

## Psychological Problems and Coping Patterns among Mothers of Children with Thalassemia

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### Abstract

**Background:** Mothers of children with thalassemia usually experience many psychological problems which negatively affect not only all quality of life domains but also, their coping patterns towards their children illness. **Aim:** study purpose is to evaluate the psychological status issues and coping mechanisms among moms of children diagnosed with thalassemia. **Research design:** This study will be conducted with a descriptive design. **Setting:** The blood transfusion facility at the blood disorders department of Benha Specialized Children Hospital in Qaliubiya Governorate is where the study was carried out. **Sample:** For the aforementioned scenario, 100 mothers of thalassemia children were gathered as a purposeful sample. **Tools:** To collect data, three instruments were employed; **1<sup>st</sup> tool:** A sheet of structured Interviewing Questionnaire, **2<sup>nd</sup> tool:** Scale of Depression, Anxiety and Stress (DASS) and **3<sup>rd</sup> tool:** Scale of Coping patterns. **Results:** showed that higher than half of the moms who were tested with moderate levels of anxiety, stress, and depression. Additionally, higher than half of them displayed poor overall coping strategies. **Conclusion:** According to the findings, among the mothers who were tested, a highly statistically significant positive link is between overall depression, anxiety, and stress. While a highly statistically significant inverse relationship is between the mothers' overall coping strategies and their levels of depression, anxiety, and stress. **Recommendations:** to lessen their psychological issues and improve their coping skills, all moms of children with thalassemia should participate in a psycho-educational training program.

**Key words:** Psychological Problems, Coping patterns, Mothers, children, Thalassemia.

### 1. Introduction

A juvenile deficit in the synthesis of one or more polypeptide chains of globin results in the chronic blood disorder known as thalassemia. It's characterized by defective production of hemoglobin and increased red blood cell oxidation. This deficiency results in improper red blood cell formation, which ultimately leads to anemia, the defining sign of thalassemia. Moreover, the usual treatment for children with thalassemia consists of regular blood transfusions may lead to tissue iron excess. Children on hyper transfusion regimes will maintain normal growth up to puberty [1].

Mothers of children with thalassemia undergo a significant psychological impact, causing emotional burden, hopelessness, and difficulty with social integration. They experience negative thoughts about their life, guilt, increased anxiety and low self-esteem. They have severe psychosocial problems due to their incapacity to handle a difficult issue, which worsens ties amongst family members, increased marginalization and isolation. The mothers of children diagnosed with thalassemia elaborate a painful perception of the disease and show impairment in domains of quality of life especially physical health, psychological health [2].

Coping patterns are thought to be a response to lessen the physical, mental, and emotional weight brought on by stressful life events. Coping patterns are described as continuously altering cognitive and behavioral attempts to deal with certain demands, either internal or external, that are significantly greater than the individual's existing capacities. In order to cope better with stressful situations like chronic and life-threatening diseases, mothers of afflicted children should focus on suitable

coping patterns (adaptive behaviors). These techniques are essential for maintaining one's mental health [3].

Adaptive behaviors include the activities and responses moms of children with thalassemia do to manage and regulate psychological issues like stress, worry, and sadness that are brought on by the condition. Particularly for those households, it is necessary to encourage these habits. Better adaptation can enhance a sick child's quality of life; adaptive behaviors are efficient means of controlling and reducing the effects of illnesses, and they also assist mothers in bettering their own quality of life. Mothers of afflicted children with thalassemia most frequently increase their faith in God, participate in more activities for fun and social interaction, and communicate with their partners and family members [4].

#### Significance of the study:-

A report issued from The World Health Organization (WHO), was that less than 5.2% of people globally were thalassemia carriers, that roughly 1.1% of parents globally were at risk of having children with a disorder in hemoglobin level, and that 2.7 per 1,000 conceptions were affected. A category of hereditary hemoglobin production diseases known as thalassemia are characterized by mild to severe hypochromic and microcytic anemia. Children with thalassemia often live with a chronic condition in high-income countries, whereas those in developing ones typically perish away before they age five [5].

**In Egypt,** The most prevalent kind of persistent hemolytic anemia is thalassemia. The carrier rate ranges from 5.5% to 9%, and it is predicted that 1,000 to 1.5 million of live births annually result in having thalassemia [6]. According to statistical records of Benha

specialized children hospital, the number of affected children with thalassemia and unit within 1month-18 years was (322) cases in 2021.

