth. On the other hand, the fact that in comparison between mothers of intellectually disabled children and normally developed children differences were found only in regards to grandparents support and well-being shows that mothers of intellectually disabled children are not fundamentally different from mothers of normally developed children and in spite of the damage to their well-being and despite of the fact that grandparents find it difficult to provide support according to their perception, these mothers are still able to grow from this crisis.

Understanding the differences and similarities will help social workers develop professional interventions aimed to assist different mothers successfully cope with the difficulties they face, while taking into consideration the different characteristics of group affiliation.

Furthermore, the current research helps understand resources that contribute to the mothers' well-being and personal growth and assist professionals working with these mothers to strengthen these resources. In light of the fact that the research shows that mothers of children with intellectual disabilities report a lower level of grandparents support, professionals should provide greater support to these mothers and help them find alternative sources that can provide the much needed instrumental support. Furthermore, understanding the significance of grandparents support may enhance professional awareness to act more vehemently to raise grandparents' awareness in regard to the importance of providing support and to develop designated services for grandparents of children with intellectual disabilities. In order to strengthen this group and allow them to partake more actively in their family life. In addition, it is important to raise mother's awareness that gratitude towards grandparents may encourage them to continue their support and that gratitude can improve existing family relations.

Assessment of Physical Environmental Features in Community Residences for Adult People with Intellectual disabilities

Arch. Ph.D, Yosifia Michalak 2012

The aim of the study was to assess the physical environmental features in hostels for adult people with intellectual disabilities and to identify the suitability of the hostels to the special needs of the elderly residents.

The research started in 2009 and after a break was completed in 2012.

The importance of this research lies in the unique combination of subjective and objective assessment for evaluating the level of well-being of elderly residents with intellectual disabilities in hostels. The basis for the research was the assumption that there is a great potential in collaborating with people with intellectual disabilities during the process of planning their living environment and learning about their preferences. It is possible to get reliable answers from people with intellectual disabilities if the interview is using an appropriate questionnaire.

Thus, the research instruments were specially developed for this research, assessing the physical environment of the service systems in Israel designed for elderly people.

The research was conducted in 20 hostels for adult people with intellectual disabilities in the Jewish sector in which at least 2 residents older than 40 years old were living. 8 hostels were populated since 2004 and 12 hostels were populated before 2004. The hostels were spread throughout the country: North–5 hostels; Center– 12 hostels; South– 3 hostels.

Data collection included observations, measurements and personal interviews. Personal interviews were conducted with 20 hostel's managers in order to get information about the residents and about planning regulations of the physical environmental features of the hostels.

In the objective assessment observations and measurements were taken on items of the physical environmental features around the hostel building, the building's yard, inside and outside the building. Regarding planning regulations, this research followed the literature for building hostels for elderly people, such as: accessibility to elderly people with wheelchairs accompanied with a care giver, acoustic planning suited for changes in hearing ability in old age, etc. The objective assessment of physical environment included 7 aspects of architectural planning:

functional arrangement, geometric dimensions, safety and accessibility, climatic comfort, acoustic comfort, visionary comfort, interior design and furniture.

The influence of AAC on the dyad between a primer care and a toddler with intellectual disabilities and/or development delay and communication difficulties

Dr. Orit Hetzroni, Haifa University, 2012

This study focuses on the dyadic relations between an infant with developmental delays and communication difficulties and the parents or other primary caregiver, and the ability of a parent education program based on the Dyad Communication Model including AAC strategies to improve the dyad between parents and toddlers with developmental delays and communication difficulties. This preliminary relationship has significant influence on the basic development of language and communication, as those develop through interactions with the environment (Gowlett, 1994; Schertz & Odom, 2004; Trivette, 2003).

The first interactions of typically developing infants are usually with the parent. Through this significant bond, he practices interactions, which are the first building blocks in developing communication and social skills (Harrist & Waugh, 2002; Bowlby, 1969). A typically developing toddler starts to understand the world while developing basic communication skills, integrating in social acts and manipulating the environment. Among toddlers with developmental delays and communication difficulties, this process becomes more complicated as deficits in one of the skills needed for the development of communication can turn this process into an impossible task (Bernstein, & Tiegerman, 1993; Owens, Metz, & Farinella, 2010).

