A COMPARATIVE STUDY OF THE DEFICIENCY OF SOME THYROID HORMONES FOR AUTISM IN BOTH MALES AND FEMALES AND ITS RELATIONSHIP TO THE SEVERITY OF THE DISEASE

(A COMPARATIVE STUDY OF DEFICIENCY OF SOME THYROID HORMONES FOR AUTISM IN BOTH MALES AND FEMALES AND ITS RELATIONSHIP TO THE SEVERITY OF THE DISEASE)

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ABSTRACT

The study included five chapters where the research problem included that the importance of thyroid hormones lies in being the regulation of the body's functions, as the increase or decrease of these human hormones in the thyroid gland leads to disorders in the body, and leads to hypothyroidism. Hormones for the appearance of signs of retardation on mental atrophy and damage to nerve cells in the cerebral cortex, where the researcher felt going to this problem and searching to find a treatment for satisfaction that may comfort patients with autism, and HD P t know the relationship between thyroid hormones deficiency and autism. The presence of the researcher, and she reacted to the relationship between thyroid hormone deficiency and autism.

As for the research sample, it reached (30) autistic children, from whom (12) were excluded for their participation in the exploratory experiment. Then the researcher conducted a statistical experiment on a sample of the research community, then the main experiment that was conducted on this research sample, and the researcher used statistical means (percentage, arithmetic mean, standard deviation, test (p)) and the researcher concluded from the results. Obtained from the research sample

- The inverse relationship between T3, T4 and the TSH hormones.
- The lower the level of the hormones T3 and T4, the more severe the autism.
- A plus TSH has been linked to autism.
- Hormones have a big impact on autism.
- Males and females do not differ in symptoms.

The researchers recommended the following:

- Providing autistic patients to specialists to reduce the time and effort in rehabilitating the patient.
- Paying attention to nutrition that leads to the completion or assistance in making hormones such as nuts, eggs, dairy products, chicken and fish, as they are among the food sources that help in the regulation of thyroid hormones.
- Not neglecting autistic people through periodic checks of functional devices such as the endocrine system.
- Conducting similar research and studies.

Introduction and the importance of research

Autism or autism is a common disease in the modern era, which has spread in recent times, to which newborns are vulnerable, and the main causes of this disease have not been identified. Some see it as genetic causes, some see it as social reasons, and others see it as health reasons, and the main reason has not been determined exactly. For him, it is a scientific assumption that all disturbances that occur inside the human body are the result of the difference in the natural concentrations of their components. The valvular gland system is one of the most important components that the concentrations of its hormonal products must be normal because of their importance in maintaining the balance of the body and its internal and external effectiveness. The thyroid gland is one of the glands responsible for secreting hormones in the body, and it is located in the front of the neck below the vocal cords, and resembles a butterfly in shape, and the thyroid gland consists of two parts, one remaining and the other remaining, and they meet to close the
It is worth noting that the weight of the thyroid gland ranges between 20 and 60 grams, and the thyroid gland mainly controls the growth and attainment of the body and the speed of metabolism, which represents the speed of energy consumption in the body, as well as controlling breathing processes, heart rate, central nervous system, peripheral nervous system, weight, muscle strength, menstrual cycle, body temperature, cholesterol levels and speed of Intestinal digestion of food and other functions performed by the thyroid gland. The thyroid gland secretes hormones and travels in the blood to reach nearly all thyroid cells. The body, and the body produces more of these hormones when energy is needed, so how can that be when feeling or during pregnancy, among these cold hormones secreted by the thyroid gland thyroid hormone, and a hormone called thyroid hormone tri-iodine T3, where the thyroid hormone is the hormone The main hormone secreted by the thyroid gland reaches the body tissues through the bloodstream and is the most active hormone in the body and is responsible for basic metabolic activity. This hormone is present in the bloodstream and binds to a protein called thyroid hormone-related globulin, so autism is divided in terms of the severity of symptoms into three types: simple, moderate and severe, and therefore the severity of the infection cannot be determined. The patient has been exposed to several questions and analyzes, and then the answers are collected to obtain results that enable the patient to know the severity of the injury, as the severity of the disease cannot be determined after exposure to the tests, hence the importance of research to study the deficiency of some thyroid hormones that perform the functions of the body and the extent of their association with autism.

