ORİJİNAL ARAŞTIRMA ORIGINAL RESEARCH

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Impact of Individual Centered Intervention Approaches According to the Model of Human Occupation

İnsan Aktivite-Rol Modeline Göre Birey Merkezli Müdahale Yaklaşımlarının Etkisi

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ABSTRACT Objective: The study investigated the individual centered benefits of intervention approaches according to the Model of Human Occupation. **Material and Methods:** Study carried out with the collaboration of Hacettepe University Faculty of Health Sciences Department of Ergotherapy and the Ministry of Family and Social Policies. The study included 17 individuals with mental and spiritual problems staying at Hope House and 17 individuals staying at the Saray Rehabilitation Center (institutional). The evaluation of Activity Role Performance was made through Model of Human Occupation Screening Tool (MOHOST) and Performance Process Model. **Results:** The average age was obtained being 31.65±5.72 at institutional houses and it was 30.76±5.45 years in Hope Houses. A difference in the motivation for activity, activity role pattern, process skills and environmental components of the individuals living at the institution were found. There is a difference in motivation for activity, activity-role pattern, process skills, communication and interaction skills and environmental components scores of the individuals living in Hope House. Among the individuals at Hope House and the institution, when the difference between the preliminary and post test scores were analyzed, a difference in favor of the individuals living at Hope House was found. There is a difference in motivation for, activity-role pattern, communication and interaction skills and environmental components scores of the individuals living in Hope House. The results of Hope Houses were found to be higher than the institution houses. **Conclusion:** The impact of Ergotherapy interventions was presented for improving the community involvement of the individuals in Hope Homes.

Keywords: Model of human occupation; intervention; client-centered; hope house

ÖZET Amaç: İnsan Aktivite-Rol Modeli'ne (MOHO) göre uygun müdahale yaklaşımlarının, kişi merkezli faydasını incelemektir. **Gereç ve Yöntemler:** Çalışma Hacettepe Üniversitesi Sağlık Bilimleri Fakültesi Ergoterapi Bölümü ile Aile ve Sosyal Politikalar Bakanlığı işbirliği ile yapılmıştır. Çalışmaya Umut Evlerinde kalan 17 zihinsel-ruhsal problemli birey ile Saray Rehabilitasyon Merkezinde kalan 17 zihinsel-ruhsal problemli olan birey dâhil edilmiştir. İnsan Aktivite-Rol Modeli Tarama Aracı (İARMTA) ve Performans Süreç Modeli ile Aktivite-rol performansı değerlendirmesi yapılmıştır. **Bulgular:** Kurum evlerinde kalanların yaş ortalaması 31,65±5,72 yıl, Umut Evlerinde ise 30.76±5.45 yıl olarak tespit edilmiştir. Kurumda yaşayan bireylerin, aktivite-rol için motivasyon, aktivite rol paterni, süreç becerileri ve çevre komponentlerinde fark bulunmuştur ($p<0,01$).Umut Evinde yaşayan bireylerin, aktivite-rol için motivasyon, aktivite rol paterni, iletişim ve etkileşim becerileri, süreç becerileri ve çevre komponentlerinde fark bulunmuştur. Umut Evi ile Kurum Evinde yaşayan bireyler arasında, ön ve son test fark puanları incelendiğinde; Umut Evindeki bireyler lehine bir fark bulunmuştur ($p<0,05$). Umut Evinde yaşayan bireylerin, aktive-rol için motivasyon, aktive rol paterni, iletişim etkileşim becerileri ve çevre kompenentlerinde fark bulunmuştur. Umut Evlerinin sonuçları Kurum Evlerine göre daha yüksek bulunmuştur. **Sonuç:** Umut Evlerinde yaşayan bireylerin toplumsal katılımlarını artırmak için Ergoterapi müdahalelerinin etkisi ortaya çıkmıştır.

Anahtar Kelimeler: İnsan aktivite rol model; müdahale; birey merkezli; umut evi

The World Health Organization states one out of four people are affected by neurological or mental-psychological disorders at some time in his/her life. Disabled patients who are unable to be cared for by family have difficulties participating in social life. Many disabled people

live together in Care and Rehabilitation Centers where continuous care services are provided, an outside social life is discouraged, and negatively occur due to communal life. Individual autonomy and control are weak in institutionalized individuals. The process of integration into society for individuals institutionalized most of their lives who continue to live with psychological and mental problems is closely related to how community-based healthcare services are implemented and how the transition is guided.[1,2]

The aim of Ergotherapy in mental-psychological healthcare is to provide the support required for independent life and help improve skills.[3] In individual based treatment plans, the individual's requests and preferences, dreams, desires, support needs, inborn abilities, strengths and skills are assessed and the individual is equipped with the abilities required to be an independent individual. Disabled individuals need support to reach their objectives related to the activity they want to perform, place they want to live and leisure time activities they want to do. In order to raise social awareness, it is necessary to inform social groups about the individual.[2-6] Knowledge of life in society that the individual intends to be a part of is an important aspect of ergotherapy.[7] Through this knowledge, activity-role design, creation and evaluation can facilitate social integration and participation. Ergotherapist can then create and develop opportunities for participation in mainstream social settings for individuals living in community-based centers.[8-10]

The Model of Human Occupation (MOHO) has been used in interventions in many studies in the literature.[7,9,11-15]

Participation in the MOHO can help create safe and supportive relationships for individuals and provide a perception of choice and control over their own healing processes.[10] Problems encountered may arise from habits, will performance capacity of the individual, or from the environment, which prevents performance of the activity.[9,10] The MOHO is the first individually -oriented model that looks beyond the disorder into the factors related to other individuals who affect activity performance.[7,16]

The MOHO emphasizes the motivation for activities (games, self-care, etc.), how people learn and shaped by people and how the activity is performed by combining physical, cognitive and social aspects.[10,17,18]

Countries from various parts of the world study social integration following deinstitutionalization, which is supported by the World Health Organization.[19,20] The World Health Organization states that more studies are required to continue this movement. Studies on the benefits of transition to independent living houses have just started in Turkey. Our study was planned to test whether there is a difference in the activity-role participation between the individuals staying in the Hope Houses and the individuals staying in the institutional care center after the intervention according to the Human Activity Model (MOHO), which is the model of Ergotherapy.