The bond between parents and their children is multidimensional and is of great importance to the development of their child. This bond places the foundations for the development of his communication, emotional, social, and cognitive abilities (Bates, 1999; Frankel & Bates, 1990; Laible & Song, 2006). Researchers investing the nature of this preliminary bond have defined it as a Dyad (e.g., Ainsworth, 1979; Emde & Harmon, 1982; Frankel & Bates, 1990; Kelley et al., 1983). Dyad is a way to examine the nature of the primary interaction between a parent and a child (Emde, Wolf & Oppenheim, 2003). The study of dyads explores various characteristics of communication among members of the dyadic relationship.

Studies that examined dyads have addressed mainly the significance of

attachment, relationships, and the development of interactions in the dyadic relationship between a mother and a child (e.g., Biringen, Emde, Campos & Appelbaum, 1995; Schertz & Odom, 2004; Trivette, 2003). This study emphasizes on the understanding of the uniqueness of communication processes within the dyad between a parent and toddler with developmental delays and communication difficulties, using a model for representing the communication dyads.

Models provide a framework for understanding and for the investigation of intervention programs (Sanders, 1976). There are a number of models that represent dyadic communication processes. However, they are limited in their ability to represent communication in a dyad between a parent and toddler with developmental delay and communication difficulties (Berlo, 1960; Lloyd, Quist & Windsor, 1990; Sanders, 1976). For this purpose, a dyadic communication model is proposed to combine between existing models that describe dyads and communication (Berlo, 1960; Lloyd, Quist & Windsor, 1990; Sanders, 1976), while enabling description of the unique relations between a parent and a toddler with communication difficulties. The current study tries to decipher the dyadic relationship between a toddler with developmental delay and communication difficulties and parents as it occurs in their natural environment

The aim of this study was to investigate the Dyad Communication Model as a representation for describing dyads between a toddler with developmental delay and communication difficulties and the parents or other primary caregivers. Following confirmation of the proposed model, this model was used as part of an intervention program for enhancing dyadic communication among parents of toddlers with developmental delay and communication difficulties using augmentative communication strategies.

In the first part of the study, the Dyad Communication Model was assessed as a tool for representing communication dyads between parents and toddlers with and without developmental delay and communication difficulties. Participants were two groups of six parents and toddlers with and without developmental delay and communication difficulties, ranging between one to two years of age. Twelve videotaped sessions were recorded to provide information on the communication dyads between mother and child. Sessions lasted 20 minutes using pre-set and free-play sessions including feeding and diaper changing. Mothers were encouraged to act freely with their child using naturally occurring activities within

their home environment. Video sessions lasted 20 minutes using pre-set and free-play sessions including feeding and diaper changing. Mothers were encouraged to act freely with their child using naturally occurring activities within their home environment. Video sessions were analyzed to assess dyads and to determine the efficiency of the model. The data was placed into a visual model to determinate the visual difference in the patterns of communication.

A Mann-Whitney analysis was conducted to compare means and to determine the difference between the dyads. Results indicate that there is a significant difference across dyads between the two groups, in the number of messages per minute by the parent and toddler combined ($P=.025$). There are twice the amount of messages per minute in the dyad of a toddler with typical development and the parent (23.28 message per min.), in comparison with the dyad between a toddler with developmental delay and communication difficulties and the parent (9.1 message per min.). More so, there is a significant difference between the number of feedback messages from the parent to the toddler across the two groups ($p= .04^*$). These results indicate that parent of toddlers with developmental delay and communication difficulties response less to the communication attempts of their child in comparison with the other group. Significant differences were found also across toddler initiations ($p=.04^*$) and feedback ($p=0.01^{**}$) to the parent.

Results of the first part of the study reveal that there is a significant difference in the observable pattern of dyadic interactions between parents and toddlers, with and without communication disabilities, both in synchrony and structure. Data presented in the model demonstrate differences between dyads across continuity, rate and direction of the messages. Dyads of toddlers with typical development and their parents, are characterized by a relatively smooth-flowing style (Harrist & Waugh, 2002), presenting a fast rate of message-exchange occurrence. More than 70% of the communicative attempts of the toddler were responded by the parent and 40% of the messages of the parent were responded by the toddler. There is stability in Dyad Continuity, average rate of 23 response messages per min. and direction of messages between mother and toddler and is unified.

On the other hand, dyads of toddlers with developmental delay and communication difficulties and their parents, are characterized by a

disjointed style (Harris & Waugh, 2002), presenting slow rate of message-exchange occurrence. Less than 35% of communicative attempts of the toddlers are responded by the parent and 20% of the messages of the parent were responded by the toddler. Continuity of communication in the dyad is poor, with rate average of five response messages per minute, direction of messages between mother and toddler and is often un-unified and dominated by the parent.

