EVALUATION OF MENTAL HEALTH OF AUTISM FAMILY BEFORE AND AFTER TREATMENT BASED ON SYSTEMIC COUNSELING

A.H. Montazeri Gahjavarestani, M.M. Badia Martin, J.M. Sanahuja Gavalda

1,2,3 Universitat Autònoma de Barcelona, Barcelona, Spain
Email: a.h.montazeri2016@gmail.com, mar.badia@uab.cat, josep.sanahuja@uab.cat

Abstract: Introduction: The purpose of this study was to investigate the effect of systemic counseling on the parents of families with autistic children.

Method: This study has been developed based on using a pretest/posttest design. The GHQ-28 test has been employed to assess mental health. Also, the T-test has been utilized to analyze the dataset.

Results: The results revealed that systemic counseling had a significant influence on improving family mental health (P < 0.05).

Conclusions: The outcomes demonstrated that the systemic counseling approach considerably affects the mental health of the autistic family. Thus, it can be taken into account as a preferred intervention to increase mental health in counseling and psychotherapy centers.

Keywords: Autism, Family Therapy, Mental Health, Systemic Family Therapy

I. Introduction

Generally, the study on the mental health of a person is one of the most vital characteristics of a human. There are many definitions in the context of mental health. According to the World Health Organization (WHO), mental health is defined as the full ability of individuals to play social, physical, and mental roles without a doubt. Mental health is not focused only on the absence of disease and physical and mental problems in individuals. It includes various aspects of individuals.

Mental illness affects at least 1 in 4 people during their lifetime. Also, everyone can experience mental health problems over time (1).

Social isolation and loneliness among young people (18-40 years), middle-aged people (41-64 years), and elderly people (65 years and older) are serious public health concerns in recent years. It is due to the strong association with cardiovascular disease. It is essential to develop and implement timely mental health care and mental healthcare training as part of the professional development activities (2). Promoting mental health can improve the quality of life and strengthen the foundation of the family.

In any society, if people pay adequate attention to the state of physical, mental, social, and cultural health and provide the necessary conditions for realizing a dynamics and healthy life, the people’s health in society guarantees in the coming years. Improving this issue can lead to the enhancement of the physical and mental health of people.

Life quality is defined as a person's sense of well-being that results from his/her satisfaction or dissatisfaction with significant aspects of his/her life (3). Recurrence of symptoms during the first few years after the disorder onset increases the likelihood of the disorder becoming chronic. However, appropriate family interventions can reduce the recurrence of symptoms, prolong the duration and effectiveness of the drug, and increase the performance of patients up to 24 months.
Caregivers (i.e., parents, grandparents, family members, and the family in question) play a principal role in shaping youth behavior through their parenting practices and emotional relationships. Several factors affect family functioning. These factors are comprised of parental psychological pathology, family conflict, relationship distance, and parenting skills (6). These issues get worse when it comes to autism. Autism spectrum disorder (ASD) is a neurodevelopmental disorder, which is significantly impaired by social interaction, communication, and behavioral patterns, and limited/repetitive interests and activities (7). According to the large-scale prevalence and surveillance studies, it is estimated that approximately 1-2% of the general population should be autistic. This value varies from country to country, age of assessment, and other criteria (8). These issues show that improving mental health is a priority. In the first step of the study, the authors encountered many approaches for counseling in this area. Among these approaches, systemic family therapy has been employed as one of the most substantial approaches for decades. Family therapy may be helpful in the presence of a family disorder as a component of depression (9). Thinking underlies all systemic approaches is the concept of "causality" (10). Interpersonal communication programs and couple communication training have positive effects on family performance and couple self-confidence.

II. Method

Procedure
This study revolves around the development of a methodology for obtaining the required dataset (i.e., pre-test/post-test) for the research. The statistical population of this study was parents of autistic students in the age range of 24 to 42 years in Iran. In this study, a total of 30 participants were selected as the sample. In this case, the random sampling method is employed as a sampling technique. Inclusion criteria for this study were to have at least one child with autism and Iranian citizenship. Also, numerous principles and considerations have prevailed for the participants in this study. These considerations consist of several items, including (I) the informed and voluntary consent of the participants in a situation where the participants express their understanding and consent to participate without any pre-investigation pressure, (II) the rights of the participants at any stage of the investigation, (III) non-disclosure of private information, and (VI) confidentiality of the analysis of the data.