MATERIAL AND METHODS

Intervention approaches according to the MOHO for individuals living at Ankara Hope House and an institutional care center, Saray Rehabilitation Center (Institution), were carried out with the collaboration of Hacettepe University Faculty of Health Sciences Department of Ergotherapy and the Ministry of Family and Social Policies. Ethical approval was obtained from the "removed for blinding purposes. All patients provided written informed consent prior to participating. This study was conducted in accordance with the Declaration of Helsinki. The working frame is shown in Figure 1.

PARTICIPANTS

Inclusion Criteria

The study included 17 individual with mental and spiritual problems staying at Hope House and 17 individual with mental and spiritual problems staying at institutional care center. All the individuals who stayed in Hope Homes (working group) were included in the study. Total number is 17.

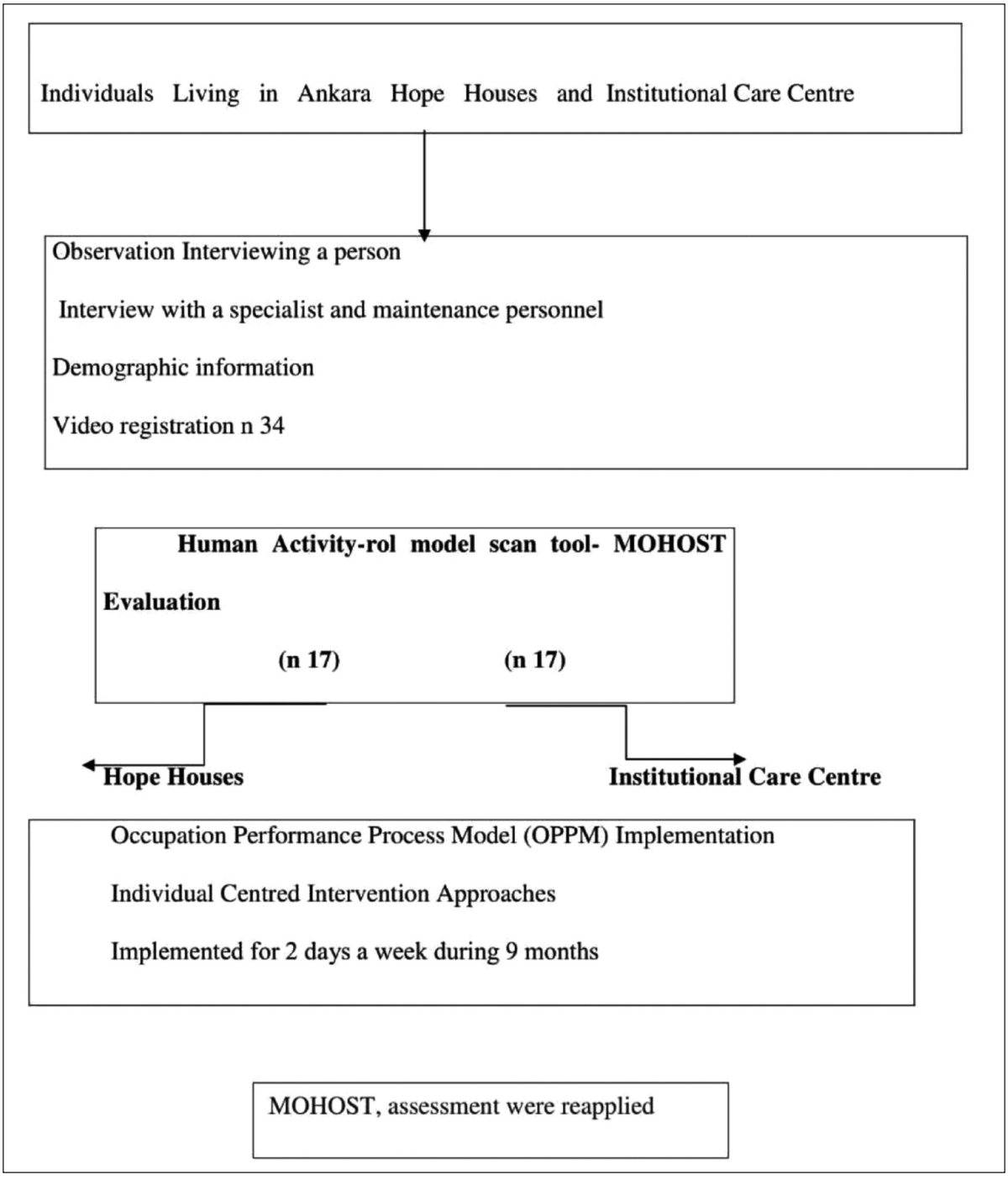

FIGURE 1: Working frame.

Individuals with similar characteristics (age, gender, number, diagnos) as control group were included.

The study inclusion criteria;

1) Persons who live in Hope Houses,

2) Can be cooperative,

3) the ability to communicate,

4) agreeing to volunteer,

5) between 20 and 40 years old

6) individuals with learning disabilities (intelligent test, IQ) and emotional problems

Participants were informed by the researchers about the purpose of the study and assessments were made using the one on one interview method.