When dyads are Comparison, results indicate that there is a significant difference in the dyad density considering the continuity, rate and direction of message transfer. Analysis of parent feedback to the toddler, reveal a significant difference (.04*). Whereas feedback messages of toddlers with developmental delay and communication difficulties and the parents are substantially lower (only 10% of messages of the toddler are being recognized by the parent) then the feedback rate of parents of toddlers with typically developed toddlers (60% of messages of the toddler are being recognized by the parent). This may be a result of parents' beliefs regarding their child communicative abilities and their level of understanding of spoken language (Stephenson, Partial, Georgiou & Kirby, 2009).

The data from the study regarding parents of toddlers with developmental delays and communication difficulties reveals that often parents did not interpret their child's behavior as a communicative attempt or as an intentional message. Parents of children with communication disorder that are struggling with recognizing their child's needs report that after participating in a parent's education program there is a significant change in their sense of understanding the child's communication (Matthews-Somerville & Cress, 2005). The Dyad Communication Model provides visual representation of the interaction between parent and child, enabling a better understanding for the parents regarding the communication patterns they are using, and thus improving the Dyadic communication. Using the Dyad Communication Model during a communication intervention among parents and toddlers with developmental delay and communicational disorder will enable to investigate the change that occurs after the intervention.

The understanding that the feedback given by a parents of a toddlers with developmental delay and communicational disorder is significantly lower in comparison with the feedback given by the parents of a toddlers with typical development led to the understanding that provision of an intervention that uses the model and provides AAC strategies may improve

the Dyad. The purpose of the second half of this study was to provide parents of toddlers with toddlers with developmental delays and communication difficulties with an understanding of their child's communicative attempt as well as changing their perceptions towards the communication within the dyad (Stephenson, Partial, Georgiou & Kirby, 2009).

The second part of the study, examined the ability of a parent education program based on the Dyad Communication Model including AAC strategies to improve the dyad between parents and toddlers with developmental delays and communication difficulties. The participants were parents and toddlers with developmental delay and communication difficulties ranging between one to two years of age (N=30). The procedure included comparison between two randomly divided groups. The experimental group experienced a parent education program based on the dyad communication model and AAC strategies in order to improve the communication within the dyad. An AAC device was provided to each family for use at the end of the instruction based on the family needs. Sessions lasted 20 minutes using pre-set and free-play sessions including feeding and diaper changing. Mothers were encouraged to act freely with their child using naturally occurring activities within their home environment. Sessions were videotaped before and after intervention to record communication dyads between mother and child. Video sessions were analyzed to assess dyads and determine the efficiency of the intervention. Control group included intervention that provided them with instruction on the use of baby massages for therapeutic purposes. The procedure used was similar to the experimental group.

Results of the second part of the study indicate that within intervention group, the total number of messages increased significantly (sig - .000***) by almost twice the total number of messages after intervention, from 13.5 messages per minute before intervention to 23.5 messages per minute after intervention. More so, there was a significant positive change in the numbers of messages initiated by the parent (sig - .000***), from 8.79 messages per minute before intervention to 13.5 messages per minute after intervention. There was a significant positive change in the numbers of messages initiated by the toddler (sig - .000***), from 4.7 messages per minute before intervention to 8 messages per minute after intervention. The feedback provided by both parent and toddler was doubled. There was a decrease in the ratio of the parent's message in dyad compared to an increase in the ratio of messages of the toddler, meaning that dominance

of the parent interaction in the dyad decreased.

Results of the study demonstrate that an intervention program based on the dyadic communication model assists to improve substantially the ability of the parent to understand the communication intents of the toddler developmental delays and communication difficulties, and enables the toddler to express communication needs and thereby contributes to the construction of a successful communication dyad. Successful communication is characterized by a balance between both partners regarding the number of the messages exchanged, i.e. communication initiatives, as well as the percentage of the feedback provided (Harrist & Waugh, 2002; Kelley, et al., 1983; Yuasa, et al., 2010). The increase demonstrated in this study provides support as to the nature of this type of intervention for enhancing the balance between messages for a successful communication dyad.

This research is expected to contribute both at the theoretical and practical levels. In the theoretical level, developing a unique model to represent dyadic communication between parents or other primary caregivers of toddlers with developmental delays and communication difficulties can assist in understanding the uniqueness of the dyad and could lead to developing suitable interventions in order to empower the dyad.