Research problem

Thyroid hormones have real importance in that they regulate the functions of the human body, as an increase or decrease in these hormones in the thyroid gland leads to disturbances in the body, and the deficiency of thyroid hormones leads to the appearance of signs of mental retardation of atrophy and damage to the nerve cells of the cerebral cortex, where the researchers decided to go In this research problem, the desire to find a cure might reduce the impact of the disease on autistic patients. The researchers formulated the research problem in the form of a question

Which is the lack of thyroid hormones related to autism?

Research objectives

- Identify the relationship between lack of thyroid hormones and autism.
- Learn about autism in sexes, males and females.

Research hypotheses

The existence of a relationship between a lack of thyroid hormones and autism

Research Areas

The human domain: registered autism patients have doctors in trouble in Maysan.
Spatial domain: laboratories of specialized medical clinics.
Date range: 11/5/2018 and above 1/5/2019

Research methodology and procedures

Research Methodology

The researcher said that the descriptive approach was deliberately chosen by means of a comparative study, "it means knowing similarities and differences in order to reveal any factors of circumstances that accompany events, paths, processes, or practices defined by the fact that there is a relationship".

The research sample

One of the important criteria in scientific research is the method of choosing the same research. Therefore, my sister was seen in the same way as the research in Alaa Hobby, "because it consists of certain vocabulary representing a healthy society" ([2]) where the sample was selected for research and included (48) children with autism by (6) males and (6) females. That is, (44.44%) of...
the research community and the adult population, according to Maysan Health Directorate statistics, 108 suffer from standardization.

**Methods of gathering information, devices and tools used**

1. Arab and foreign scientific sources.
2. International Information Network (Internet)
3. Auxiliary work team(*)
4. Medical Team Assistant(*)
5. Plastic injection to draw blood
6. A special box for transporting serum samples
7. A medical bag to store the test tubes for blood samples
8. Sterile medical cotton
9. Adhesive wounds
10. Acroma device.

**Research variables**

**Determine the search variables**

And after reviewing the sources and research specialized in the field of autism and the extent of the autism researcher’s access to schools and institutes and the knowledge that has been resolved in this field, the researcher determined that the variables are under study after taking the expert’s opinion. The doctors.

**Tests used in research**

**Thyroid hormones**

- **Test name:** Thyroid Hormones Test
- **The purpose of the test:** To detect the level of thyroid hormones.
- **Devices used:** Ichroma device as shown in the picture

![Ichroma device](image)

**Explain your color**

**Test specifications**

Upon receiving the patient, we take a blood sample from the patient, then attach the patient's hand to Lornica and sterilize the patient's hand (the withdrawal area). Then we draw enough samples into a gel tube, wait about 5-10 minutes, and place it in the Center Fusion Centrifuge. We wait 4 minutes for the blood to separate.

**T3 test**

1. Take 75 microns of serum and put it into the tube to make a T3.
2. Take 75 microns from the labeled box (BFR) and place it in the BT3 tube and then mix both materials.
3. Wait for 8 minutes at room temperature
4. Take 75 μm B.T3 and place it on CatrageT3
5. After that, we wait 8 minutes for catheterization at room temperature and read the device to make hormones with bT3

**T4 test**

1. Take 75 microns of serum and put it in the special tube T4 and mix 10 times
2. We take 75 microns from my PVR packet, add it to the mixture, mix 10 times and leave it for 8 minutes
3. Take 75 microns of the mixture in the special tray T4 and wait for 8 minutes then read it in the device with your zip and read it T4.

**Test**

1. Take 150 microns of serum and put it in the special tube
2. Take 75 microns from the canister to do this, put it in the tube and mix it 10 times.
3. Take 75 microns of the tube mixed with both materials and place it in the catheter.
4. Wait for 12 minutes in the casserole dish at room temperature and read with the device.

**Exploratory experience**

It is "a practical test for the researcher to find himself on the negatives and positives that he encounters while taking the tests in order to avoid them in the future." (3) The researcher must conduct an experiment on the exploration day 3/10/2019 on the number of infected adults (8) children.

Where the aim of conducting the exploratory experiment was to know the following:
1. Ensure the validity of the tools and devices used.
2. Knowing the time taken for the test.
3. Knowing the adequacy of the supporting work team.
4. Determine the organizational and administrative requirements for carrying out the test.
5. Knowing the difficulties that the researcher may face while conducting the main experiment and correcting them.