Data Collection

Data Collection included in-depth interviews with all participants. Data were obtained from medical records (IQ Test) of clients who were admitted to the Saray rehabilitation care center. All interviews were was done face to face with individuals. Participants observations (recorded as field notes, video) were also used to provide additional data. Detailed progress notes were completed following each session which identified the focus of the session and the relationship of the client's goals. Included in notes were both subjective and objective information provided by staff and responsible specialist. MOHOST assessment performed after intervention and before intervention.

In the evaluation, in addition to personal care, free time, productive activity and role, the first focus was on the competence and significance meaning of the role. It focuses on individuals' abilities and opportunities recognized by the environment.

In order to achieve this, the cultural, physical, social and work environment have been learned.

1) Demographic Information: Diagnosis, age, gender, education level, occupation status, medication use, intelligence level and family information were obtained by examining the files of the individuals and in consultation with facility specialists.

2) Human Activity-Role Model Screening Tool (The Model of Human Occupation Screening Tool–MOHOST Version 2.0, 2006): Information was obtained by examining the motivation, habits, skills and environmental conditions of the individuals. For research and clinical purposes, MOHOST is reliable and valid.[21]

In our study, 24 items in 6 fields were evaluated: motivation for occupation, occupational role patterns, communication and interaction skills, process skills, motor skills, and environmental context.[16] These items were assessed on a 4-point scale. Higher scores indicate the factor facilitates participation in the activity. Lower scores indicate the factor prevents or restricts participation in the activity. At the end of intervention, the test materials were re-administered to the individuals.

ENVIRONMENT

Hope Houses and Institution Houses

In Ankara; Hope Houses were established in the districts of Pursaklar, Oran and Çubuk. The people of Hope House live in an apartment in the community. Hope houses consist of three rooms, a living room, kitchen, bathroom and toilet where 4 to 5 people live.The physical environment provides various opportunities and valuable activity-role participations. Hope Houses were found strong to provide people's needs and desires. Besides, Hope Houses' location make people's transportation easily. There are opportunities to participate in the course and social activity at an accessible distance. Activity role participation is ensured in the areas of physical resources, economy, equipment and vehicles, goods and transportation. In institutional houses, the home areas where individuals live are consist of four rooms, halls, dining room, kitchen and bathroom. The bathroom is safe, the height of the toilet is convenient, there are two house-keeping bars for the sink and toilet. There are no stairs in the houses. There is a garden outside of every house and it is accessible. There are twelve individuals are living in institutional houses.There are 3 people staying in each room. In the institution houses, one specialist or one special educator, three personnel are involved. It has been determined that individuals have difficulties due to the crowd when they need quiet place at any time. There is no such problem in Hope houses. There are less opportunities to improve skills, which related with home administration, based on cooking, washing, ironing, personal care, money management, shopping, course, public transport and social relations. Food and clothing needs of individuals are provided by the institution. In general, cleaning activities are carried out by the staff of the institution. Individuals have very little practice to develop their skills for independent home management. The administration of individuals and taking decisions are made by the institutions management

and the experts responsible for the individuals. There are no opportunities to participate in social activities. Activity role participation with social groups is forbidden. Opportunities to participate in free time activities make through workshops within the institution. A large number of people with disabilities stays together in the institution houses. In order to provide individual needs and expectations of individuals in institutional care centers is difficult to develop individual intervention plans.

ERGOTHERAPY INTERVENTIONS

Occupation Performance Process Model (OPPM)

An individually-oriented MOHO intervention was implemented for 2 days a week for 9 months. Law and Clark developed the OPPM, which includes seven processes to allow occupation when the individual has difficulty initiating or resuming personally important tasks.[22,23]

1. Identify, verify, and prioritize the activity performance issues of the person.

2. Select appropriate theoretical models and approaches. The MOHO model and approaches were chosen.

3. Define the activity-role performance components and regulate environmental conditions.

4. Describe the strengths and sources of the person's solution. Individuals revealed their strengths and weaknesses.

5. Identification of targets and development of action plan.Various steps to bridge the current reality of the individual and future possibilities were considered.[5,23]

INTERVENTIONS

The goals agreed with indivuduals were, therefore, related to activity and also focused on the person's motivation for activity, pattern of activity, skills or engagement with social and physical environments (Table 1).

Motivation for Activity-Role: The ability of some individuals to evaluate their abilities and capacities is weak and inaccurate. In order to improve the individual's control over his own motivation and himself as the first goals, it was necessary to carry out activities to increase self-confidence. In various sessions, studies were conducted to increase of awareness and capacity for participating in activities.

Activity-Role Pattern: Interventions were conducted which focused on creating (recreating) and improving productive/valuable daily routines in order to organize the life style. The therapy focused on leisure time activities, interests and activ-

TABLE 1: MOHO Goals.

MOHO Concept	Example Goals
Motivation for activity-role	To choose an item to cook during next meeting
	Within six weeks will have cooked with reporting enough confidence
	Will choose preferred ingredients to purchase for meals next week
Pattern of activity-role	In five weeks, will develop a structured ability to use public transportation with support from OT in
	In three weeks, able to use public transportation independently on ward daily with verbal prompting
	In eight weeks, will ability to use public transportation independently (without prompting)
	In one week, plan timing of support visit to fit in with routine balance exercise
Skills	Will be able to plan meal with support from OT in four week
	To spontaneously respond to verbal expression during weekly meal preparation
	To organization a meal get the necessary materials in the kitchen
	To improve interpersonal communication and ınteraction skills within weekly neighbors groups
Physical and social environment	To make a list tidying home with home friends at 9 am
	By five week will be able to use public transportation independently with support from OT
	Attend weekly computer course group with staff and prompting
	To participate in gym group once a week

OT: Orientation training.

ities related to home management such as shopping, financial management, and cooking and basic and auxiliary daily life activities such as traffic rules. Activity training was conducted. Activity steps were studied separately.