Participants
The procedure has been coordinated by autism centers. In this case, a total of 60 members of the autism family were randomly identified. Everyone was first tested with GARS-3 to ensure that the child had autism. Finally, 30 members of the autism family were randomly selected for analyzing process. In this regard, all of them have been invited to a counseling center, and they were interviewed one by one. Then, they performed the GHQ-28 test for 15 minutes. Afterward, autism families were invited to a group counseling session based on systemic counseling. These sessions were held in five sessions, and each session was 60 minutes. At the end of the sessions, the GHQ-28 test was taken again from all participants.

III. Tools

GHQ-28
This questionnaire has been created by Goldberg in 1972. The purpose of this questionnaire was to detect psychiatric disorders in healthcare centers and various settings (11). The principal version of the questionnaire was comprised of 60 questions, and then the numbers of 28, 20, and
12 question forms were prepared. In the present study, the 28-question form of the questionnaire has been used for analyzing process. It contains four subscales, including physical symptoms, anxiety, depression, and dysfunction. Answers have been scored as follows: no way ‘0’, less than normal ‘1’, normal ‘2’, more than normal ‘3’, and much higher than usual ‘4’. Also, the maximum score of the subject is 84 (12). The 28-question form of the Goldberg and Hiller questionnaire has been designed by applying the factor analysis method to its long 60-question form. In this questionnaire, the questions examine the mental state of a person in the last month. Also, they consist of symptoms such as abnormal thoughts and feelings and the aspects of observable behavior that emphasize the situation here and now. In this case, the questionnaire begins with questions about physical symptoms (somatic symptoms) and continues with questions that raise most psychiatric symptoms. This questionnaire consists of four scales of seven questions. Indeed, questions 6-1 and question 19 are related to the physical symptoms scale, questions 13-7 are concerned with the anxiety and sleep disorder scale, and questions 27, 24-24, and 28 are relied on the disorder in social function scale, 18-14, 25, and 26 are dealt with the symptoms depression scale. In this study, the Likert scoring method has been used to score the questionnaire (13-14).

GARS-3
Limited, but compelling, researches have examined progressive muscle relaxation within group psychotherapy. Progressive muscle relaxation has been employed in outpatient and inpatient hospitals. Third-party rating scales can be applied to support diagnostic decision-making in ASD diagnostic evaluations. The Gilliam Autism Rating Scale-Third Edition is taken into account as one of these measures (15). The GARS-3 is a standardized norm-referenced instrument designed to assist the diagnosis of ASD. The GARS-3 is set to correspond to the DSM-5 diagnostic criteria. It was standardized by a sample of 1,859 individuals with ASD of 3 to 22 years. Internal consistency reliability coefficients exceed 0.85 and 0.93 for the subscales and autism indexes, respectively. Also, test-retest reliability coefficients exceed 0.80 and 0.90 for subscales and autism indexes, respectively. The correlations of the GARS-3 scores with those other well-known diagnostic tests for autism are large or very large in magnitude. Binary classification studies indicated that the GARS-3 could accurately discriminate between children with and without ASD (i.e., sensitivity = 0.97, specificity = 0.97, ROC/AUC = 0.93). Normative data (N = 1,859) have been collected in 2010 and 2011 (16).
In this questionnaire, depending on whether the autistic person can speak or not, you answer a series of questions, and then the probability of being autistic and the level of autism are determined.

IV. Interview
Finally, one of the most vital counseling tools is related to face-to-face interviews with all participants. This interview was conducted based on the criteria of systemic counseling to assess the mental health and the medical and family history of individuals. Clinical interviews can be performed in three ways, including unstructured, semistructured, and structured. Every approach has benefits and drawbacks, but the primary purpose of all three ways is to obtain accurate information to diagnose a DSM-IV-TR (17). The unstructured interviews consist of questions posed by the counselor with the client’s responses. Also, the counselor’s observations are recorded by the counselor. This type of interview is classified as unstructured. It is due to there is
no standardization for questioning or recording the client responses. In this case, the counselor is “entirely responsible for deciding what questions to ask, and how the resulting information is used in arriving at a diagnosis” (18).

Statistical population
Table 1 provides the breakdown of respondents in terms of age. According to the table, participants are divided into four age groups, and thus a frequency table is concluded. The highest percentage is in the age group of 30-35 years, indicating 43% of the respondents.