The practical benefit study is that the model can be used for research as well as for training regarding parents and personnel that work with toddlers with communication difficulties. The model is suitable for the use by professionals for examining dyads as part of building early intervention programs and for use with AAC. It is also possible to use for visual representation of dyads in which the parents can reflect on their communication pattern and improve it if necessary, in order to better the communication with the toddler.

It is recommended to teach families to use this model during early intervention in the natural environment, giving the parents tools and strategies to understand and improve communication with their child. Teaching parents and other caregivers how to use the model can give them the power to create a change within dyads, a change that eventually will contribute to the development of the toddlers' communication and therefore to the dyad with the parents. Acquiring AAC strategies is expected to fill the void created by the communication difficulty and lay the conditions for a continuous and stable dyad. It is expected that the use of model-based dyadic communication intervention programs using AAC strategies

and tools will encourage design and implementation of early intervention programs in the field.

In order to better understand the subject in matter, it is recommended to conduct further research regarding the efficacy of the Dyad Communication Model intervention program, on a larger sample of participants and a variety of other disabilities that have communication difficulties. It is also recommended to investigate the influence of this intervention on younger participants, infants, due to the fact that early intervention is recommended for reducing developmental deficiencies among the population studied.

Predictability of intellectual disabilities, in children who were diagnosed at an early age as having general developmental delay

Dr. Lidia Gabis, The Chaim Sheba Medical Center, 2012

Background: Global developmental delay is defined as delay in two or more developmental areas, it is generally recognized around age one and a half to three years, and is considered as a preliminary diagnosis of intellectual disability (ID). It is supposed that there is a direct relationship between the severity of the developmental delay and the subsequent ID, however, the connection between the early age findings and the IQ measurements later on- is not clear. A number of studies show that about one half of young children with significant global delay (MDI less than 50 assessed by Bayley test), are at risk to be identified with moderate to severe intellectual disabilities at older age. This relationship had not been clearly delineated and neither it's correlation to additional diagnoses such as autism with comorbid ID.

Study Objective: this study will attempt to correlate global developmental delay at early age to subsequent cognitive level, as assessed by developmental tools at young age and by cognitive tests at elder childhood.

Methods: We reviewed about 1800 charts of children that visited the Weinberg Child Development Center between 2000-2009 and their charts are in the active archive of the center. We have chosen children that were diagnosed at early age (less than 3.5 years) and diagnosed with global developmental delay. From this group (about 350 children), we chose children diagnosed by Bayley test above 2 years of age and that MDI or DQ were assessed. Those children were subsequently examined at age of four years and up using one of the cognitive tests- WISC-R Wippsi or Stanford- Binnet. The final group included 80 children. Results were compared and analysed as a global group and further divided according to presence of autism spectrum disorders and other diagnoses.

Results and conclusions: Early developmental assessments predict subsequent intellectual disability and MDI less than 65 have a strong correlation to subsequent ID or intellectual disabilities. The dynamics of cognitive evolvement in children with global delay in presence or

absence of communication disorders varies, and the conclusions in terms of prognostic assessments should be discussed with care and in view of the additional diagnoses of the child.

Significance and practical implications: Early recognition of ID is important for intervention and treatment planning. The accuracy of future intellectual abilities is needed for family and service planning for population with ID. According to the literature, it is supposed that MDI less than 50 is the main risk factor for significant ID. It is plausible that this limit is too low and there is an additional group of children that might enjoy intensive intervention in special day care units for risk of intellectual disabilities.

The MDI limit of 65 may be a better prognostic tool for cognitive limitations in the future and may add to assessment and planning of services.

It is important to follow the development of children with global developmental delay and to search for differential diagnoses of communication or motor disability in order to further delineate prognosis and future needs.

The effectiveness of using a decision support system during the process of assigning assistive technology

Dr. Naomi Schreuer, Haifa University, 2013

People with intellectual and developmental disability (IDD) often face certain difficulties carrying out daily life functions, learning, communicating, working and participating in leisure activities. The development of technology, especially assistive technology (AT), makes it possible to reduce the effects of occupational performance limitations on everyday life activities by facilitating and enhancing work performance and social interactions. Well-fitted AT may contribute to the individual's participation, self-esteem and quality of life.

The adaptation process of AT for people with special needs has become a field of expertise for professionals in occupational therapy (OT), speech therapy, physiotherapy and special education. The adaptation process is complex and requires relating to a wide variety of variables in three interrelated elements: the client, the occupation and the environment in which they function. Due to fragmented and distributed knowledge, and a lack of an organized database of the different technologies and the outcomes of their implementation, very few clinicians specialize and work in AT; those that do usually depend on their professional knowledge and cumulative personal experiences. Most of the existing knowledge is not evidence-based, and is published in commercial sites that clearly have marketing conflicts of interest.