Communication and Interaction Skills: Individual and group studies were conducted to develop the communication and interaction skills of the individuals within the activity, such as creating effective verbal content while shopping as well as increasing and improving interperson social skills such as assertiveness training, verbal and non-verbal communication awareness and interview preparation.

Process Skills: With the purpose of improving organization and problem solving within the activity, structured activities were used (for example, acquiring the knowledge to use vehicles in relation to independent transportation, developing a reading habit and describing the information acquired) and individuals participated in leisure time activities such as backgammon, Angry Brothers Play.Verbal incentives and clue strategies were used. Orientation training (OT) was performed.[24]

Motor Skills: For individuals at risk of falling, the risks were mitigated by facilitating motor skills/transfer, endurance, balance and muscle strengthening exercises and safe falling methods.

Environmental Intervention: The objects that the individuals use and the areas they are in during the activity, the forms of activities expected and/or required from individuals in a certain context or the environment in which occupations are carried out, social groups that constitute the context and current cultural, political and economic factors were identified. An attempt was made to create supportive social relations and environments. Personnel training was given to provide support to the person. For participation in social activities, individuals joined the municipality clubhouse, gymnastics groups close to home and accessory design, needlework, computer and model aircraft courses. Necessary institutional procedures were supported such as personnel support, providing vehicles for transportation, etc.[24]

Statistical Analysis

SPSS 11.5 software package was used to analyze the data. **Power analysis** was performed in this study. The calculation was made using. 2 G Power 3.1.9.2 .2 package program. 34 indivudual were included in the study.The mean increase in MOHOST scores of the 17 indivudual in the institution house after the intervention (the difference according to the pre-intervention period) was 6.47 ± 2.83 and the mean value of those living in the Hope house was found 13.58 ± 5.91. The power of the test was found to be 0.99 (99%) with Type I error=0.05.

Factor analysis was conducted to determine the validity and reliability of the MOHOST scale. In order to measure the significance of the differences between the first and last measurements of MOHOST scores of all individuals and the individuals living at the institution and Hope House separately, Wilcoxon Matched Pairs Sum Test was used. The significance of the difference between the first and last measurements of the MOHOST scores was tested using the Mann-Whitney U test. The statistical significance level was 0.05. The mean ± standard deviation, median (min-max) and number (percentage) for qualitative data were given as descriptive quantitative data. It was determined that 34 persons were sufficient for this study according to the Wilcoxon sign test with 0.80 power.[25]

Reliability

An appropriate reliability was obtained by looking at the Alpha value (0.901) for the MOHOST test before comparisons.

RESULTS

PARTICIPANTS

The average ages were 31.65±5.72 years at the institution and 30.76±5.45 years at Hope House. The ratio of women in both groups was 64.7%. There was no difference between the gender distribution or the average age between those living in the institution and those living in Hope House ($p > 0.05$).

A difference in the motivation for activity, activity role pattern, process skills and environmen-

tal components of the individuals living at the Institution were found (p<0.01) (Table 2). There is no difference in communication and interaction skills with motor skills (p>0,05) (Table 2).

There is a difference in motivation for activity-role, activity-role pattern, process skills, communication and interaction skills and environmental components scores of the individuals liv-

TABLE 2: Comparison of the Model of Human Occupation Screening Tool (MOHOST) Sub-parameters before and after intervention for individuals living at the Institution.

	B.I. Avg±SD	B.I. (Min-Max)	A.I. Avg±SD	A.I. (Min-Max)	Wilcoxon Z	p*
1. Motivation for Activity-Role						
Examining the skills	2.59±0.71	2 (2-4)	3.00±0.61	3 (2-4)	-2.646	0.008*
Expected Success	2.65±0.78	2 (2-4)	3.12±0.60	3 (2-4)	-2.828	0.005*
Interest	2.71±0.69	3 (2-4)	3.06±0.55	3 (2-4)	-2.449	0.014*
Choices	2.88±0.69	3 (2-4)	3.06±0.55	3 (2-4)	-1.732	0.083
Total Score	10.81±2.55	10 (8-16)	12.23±1.98	12 (9-16)	-3.097	0.002*
2. Activity-Role Pattern						
Routine	3.00±0.87	3 (2-4)	3.53±0.51	4 (2-4)	-2.714	0.007*
Adaptation	2.53±0.51	3 (2-4)	2.82±0.39	3 (2-4)	-2.236	0.025*
Roles	2.65±0.70	3 (2-4)	3.23±0.56	3 (2-4)	-2.887	0.004*
Responsibility	2.59±0.62	3 (2-4)	2.88±0.60	3 (2-4)	-2.236	0.025*
Total Score	10.76±2.11	11 (8-15)	12.47±1.55	12 (10-15)	-3.330	0.001*
3. Communication and Interaction Skills						
Non-verbal Skills	3.53±0.62	4 (2-4)	3.59±0.51	4 (3-4)	-1.000	0.317
Speaking	3.65±0.49	4 (3-4)	3.65±0.49	4 (3-4)	0.000	1.000
Verbal Expression	3.59±0.51	4 (3-4)	3.65±0.49	4 (3-4)	0.000	1.000
Relationships	3.23±0.83	3 (2-4)	3.47±0.62	4 (2-4)	-2.000	0.046*
Total Score	14.0±1.18	15 (11-16)	14.29±1.93	15 (11-16)	-1.890	0.059
4. Process Skills						
Knowledge	2.65±0.61	3 (2-4)	3.18±0.64	3 (2-4)	-3.000	0.003*
Timing	2.59±0.62	3 (2-4)	2.76±0.56	3 (2-4)	-1.732	0.083
Organization	2.53±0.51	3 (2-3)	2.76±0.56	3 (2-4)	-2.000	0.046*
Problem Solving	2.23±0.44	2 (2-3)	3.00±0.50	3 (2-4)	-3.606	0.000*
Total Score	10.0±1.73	10 (8-14)	11.71±1.89	12 (8-16)	-3.352	0.001*
5. Motor Skills						
Posture	3.94±0.24	4 (3-4)	4.00±0.00	4 (4-4)	-3.358	0.001*
Coordination	3.76±0.52	4 (2-4)	3.76±0.56	4 (2-4)	0.000	1.000
Strength and effort	3.76±0.56	4 (2-4)	3.88±0.33	4 (3-4)	-1.414	0.157
Energy	3.59±0.62	4 (2-4)	3.59±0.62	4 (2-4)	0.000	1.000
Total Score	15.06±1.71	16 (10-16)	15.23±1.39	16 (11-16)	1.732	0.083
6. Environment						
Physical Space	3.12±0.48	3 (2-4)	3.18±0.39	3 (3-4)	-1.000	0.317
Physical Resources	2.82±0.53	3 (2-4)	3.06±0.43	3 (2-4)	-2.000	0.046*
Social Groups	2.76±0.44	3 (2-3)	3.06±0.66	3 (2-4)	-2.236	0.025*
Occupation Demands	2.71±0.47	3 (2-3)	3.29±0.47	3 (3-4)	-3.162	0.002*
Total Score	11.41±1.12	11 (9-14)	12.59±1.12	13 (11-15)	-3.304	0.001*
Grand Total	72.06±7.51	73 (57-87)	78.53±7.05	80 (61-89)	-3.630	0.000*