**Key experience**

After completing the exploratory experiment and making sure of the validity and validity of the tests, the researcher proceeded to conduct laboratory examinations for the sample and adults (48), where the researcher conducted the tests in the specialized doctor's laboratory, where the examination was conducted over the days of the monthly periodic review of the specialist doctor, where the examinations were completed over the course of four Days from the first day, Saturday 3/16/2019, until today, the same search was carried out, where there were different numbers on the days when the tests were conducted, as the tests were conducted under the supervision of specialists in that field examination. Where the sample was distributed into four groups for each disease category, 6 males and 6 females, and they were as follows:

<table>
<thead>
<tr>
<th>Categories of disease</th>
<th>Males</th>
<th>Female</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>light</td>
<td>6</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Average</td>
<td>6</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Intense</td>
<td>6</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>very strong</td>
<td>6</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>

The severity of the disease (categories) was determined through the data available to the specialist physician.

**Statistical methods**

The researcher T used the appropriate statistical methods for the research topic and was according to the statistical system of the bag (spss)
- Presentation, analysis and discussion of test results
- Presentation and analysis of the results of adsorption tests for the three research groups:
- Presentation and analysis of the results of the descriptive statistics and analysis of variance (F) for the three absorption groups tests for the variables Search:
- Presentation and analysis of the results of adsorption tests, the three groups in T3 change:

Table (1) Circles and standard deviations show the three absorption totals in the T3 variant

<table>
<thead>
<tr>
<th>standard deviation</th>
<th>Arithmetic mean</th>
<th>measuring unit</th>
<th>the exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,08</td>
<td>1,19</td>
<td>Degree</td>
<td>light</td>
</tr>
</tbody>
</table>
View and analyze the results of the analysis of variance and the (F) value. There are no tests for the three adsorption groups in m change of T3:

Table (2)

<table>
<thead>
<tr>
<th>Indication level</th>
<th>Values F Calculated</th>
<th>Average squares of differences</th>
<th>Degree of freedom</th>
<th>Sum of squares of differences</th>
<th>The source of the contrast</th>
</tr>
</thead>
<tbody>
<tr>
<td>00, 0</td>
<td>41, 262</td>
<td>08, 0</td>
<td>3</td>
<td>32, 3</td>
<td>Between totals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>00, 0</td>
<td>20</td>
<td>11, 1</td>
<td>Inside totals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23</td>
<td>41, 3</td>
<td></td>
<td>The grand total</td>
</tr>
</tbody>
</table>

It shows the results of the analysis of variance, the calculated and tabulated (F) value, and the level of significance of the differences between the three absorption groups in the m change T3:

Table (2) shows that the differences of sum Boxes reached Ben's totals (3, 32) and within the sums it reached (1, 11) years and the total reached (3, 41) and that the average square data differences were between the sums (0, 08) and the internal groupings (0, 00) and to extract the calculated P value of (262, 41) under the degree of freedom (3) and the level of significance (0.00) which is less than (0.05), which indicates the existence of a significant difference, and therefore the (LSD) value must be extracted the lowest significant level of the difference It is of importance (0, 05) and compare the arithmetic difference values of the three M Jamia circuits, as shown in Table (3)

Table (3) Shows the significant differences between the arithmetic mean of the t3 test for the three groups and the value of the least significant difference (LSD) of the significance level (0, 05)

<table>
<thead>
<tr>
<th>LSD</th>
<th>very strong</th>
<th>Intense</th>
<th>Average</th>
<th>light</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>438, 0</td>
<td>0,25</td>
<td>0,74</td>
<td>0,94</td>
<td>1,19</td>
<td>Their averages</td>
</tr>
<tr>
<td></td>
<td>0,94</td>
<td>0,72</td>
<td>24, 0</td>
<td>-</td>
<td>Light</td>
</tr>
<tr>
<td></td>
<td>0,69</td>
<td>0,47</td>
<td>-</td>
<td>-</td>
<td>Average</td>
</tr>
<tr>
<td></td>
<td>0,22</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Intense</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>very strong</td>
</tr>
</tbody>
</table>

Table No. (3) Shows the results of the least significant differences (LSD) for the level of significance (0, 05), that is, what it reached (0, 438). Benefit from the light group compared to two high-risk groups, and there are statistically significant differences in favor of the mean of the group compared to two strong and very severe groups, while there is a non-significant difference between the light and medium group, and the group appeared between the two severe and very severe groups, and this means that the members of the light group They are the lowest of the four experimental groups, as their arithmetic mean is greater than the rest of the mediators.