Table 1: Frequency distribution of the parent’s age of children

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>28-30</td>
<td>2</td>
</tr>
<tr>
<td>30-35</td>
<td>13</td>
</tr>
<tr>
<td>35-40</td>
<td>10</td>
</tr>
<tr>
<td>40-42</td>
<td>5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>30</td>
</tr>
</tbody>
</table>

Table 2 is the distribution of respondents based on their education. In this case, 13.3% (the highest percentage) of the respondents had high school certificates and master’s degrees.

Table 2: Abundant distribution of people’s education

<table>
<thead>
<tr>
<th>Education</th>
<th>Frequency</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School Certificate</td>
<td>4</td>
<td>13.3333</td>
<td></td>
</tr>
<tr>
<td>Associate Degree</td>
<td>9</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>12</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>4</td>
<td>13.3333</td>
<td></td>
</tr>
<tr>
<td>Doctor of Philosophy</td>
<td>1</td>
<td>3.3333</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

V. Results
In this study, the data have been categorized into two groups, including pre-consultation and post-consultation groups. Scoring has been performed using the Likert scale with the scores of 0, 1, 2, and 3 for the variables of physical health, anxiety, insomnia, social dysfunction, and depression, respectively. Since each of these variables is measured by seven issues, the score of each variable is ranged from 0 to 21. The general health score varies from 0 to 84.
A t-test has been applied to examine the variables between the two groups of pre-counseling and post-counseling.

Table 3: Comparing the group before and after the consultation

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>d.f.</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Health</td>
<td>5.246</td>
<td>57</td>
<td>0.000</td>
<td>3.54245</td>
<td>0.67530</td>
</tr>
<tr>
<td>Anxiety and insomnia</td>
<td>6.280</td>
<td>57</td>
<td>0.000</td>
<td>3.86216</td>
<td>0.61503</td>
</tr>
</tbody>
</table>
According to Table 3, the mean scores of the variables have been compared before and after the system consultation. According to the obtained significance (sig) level, except for the social dysfunction variable, all variables between the two groups are still significantly different. This issue indicated that counseling groups improved in terms of social performance (given that group members are the same before and after counseling). But the group under systemic counseling improves the situation, and it has a positive effect on the general mental health of the individual.

Table 4: The t-test results to compare the mean scores of general health variables

<table>
<thead>
<tr>
<th>GROUP</th>
<th>Average Before consultation</th>
<th>Standard Deviation Before consultation</th>
<th>Average After consultation</th>
<th>Standard Deviation After consultation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before consultation</td>
<td>6.3034</td>
<td>3.14339</td>
<td>2.7610</td>
<td>1.91759</td>
</tr>
<tr>
<td>After consultation</td>
<td>7.3448</td>
<td>2.45351</td>
<td>3.4827</td>
<td>2.26958</td>
</tr>
<tr>
<td>Anxiety and insomnia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before consultation</td>
<td>7.5179</td>
<td>2.73348</td>
<td>6.1493</td>
<td>2.92051</td>
</tr>
<tr>
<td>After consultation</td>
<td>8.4643</td>
<td>4.84181</td>
<td>2.7241</td>
<td>3.88124</td>
</tr>
<tr>
<td>Social dysfunction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before consultation</td>
<td>26.7250</td>
<td>8.34166</td>
<td>15.1255</td>
<td>6.46891</td>
</tr>
<tr>
<td>After consultation</td>
<td>27.4055</td>
<td>9.48636</td>
<td>15.8425</td>
<td>6.71846</td>
</tr>
</tbody>
</table>

In Table 4, five t-tests have been performed to compare the variables of physical health, anxiety and insomnia, social dysfunction, and depression. Also, in the last row of the table, a t-test has been carried out to sum these variables to gain general health. As shown in the sig column, all p-values are less than 0.05. It means that the difference between scores in all variables before and after counseling is significant. It is essential to note that if sig or p-value in t-test is less than 0.05, it reveals that the mean difference is significant. Using Table 4 and the obtained averages, it is concluded that the general health variables and the general public health variable before and after the consultation are significantly different. Also, these variables show a better situation after the consultation.
VI. Discussion

Mental health is the ability to communicate harmoniously and in harmony with others, change and improve the free and social environment, and resolve personal conflicts and inclinations in a rational, fair, and suitable manner. Mental health is the adaptation of a person to the world around him/her as much as possible. Thus, it causes happiness, useful, and effective perception in full.