Avg: Average; **SD:** Standard Deviation; Min, Minimum; **Max:** Maximum; ***Wilcoxon Matched Pairs Test**: MOHOST Min-Max score=1-4
B.I: Before Intervention; **A.I:** After Intervention; (n=17).

ing in Hope House (p <0,01). There is no difference in the scores in the areas related to motor skills (p>0,05) (Table 3).

Among the individuals at Hope House and the institution, when the difference between the preliminary and post test scores were analyzed, a dif-

TABLE 3: Comparison of the Model of Human Occupation Screening Tool (MOHOST) Sub-parameters before and after intervention for individuals living at Hope House.

	B.I. Avg±SD	B.I. (Min-Max)	A.I. Avg±SD	A.I. (Min-Max)	Wilcoxon Z	p*
1. Motivation for Activity-Role						
Examining the skills	3.00±0.79	3 (2-4)	3.53±0.51	4 (3-4)	-3.494	0.000*
Expected Success	2.53±0.72	2 (2-4)	3.12±0.60	3 (2-4)	-2.828	0.005*
Interest	3.18±0.64	3 (2-4)	3.71±0.47	4 (3-4)	-3.000	0.003*
Choices	2.76±0.83	3 (2-4)	3.59±0.51	4 (3-4)	-2.952	0.003*
Total Score	11.47±2.6	11 (8-16)	14.59±1.62	15 (12-16)	-3.372	0.001*
2. Activity-Role Pattern						
Routine	3.41±0.62	3 (2-4)	3.82±0.39	4 (3-4)	-2.333	0.020*
Adaptation	2.88±0.78	3 (2-4)	3.71±0.47	4 (3-4)	-3.500	0.000*
Roles	3.06±0.75	3 (2-4)	3.65±0.49	4 (3-4)	-2.887	0.004*
Responsibility	2.76±0.66	3 (2-4)	3.65±0.49	4 (3-4)	-3.419	0.001*
Total Score	12.12±2.47	13 (9-16)	14.82±1.63	16 (12-16)	-3.450	0.001*
3. Communication and Interaction Skills						
Non-verbal Skills	3.47±0.72	4 (2-4)	3.88±0.33	4 (3-4)	-2.646	0.008*
Speaking	3.35±0.86	4 (2-4)	3.76±0.44	4 (3-4)	-2.646	0.008*
Verbal Expression	3.35±0.86	4 (2-4)	3.82±0.39	4 (3-4)	-2.530	0.011*
Relationships	3.18±0.81	3 (2-4)	3.71±0.47	4 (3-4)	-2.714	0.007*
Total Score	13.25±2.69	14 (9-16)	15.17±1.33	16 (12-16)	2.971	0.003*
4. Process Skills						
Knowledge	2.82±0.81	3 (2-4)	3.47±0.80	4 (2-4)	-2.810	0.005*
Timing	3.18±0.78	3 (2-4)	3.71±0.47	4 (3-4)	-2.887	0.004*
Organization	3.18±0.53	3 (2-4)	3.76±0.44	4 (3-4)	-3.162	0.002*
Problem Solving	2.88±0.86	3 (2-4)	3.65±0.49	4 (3-4)	-3.357	0.001*
Total Score	12±2.59	12 (9-16)	14.59±1.70	15 (11-16)	-3.204	0.001*
5. Motor Skills						
Posture	3.65±0.70	4 (2-4)	3.71±0.59	4 (2-4)	-0.649	0.516
Coordination	3.88±0.33	4 (3-4)	3.88±0.33	4 (3-4)	0.000	1.000
Strength and effort	3.71±0.59	4 (2-4)	3.76±0.44	4 (3-4)	-1.000	0.317
Energy	3.76±0.56	4 (2-4)	3.88±0.33	4 (3-4)	-1.414	0.157
Total Score	15.0±1.84	16 (10-16)	15.24±1.44	16 (12-16)	-1.633	0.102
6. Environment						
Physical Space	3.65±0.61	4 (2-4)	3.88±0.33	4 (3-4)	-2.000	0.046*
Physical Resources	3.06±0.75	3 (2-4)	3.47±0.51	3 (3-4)	-3.071	0.002*
Social Groups	2.47±0.62	2 (2-4)	3.88±0.33	4 (3-2)	-3.619	0.000*
Occupation Demands	2.71±0.59	3 (2-4)	3.76±0.44	4 (3-4)	-3.819	0.000*
Total Score	11.88±1.96	12 (9-16)	15.11±1.14	15 (12-16)	-3.355	0.000*
Grand Total	75.82±9 98	77(57-92)	89.35±6.68	91 (73-96)	-3.624	0.000*