Presentation and analysis of the results of adsorption tests for the three groups in the T4 variable

Table (4) Circles and standard deviations show the three absorption totals in the T4 variant

<table>
<thead>
<tr>
<th>standard deviation</th>
<th>Arithmetic mean</th>
<th>measuring unit</th>
<th>the exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,73</td>
<td>63,08</td>
<td>Degree</td>
<td>Light</td>
</tr>
<tr>
<td>67, 0</td>
<td>54,75</td>
<td>Degree</td>
<td>Average</td>
</tr>
<tr>
<td>1,47</td>
<td>19,66</td>
<td>Degree</td>
<td>Intense</td>
</tr>
<tr>
<td>1,15</td>
<td>6,41</td>
<td>Degree</td>
<td>very strong</td>
</tr>
</tbody>
</table>
View and analyze the results of analysis of variance and value (F): Table (5): There are no tests for the three adsorption groups in m T4 change.

<table>
<thead>
<tr>
<th>Indication level</th>
<th>Values F Calculated</th>
<th>Average squares of differences</th>
<th>Degree of freedom</th>
<th>Sum of squares of differences</th>
<th>The source of the contrast</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0 , 0</td>
<td>7, 158</td>
<td>03, 4454</td>
<td>3</td>
<td>11, 13362</td>
<td>Between totals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>850, 2</td>
<td>20</td>
<td>12, 56</td>
<td>Inside totals</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>23</td>
<td>24, 13418</td>
<td>The grand total</td>
</tr>
</tbody>
</table>

Displays the results of the analysis of variance, the calculated and tabulated (F) value, and the level of significance of the differences between the three adsorption groups in m change T4:

Table (5) shows the sum of the squares of the differences in the totals of Bin Balag (13362, 11). The internal totals amounted to (56, 12) years and a total of (13418, 24) and that the average differences of the square data were between the totals (4454, 03) and within the totals (2, 80) and the extraction value is calculated at (158, 7) below the degree of freedom (3) and the level of significance (0.00) which is less than (0.05), which indicates the significant difference, and therefore the (LSD) value should be extracted less significant by the level of significance (0, 05) and compare the arithmetic difference values for the three Jamia circuits, as shown in Table.

Table (6) Shows the significant differences between the arithmetic mean of the t4 test for the three groups and the value of the least significant difference (LSD) of the significance level (0, 05)

<table>
<thead>
<tr>
<th>LSD</th>
<th>very strong</th>
<th>Intense</th>
<th>Average</th>
<th>light</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>18, 26</td>
<td>6,41</td>
<td>19,66</td>
<td>54,75</td>
<td>63,08</td>
<td>Their averages</td>
</tr>
<tr>
<td></td>
<td>56,66</td>
<td>43,41</td>
<td>33,8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>48,33</td>
<td>35,08</td>
<td></td>
<td></td>
<td>Average</td>
</tr>
<tr>
<td></td>
<td>13,25</td>
<td></td>
<td>Intense</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>very strong</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table No. (6) Shows the results of the least significant differences (LSD)) the level of significance (0, 05), which has ever been reached (26, 18). For the group. Benefit from the light group compared to two high-risk groups, as well as there are statistically significant differences in favor of the mean of the group compared to two strong and very severe groups, while a non-significant difference between the light and the moderate group also appeared between the two severe and very severe groups, and this means that the members of the light group are the least of the groups The four experimental parameters, as its arithmetic mean is greater than the rest of the mediators.

View and analyze the results of the three aggregates adsorption tests in the TSH change meter:
Table (7) shows the circuits and standard deviations of the three absorption assemblies in a variable tsh

<table>
<thead>
<tr>
<th>standard deviation</th>
<th>Arithmetic mean</th>
<th>measuring unit</th>
<th>the exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,05</td>
<td>4,43</td>
<td>Degree</td>
<td>light</td>
</tr>
<tr>
<td>10, 0</td>
<td>5,25</td>
<td>Degree</td>
<td>Average</td>
</tr>
<tr>
<td>0,71</td>
<td>7,45</td>
<td>Degree</td>
<td>Intense</td>
</tr>
<tr>
<td>0,87</td>
<td>9,53</td>
<td>Degree</td>
<td>very strong</td>
</tr>
</tbody>
</table>

View and analyze the results of analysis of variance and value (F). There are no tests for the three adsorption groups in m tsh change: Table (8)
It shows the results of the analysis of variance, the calculated and tabulated (F) value, and the level of significance of the differences between the three absorption groups in m change tsh:

Table (8) shows the sum of the squares of the differences in the totals of Bin Balag (94, 68). The internal totals were (6, 47) years and a total of (101, 156) and that the average differences of the square data were between the totals (31, 56) and within the totals. (0, 32) and extracting the value calculated at (97, 49) under the degree of freedom (3) and the level of significance reached (0.00) which is from (0.05), which indicates the significant difference, and therefore the value of (LSD) must be extracted with a less significant level of difference (0.05) and compare the three values of the mathematical differences of the M Jamia circuits, as shown in Table

Table (9) ethical circles shows the differences between tsh accounts (for the three groups and the minimum value of the significant difference (LSD) to the level of significance (0, 05)

<table>
<thead>
<tr>
<th>LSD</th>
<th>very strong</th>
<th>Intense</th>
<th>Average</th>
<th>light</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>822</td>
<td>2</td>
<td>9.53</td>
<td>7.45</td>
<td>5.25</td>
<td>4.43</td>
</tr>
<tr>
<td></td>
<td>5.09</td>
<td>3.01</td>
<td>82.0</td>
<td>-</td>
<td>Light</td>
</tr>
<tr>
<td></td>
<td>4.27</td>
<td>2.19</td>
<td>-</td>
<td>-</td>
<td>Average</td>
</tr>
<tr>
<td></td>
<td>2.08</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Intense</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>very strong</td>
</tr>
</tbody>
</table>

Table No. (9) Shows the results of the least significant differences (LSD)) the level of significance (0, 05) that has ever been reached (2, 822) and after comparing them with the arithmetic differences of circles between two groups separately, the difference appeared significant for the group. Benefiting from the light group compared to two extreme groups, as well as there are statistically significant differences in favor of the mean of the group compared to the very extreme group, while a slight difference appeared between the light and moderate group as well as between the medium and severe groups, as well as between the severe and very severe, and this means that the group members The light ones are the least of the four experimental groups because their mean is less than the rest of the mediators.

**Discussing the test results for the three research groups**

Through what emerged from the results of tables (1), (2) and (3) for the hormones T3, T4 and TSH, it was found that there were statistically significant differences in hormones between groups, and the differences were inverse between T3 - T4 and TSH when the percentage of the stimulating hormone decreased. Thyroid has increased the other and vice versa, and the researcher attributes that to what Jabbar Rahima Al-Kaabi referred to, who believes that "TSH is a thyroid hormone, and it is secreted from the front of the pituitary gland on the orders of the thyroid gland hormone, which works to stimulate the growth of the gland." Thyroid hormones and the secretion of hormones from them, the relationship between this hormone and thyroid hormone is a close relationship, when the secretion of thyroid hormones increases the secretion of TSH, which in turn stimulates the thyroid gland to secrete these hormones, and when the level of thyroid hormones rises, this leads to the inhibition of their secretion (4).

The results showed that the relationship between the severity of the infection and the L-T3-T4 A hormones is positive, so the more the infection was severe, the severe autism there was, there was a severe lack of acute hormones, and through the previous results it was found that there is a clear relationship that cannot be neglected between the deficiency. Of the thyroid hormones and the severity of the disease, the researcher attributes this to what was confirmed by Wadi Ali Ahmed and the private Ahmed Al-Janabi, “The thyroid gland is one of the important glands because of the negative effects that its disorder leaves on the human being. They cannot overcome it and
Affect it physically and psychologically, and the situation reaches it even from a social point of view. Also. (5)

Conclusions and recommendations

Conclusions
1. The inverse relationship between hormones T3 and T4 and the TSH.
2. The lower the percentage of hormones T3 and T4 the severity of autism increased.
3. Increase TSH it has a relationship with autism.
4. Hormones have a great impact on autism.
5. Male and female there are no difference between them in symptoms.

Recommendations
1. Presenting people with autism to specialists in order to reduce the time and effort in rehabilitating the patient.
2. Pay attention to nutrition that leads to the completion or help of hormonal action, such as nuts, eggs, dairy, chicken and fish, as they are among the food sources that help in the regulation of thyroid hormones.
3. Not to neglect the autistic population through periodic checks for functional devices such as the endocrine system.
4. Conduct research studies and similar.

REFERENCES
2. Saad Ali Muslim Al-Tayeb 2012: The effect of physical exertion of varying intensity on the level of concentration of some thyroid and adrenal hormones in the blood plasma of athletes, Ph.D., Alexandria University.

Margins
   - Plug included (1)
   - Appendix No. (2)
   - Appendix No. (3)