Systemic therapists have repeatedly observed that a reduction in psychological damage in a family member often leads to an increase in symptoms in another member. Trauma is not primarily an interpersonal problem in a family member. But it is an interactive process between family members. If a family is threatened, it can move toward balance through strange behaviors, psychosis, or other pathological behaviors. Also, the functioning of the family is disrupted by breaking the rules of the relationship. Indeed, relationship laws provide a stable structure for family functioning. The rules of family relationships can noticeably be discerned through family communication patterns. In this regard, several items are described, including who communicates with whom, how they communicate, and how the patterns of communication form in the family.

The present study is focused on assessing the mental health of autistic families before and after counseling. The evidence base for systemic treatment with child-centered problems has grown significantly in comparison with the previous version of this study (20). As Friedman argued (21), it has been recognized that patient care can be effective against the consequences such as depression, anxiety, stress, poor quality of life, family conflicts, social isolation, and reduced mental health. It was reported that parents of children with ASD were disturbed. They experience many of those, which are intertwined with the sources of parental stress. Also, they prevent desirable interaction (22), while their participation in the treatment process is very influential in the recovery of a child with autism (23). To the best knowledge of the authors, no research in the literature has examined the effectiveness of systemic counseling on the functioning of the autistic family.

This study is unique in this area. However, the results of the study performed by Brahman (1984) showed that the participation of couples in interpersonal communication classes (ICP) indirectly improves family relationships (24). In 2020, Montazeri et al. demonstrated that counseling and its methods considerably affect the improvement of the quality of life (25).

VII. Limitations

The principal limitation was the funding debate so that this study is limited to 30 participants.

VIII. Conclusion

This study demonstrated that mental health could be achieved by systemic counseling and timely planning for all family members. However, this process may take longer times in some families. This study and similar studies showed that families need ongoing programs to develop mental health and communicate effectively with each other. By examining all the considered indicators, family issues can be pursued in the discussion of mental health. It was concluded that we could play a vital role in improving people's mental health. This goal can be reached by identifying family problems through a child with autism and other possible family problems with other members.

www.turkjphysiotherrehabil.org
## Appendix

### Schedule systemic consultation sessions

<table>
<thead>
<tr>
<th>Meetings</th>
<th>Target</th>
<th>Content</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>First session</td>
<td>Introducing members</td>
<td>State the rules and objectives of the first session</td>
<td>Write your characteristics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Revive a sense of commitment to continue meetings</td>
<td></td>
</tr>
<tr>
<td>Second session</td>
<td>Recognizing the communication boundaries of the second session</td>
<td>Discuss customs, unspoken and Inherited unconscious roles in the family</td>
<td>Draw a family genealogy Illustrated for three generations ago</td>
</tr>
<tr>
<td>Third session</td>
<td>Identifying interpretations and separating them from reality</td>
<td>Distinguish between logical and irrational beliefs in relation to others</td>
<td>Express your feelings, thoughts, and behavior about the experienced event</td>
</tr>
<tr>
<td>Fourth Session</td>
<td>Teaching special communication skills &amp;Examining choices and accepting responsibility</td>
<td>Teach how to comment on others and promote interpersonal trust &amp; A comprehensive review of possible choices and responsibility training</td>
<td>Take note of your communication with others and interpret it</td>
</tr>
<tr>
<td>Fifth meeting</td>
<td>Deep self-awareness of members</td>
<td>Awareness of your positive and negative characteristics, accepting them, and loving yourself</td>
<td>A story about who I am and what I should be and examine my feelings</td>
</tr>
</tbody>
</table>

### Questions in the face to face interview

- Have you ever consulted a consultant?
- How do you feel about being here?
- How old are you?
- Do you have a job?
- How many children do you have?
- How many autistic children do you have at home?
- Do you have a history of remarriage?
- Do you live with your spouse?
- Have you been treated before?
- Do you have any specific symptoms?
- Do you have a history of taking medication? Are you currently taking medication?
- Do you have a family history of mental illness?
- How is your life at home?
- How are you emotionally and intimately with your spouse?
- Have you ever considered suicide?
- By completing the questionnaire, which symptoms did you feel?
References

[1]. 2013 et al., Whiteford (1).


[10]. Demographic characteristics of the normative sample are representative of 2011 U.S. Census statistics. (16)


[14]. GARS-3; Gilliam, 2014. (15)


[17]. James O. Prochaska, Systems of Psychotherapy. (17)