Avg: Average; **SD:** Standard Deviation; **Min:** Minimum; **Max:** Maximum; ***Wilcoxon Matched Pairs Test**: MOHOST Min-Max score=1-4; (n=17)
B.I: Before Intervention; **A.I:** After Intervention.

ference in favor of the individuals living at Hope House was found for the motivation for activity, activity role pattern, communication and interaction skills and environmental components ($p<0.001$). The difference in scores for the fields related to process skills and motor skills were not found ($p>0.05$). In the process skills and motor skills of the individuals living at Hope House did not have a difference after the intervention compared to the individuals living at the institution (Table 4).

DISCUSSION

Our study investigated the individual-centered benefit of intervention approaches according to the MOHO for individuals at the Ankara Hope Houses and the Institutional Care Center, Saray Rehabilitation Center. An improvement in adaptive behavior and the occupational performance of the individuals were achieved.

It is similar to Kramer's study in terms of motivation for activity, processing skills, environmental issues and meaningful activity in the individuals we studied. In the study of Kramer et al. on individuals with mental health problems, enhanced motor skills and planning a discharge from their environment, new and more supportive life situations in 70.4% of individuals were obtained. However, measures were not taken for the structuring of social groups. There was no significant change in volition, habituation, communication and interaction skills, and processing skills.[26] It is emphasized that long-term development can be achieved.

In our study, volition, habits, communication and interaction skills (relationships), processing skills, motor skills (posturing) and environmental scores have increased with intervention in institutional homes. The most development was found in habits, processing skills and environment. The development of motor skills, communication and interaction skills is not the same or too much, but progress has been achieved in other all parameters. We think that these skills can be identified as "Facilitating activity participation" skills by Hope House individuals and the recommended physical exercises were not carried out regularly. In the institution, improvement was achieved only in posture skills, most likely because it was addressed within other daily life activity training.

Communication and interaction skills may show further improvement in environments where social participation is fully realized.[27-29] Studies on this issue also support this. Participation in institutional care does not currently involve much social inclusion, as participation is partly under the supervision and guidance of care-givers and experts. This situation can be considered as one of the reasons for its lack of development.

Comparing the score of institution houses with a literature study, volition and processing skills were found to be higher than those living in the institution. Motor skills and environmental scores were found to be lower. The results of the literature study compared with the Hope Houses were found to be very low. This shows us that all the skills of the Hope Houses are in a better condition than study groups in the literature with institution housing.

Forsyth et al focused on the community-based campus in his study; MOHOST was applied to individuals with adult mental health and learning disabilities, as well as physical disability (HIV & AIDS). In the literature study, the high scores of activity-role participation in MOHOST sub-items are: roles, responsibility, activity-role demands, and the assessment of skills. The lower rated items are; motor skills, communication/interaction and processing skills. Low scores are thought to be due to the low cognitive status of individuals. Cognitive impairment is thought to have a negative effect on processing skills.[30] In our study, the highest scores of the individuals living in both housing styles were determined as communication/interaction skills and motor skills unlike in the literature. The activity-role participation of individuals in these areas was found to be "allowed".

While the most powerful areas in the literature are roles, responsibilities, activity-role demands, and skills assessment, these areas have been identified as the weakest areas in our study groups. It indicates supportive participation in individuals.

TABLE 4: Comparison of the Score Differences of Individuals living at Hope House (n=17) and the Institution (n=17) according to the Model of Human Occupation Screening Tool Sub-parameters.