One response to this need is the creation of a clinical decision support system (CDSS). A CDSS is a software program designed to be a direct aid to clinical decision-making in which the characteristics of an individual client are matched to a computerized clinical knowledge base and client specific recommendations are then presented to the clinician and/or client for a decision (Patel et al., 2002; Grosan & Abraham, 2011). The study's research hypothesis was that a CDSS will help novice clinicians adapt an AT pointing device for a person with special needs in general, and with IDD in particular, by accessing, sharing, organizing and understanding the relevant information in the adaptation process, and thus improve the adaptation

process among novice clinicians. This study was carried out by a multi-disciplinary team which combined knowledge from OT and information technology (IT). Prior to this research, an AT ontology was constructed to define the relevant concepts for AT adaptation, and matching rules were created and validated by experts in the AT field. Then, the OSCAR CDSS was constructed with the aim of simulating experts' clinical reasoning and facilitating clinicians' adaptation of the most suitable device for people with special needs in general and with IDD in particular.

Goals: The main research goal was to test whether the selection process of a pointing device made by novice clinicians using OSCAR will result in a statistically significant improvement in AT pointing device prescription (i.e., comparable to AT experts' clinical reasoning). Two secondary goals were to evaluate the usability and user-friendliness of the system by clinicians who use OSCAR and to evaluate their subjective learning experience following its use.

Method: OSCAR was developed and validated in three preceding stages (carried out prior to this study) which included constructing the AT ontology; creating matching rules that simulated clinical reasoning for the selection process of the suitable pointing device; and developing a user-friendly interface for clinicians to input the client's data and receive a recommendation. Following these preceding stages, AT and IT experts documented three case studies which were used for the primary experimental research. Four groups of occupational therapists (OT) (N=55) were tested, two expert groups (N=15) and two novice groups (N=20, in each group). The experts and 20 novice OT clinicians used OSCAR by process data from two case studies. OSCAR's effectiveness was evaluated by comparing the results of the selected pointing device for each case. The comparison was carried out between the expert group which whose results constituted a "Gold Standard" for the recommended pointing device, and the two novice groups; one that used OSCAR, and the other that used a conventional approach for AT prescription. In addition, OSCAR's usability was evaluated via the System Usability Scale (SUS). The users' ability to learn about AT device prescription was evaluated through a short questionnaire constructed specifically for this research. The participants' characteristics were detailed using descriptive statistics. The Mann-Whitney test was used to examine the differences between the

pointing devices selected by the research groups were significant.

Main results: Using Mann-Whitney analysis, there was no significant difference in the pointing device selection between the expert group and the novice group who used OSCAR in the two case studies ($U=112$, $p=.774$ for S.; and $U=142$, $p=.805$, for M.). In contrast, there was a significant difference in the pointing device selection between the expert group and the novice group who used the conventional approach. Thus, by using OSCAR the gap in knowledge and experience between the expert and novice groups was greatly narrowed. Regarding its usability, OSCAR was found to be highly usable. In addition, the clinicians reported that the system helped their learning process of the pointing device selection in several aspects: remembering a client's important characteristics that should be included in the adaptation process; organizing their knowledge; relating to the professional terms in the field; provision of updated information about available pointing devices; and analysis of the large amount of collected information.

Conclusion: From the implementation point of view, the OSCAR prototype appears to be helpful in narrowing the gap between novices and experts by improving the AT adaptation process. Moreover, it appears to contribute to experts by providing a structured and organized framework for clinical reasoning. Success outcomes following use of the system show that OSCAR should be expanded to include other AT devices. The contribution of OSCAR has a special significance for AT, since it aims to address the issues of the high cost and under usage of technology, and difficulty in coping with rapid innovations in the field. Improving the adaptation process has a special significance for people with IDD, who will be able to benefit from a shortened and simplified service. Although the generalization of the study conclusions are limited by a relatively small sample size and use of only two case studies, the results contribute to the field by providing evidence based data regarding the variables used in adapting AT for users. They also provide important insight into the process performed by experts when applying clinical reasoning for AT. Finally, they provide an important use case on the clinical value of CDSSs in this and other fields. Thus, the research complies with the vision of Keren Shalem, by benefiting people with IDD, and indirectly helping them by qualifying the clinicians who assist them.