Min-Max	Institution		Hope house			
Score differences before and after intervention	**Avg±SD**	**(Min-max)**	**Avg±SD**	**(Min-max)**	**Mann- Whitney U**	**p***
1. Motivation for Occupation						
Examining the skills	0.41±0.51	0 (0-1)	0.76±0.56	1 (0-2)	98.500	0.114
Expected Success	0.47±0.51	0 (0-1)	1.00±0.61	1 (0-2)	81.500	0.029*
Interest	0.35±0.49	0 (0-1)	0.53±0.51	1 (0-1)	119.000	0.394
Choices	0.18±0.39	0 (0-1)	0.82±0.81	1 (-1-2)	70.500	0.009*
Total Score	1.41±1.33	1 (0-4)	3.11±2.09	3 (1-7)	71	0.011*
2. Occupation Role Pattern						
Routine	0.41±0.62	0 (0-2)	0.41±0.62	0 (0-2)	128.500	0.586
Adaptation	0.29±0.47	0 (0-1)	0.82±0.53	1 (0-2)	74.000	0.014*
Roles	0.59±0.62	1 (0-2)	0.59±0.62	1 (0-2)	144.500	1.000
Responsibility	0.29±0.47	0 (0-1)	0.88±0.60	1 (0-2)	71.500	0.011*
Total Score	1.71±1.26	2 (0-4)	2.71±1.83	3 (0-7)	95.5	0.092
3. Communication and Interaction Skills						
Non-verbal Skills	0.06±0.24	0 (0-1)	0.41±0.51	0 (0-1)	93.500	0.079
Speaking	0.00±0.00	0 (0-0)	0.41±0.51	0 (0-1)	85.500	0.041*
Verbal Expression	0.00±0.00	0 (0-0)	0.47±0.62	0 (0-2)	85.000	0.041*
Relationships	0.25±0.44	0 (0-1)	0.53±0.62	0 (0-2)	108.500	0.218
Total Score	0.31±0.59	0 (0-2)	1.82±1.74	1 (0-4)	71	0.011*
4. Process Skills						
Knowledge	0.53±0.51	1 (0-1)	0.65±0.70	1(0-2)	135.500	0.760
Timing	0.18±0.39	0 (0-1)	0.59±0.63	1(0-2)	92.000	0.073
Organization	0.24±0.44	0 (0-1)	0.59±0.51	1(0-1)	93.500	0.079
Problem Solving	0.76±0.44	1 (0-1)	0.76±0.56	1(0-2)	142.500	0.946
Total Score	1.71±1.21	2 (0-4)	2.59±1.94	3 (0-6)	105	0.182
5. Motor Skills						
Posture	0.06±0.24	0 (0-1)	0.06±0.24	0 (0-1)	144.500	1.000
Coordination	0.00±0.00	0 (0-0)	0.00±0.00	0 (0-0)	144.500	1.000
Strength and effort	0.12±0.33	0 (0-1)	0.06±0.24	0 (0-1)	136.000	0.786
Energy	0.00±0.00	0 (0-0)	0.12±0.33	0 (0-1)	127.500	0.563
Total Score	0.18±0.39	0 (0-1)	0.24±0.56	0 (0-2)	143	0.973
6. Environment						
Physical Space	0.06±0.24	0 (0-1)	0.24±0.44	0 (0-1)	119.000	0.394
Physical Resources	0.24±0.44	0 (0-1)	0.35±0.70	0 (0-2)	140.500	0.892
Social Groups	0.29±0.47	0 (0-1)	0.41±0.62	1(0-2)	31.000	0.000*
Occupation Demands	0.59±0.51	1(0-1)	1.06±0.43	1(0-2)	83.500	0.034*
Total Score	1.18±1.07	1(0-4)	3.06±1.39	3 (0-5)	39.5	0.000*
Grand Total	6.47±2.83	6(2-12)	13.53±5.91	13(3-24)	45	0.001*

Min-Max score=1-4; **Avg:** Average; **SD:** Standard Deviation; **Min:** Minimum; **Max**: Maximum; Mann-Whitney U test.

As the reason that these areas are weak before the intervention in Hope Houses, we think that social participation is in the form of partial participation in institutional care. An improvement was achieved for Hope House-residents from "Allows activity participation" towards "Facilitates activity participation" in the field of communication and interaction skills. Hope Homes have many opportunities and resources to improve relationships in different areas which are neighbour, friend, client,

student, trainee and employee. We believe that interventions made to increase public awareness have a positive effect. It was ensured that individuals could leave the institutional environment, participate in the social environment within the community and participate in activities that match their abilities and values by means of MOHO intervention in the environment.While improvement was observed in all parameters of the field of communication and interaction skills in the Hope House, improvement was only observed in the relationship sub-parameter in the Institutional Houses. We believe that this development is the result of the improvement of negative relationships with home friends and staff. In other areas, no progress has been achieved. The reason for this is that you should live somewhere for a while to start and sustain your communication skills. It has been shown that individuals use and improve their communication skills during the job search, voluntary activities, free time activities, student education activities, family and community peers, friends and social participation. We think that the institutional environment does not have a structure that includes these activities and social participation.

In the study done by Notoh and his colleagues, the subjects in the field are motor skills, "posture and mobility," "coordination" and "motivation for activity," which are more restricting to the participants than other substances. In comparison,"communication and interaction skills," "processing skills" and "environment " were found to be more powerful than in other areas.[31] The environment has become the most powerful area in support of the hospital environment. It has been determined that the environment is interior-related with the choice of participants. It has been determined that the environment is interrelated with the choice of the participants,and that their interest in activities and roles around the hospital is difficult to develop. Motivation and the need to focus on the motor skills of the individual "inhibitions" have arisen.

Compared with the literature on motor skills, our study groups were found to be stronger. The reason for this is the low number of individuals with physical disability in our groups. In the literature study, we think that individuals formed a sample group with physical disability in the acute rehabilitation program in the hospital. Communication and interaction skills are parallel to the literature as areas where our study groups are strong.

In our study, contrary to the literature, processing skills were found to be weak. After the intervention, in the Institution Houses it has been achieved while it is prevented in the areas of timing, organization, adaptation and responsibility. However, the need for assisted participation continues. While information, organization and problem solving in individuals of the institutional housing was achieved with an intervention towards the individuals, the difficulty of starting, completing, and sequencing activities and tasks continued in timing skills. It may be considered that intervention is not enough to make changes in institutional policies. According to corporate policy, the personnel in charge are expected to make arrangements related to timing and orientation on their behalf.

Developments in all areas except motor skills were developed after the intervention of individuals in the Hope Houses. Activity-role expectations for participation, knowledge, examination of skills, choices, problem solving have emerged as the least-scoring skills. Activity has emerged in order to provide involvement in the role. There were difficulties in setting goals in individuals living in the Hope Houses before intervention. Poor self-efficacy was observed in the individuals.

In the Hope Houses, individuals, the ability to research and the ability to appropriately use information after intervention has improved less. But a significant improvement has been made in the timing of the activity-role, organization and ability to produce problem solving. For this purpose, we think that studies on this specific area in individuals should be done for a longer period. The responsibilities of the worker role in daily activity centers were investigated in individuals with learning disabilities by Kahlin and his colleague.[32]

Supported physical environment, strong social environment support, family, friends, supervisors and colleagues, has been found to increase the pos-

itive attitude of the individual in work and adaptation. The strong social environment support of the workplace was found in the individual's volition, and habits were found to be the factors that affect the success of the job positively. All items received an average score in a supportive activity-role.Only the assessment of skills related to the success of the job indicates the supported participation. Intervention is needed in half of the participants in this area. It has been stated that intervention towards this individual center has developed weaknesses.[32] In our study, the weakest areas in the individuals who work in parallel with the literature's conclusions have been identified as the evaluation of skills in the Institution Houses.

Compared to the literature study, the working individuals were found to be weaker than in the literature.We think that their regular and long-term participation in work training activities at the Activity Center has a high impact on their success. An improvement was achieved for employed individuals from "Inhibits activity participation" towards "Allows activity participation" in the field of success expectations, interests, adaptability, nonverbal skills, relationships, knowledge, organization, problem solving, and activity role demands. However, there has been no improvement in the evaluation of skills, timing, and social groups.

The evaluation of skills in parallel with the literature study is "Inhibits." In order to achieve improvement in this area, we think it is necessary to work for a longer period of time. Individuals need to experience activities in order to correctly assess their performance capacity.[33,34] It is important to develop feelings and thoughts about their effectiveness by using their capacity with the suitability of their environment.[33,35] There are studies that emphasize the importance of participation and performance experience in individuals with limited performance.[10,17,36]

In the study of Sun Wook et al. in the community-based field, more than half of the study population required intervention in the field of motivation.[37] Similarly, motivation problems were identified in more than half of the individuals in this study. Communication and interaction skills and motor skills were found to be the strongest areas in the two housing situations (the Hope and institutional houses).

Activity-role demands of the environment, volition, habits, communication and interaction and motor skills were found to be less problematic in our study group than in the literature study. Processing skills were found to be better than those living in the institution.The physical resources score of the environment is similar to the score of individuals living in the institution, lower than the scores of individuals in the Hope Houses.This makes us think that the Hope Houses are in a better condition than the environment in which they receive community-based home care services in their institutional homes.[30] In comparison with the studies of Kielhofner and colleagues, it has been found that Hope House individuals have higher scores in all areas. MOHO emphasizes that this activity is due to the interaction of the person's inner characteristics (volition, habit and performance capacity) with his environment. In the context of the situation of the individual; It covers specific physical, social, cultural, economic and political characteristics that affect motivation, regulation and activity performance.[17,33] In the studies, interventions have been made focusing on the provision of environmental, family, friends and staff support.

Stigma and environmental factors have been identified as the biggest challenge to taking responsibilities.[37,38-41] In our study, activity-role participation was improved by providing vehicle and personnel support to the individuals in need. The weakest areas in the institutional houses are in the area of environment; activity was role demand, social group, and physical resource fields.

An improvement was achieved for the institutional houses from "Inhibits activity participation" towards "Allows occupational participation." Turner and his colleague at the end of their study on the natural environment of the individual did not focus on changing, only on providing a supportive environment.[13] In our study, there is a similarity with the literature in terms of the lack of change in the physical area in the institutional houses.

When the Hope Houses and institutional houses were compared, the biggest improvement in the expectations for success, choices, adaptation, responsibility, speaking, verbal expression, social groups, activity role demands have emerged in the Hope Houses. In addition, social group support in the area of Environment has especially emerged in the Hope Houses. A change has been achieved in the Hope Houses where the weak social group and activity role demands are developed. It was found that the intervention was more supportive in terms of the social environment and activity role demands than in the institutional houses. Social environment intervention was more successful for the Hope Houses than institutional residents. With MOHO, an improvement was achieved in adaptive behaviors of the individuals and positive progress was achieved in their activity-role performance.

The Hope Houses provided opportunities and resources to individuals, forced the individual to create demands and allowed them to participate in society. It is important to try to minimize obstacles in relation to institutions and applications, laws, decision making processes, methods, accessibility and policy, finance, and education through changing inter-agency policies with intervention plans and applications and providing necessary support with other organizational applications. The goal of intervention should be to provide support to individuals in need when required, while maintaining as much autonomy and independence for the individual as possible.

LIMITATIONS OF THE STUDY

The limitation of the study is the lack of long term communication with the institution's employees for the personnel and transportation vehicle requirements in relation to the aim of the study.

CONCLUSION

In conclusion, using MOHO in activity-role requirement areas for individual centered interventions is beneficial. The results for residents of the Hope Houses were higher than for the institutional residents assessed in all areas. The Hope Houses provided the social participation of individuals. Individuals living in institutions have not been included in the society very much. And in individual-bcentered Ergotherapy applications, they were less successful than those in the Hope Houses.

Ergotherapy interventions improved the social participation of individuals in their natural environment, which was structured with activities that were significant and purposeful for the individuals in the fields of self-care, productivity, and leisure time, thereby increasing their quality of life using MOHO. Individuals with mental and spiritual problems should not only consider care activities, but should be integrated into society as active members.

Informed Consent

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Mine Uyanık;* ***Design:*** *Mine Uyanık;* ***Control/Supervision:*** *Ayşe Göktaş;* ***Data Collection and/or Processing:*** *Ayşe Göktaş;* ***Analysis and/or Interpretation:*** *Ayşe Göktaş;* ***Literature Review:*** *Ayşe Göktaş;* ***Writing the Article:*** *Ayşe Göktaş;* ***Critical Review:*** *Mine Uyanık;* ***References and Fundings:*** *Ayşe Göktaş;* ***Materials:*** *Ayşe Göktaş.*

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