#### **Aim of the study**

Study purpose is evaluation of the psychological status and coping mechanisms among mothers of children with thalassemia.

#### **Research questions:**

1. What psychological issues do mothers who have children diagnosed with thalassemia?
2. What coping patterns are employed by mothers of children diagnosed with thalassemia?
3. Is there a link between psychological issues and coping methods in mothers who have thalassemia children?

## **2. Subject and Methods**

The present study's subject and techniques were created using the four basic designs listed below:-

- 1- Technical design
- 2- Operational design
- 3- Administrative design
- 4- Statistical design

#### **1-Technical design:**

The technical design comprises the research design, research setting, research methodology, and data gathering instruments.

#### **A-Research design:**

This study was done by using a descriptive design.

#### **B-Research Setting:**

The study was conducted at blood transfusion unit in blood diseases department at Benha specialized children hospital, Benha city, Qaliubiya Governorate.

#### **C-Research Subject:-**

#### **Sample size:-**

A sample size has been determined using the following equation in light of the study of literature that evaluated the same result and discovered significant differences:

$$n = (z^2 \times p \times q) / D^2 \text{ At power 80\% and ci 95\%}$$

The calculated sample was 100 mothers of children with thalassemia.

#### **Sampling Type:**

At the aforementioned location, 100 mothers of thalassemia children were gathered as a purposeful sample and were drawn by using the inclusion and exclusion criteria mentioned below:-

#### **Inclusion criteria**

- 1-Mothers who have thalassic children.
- 2-Mothers whose affected children were aged from 1 month to 18 years.
- 3-Mothers who want to take part in this research.

#### **Exclusion criteria**

1. Mothers of children who suffer from various blood disorders.
2. Mothers with a history of neurological or psychiatric conditions.
3. Mothers who are visually or aurally impaired.

#### **Tools of data collection:-**

In this investigation, three instruments were employed:-

**Tool (I) - A sheet of well-structured interviewing questionnaire:** After studying pertinent literature, the researcher created it under the supervision of supervisors, and it consists of two parts:

**Part 1:** It was concerned with the socio-demographic characteristics of mothers who studied and their affected children such as (age, educational level, occupation, marital status, history from any chronic disease, how many children do you have, etc.

**Part 2:** It was concerned with clinical data of the affected children e.g. (duration of disease, the type of thalassemia that your child suffers from, previous hospital admission, etc.

#### **Tool (II): Scale of Depression, Anxiety and Stress (DASS):**

The researcher modified a scale created by [7]. The DASS, which was used to evaluate psychological issues among mothers of children with thalassemia, has three subscales: stress, depression, and anxiety. Each subscale has seven items (7 items). The DASS scale consists of a total of 21 items, and the total score is calculated using the scores from three subscales of items that were rated on a four-point scale: 0 is for "didn't apply to me at all," 1 is for "applied to me to some extent," 2 is for "applied to me to a considerable degree," and 3 is for "applied to me most of the time.

**The scores totally equal 63 points, the higher score, the worst of the DASS:-**

	Depression	Anxiety	Stress
<b>Normal</b>	Is 0-9	Is 0-7	Is 0-14
<b>Mild</b>	Is 10-13	Is 8-9	Is 15-18
<b>Moderate</b>	Is 14-20	Is 10-14	Is 19-25
<b>Severe</b>	Is 21 and more	Is 15 and more	Is 26 and more

#### **Tool (III); - Scale for measuring coping patterns:**

This scale was created by [8] and customized by the researcher. It comprises two subscales: the Emotional-Oriented Coping Patterns Scale (25 questions) and the Problem-Oriented Coping Scale, which are intended to evaluate coping strategies employed by mothers of children with thalassemia (15items). The coping patterns scale has a total of 40 items, and each item is rated on a range from 0 to 3 (where 0 is never, 1 is occasionally, 2 is frequently, and 3 is always). **The total scoring system** of the coping patterns will be summed, calculated and its classification is in three levels as following:-

1. Methods < 50 % (<42 degrees): Low coping patterns.
2. Methods 50-<70 % (42-<58 degree): Moderate coping patterns.
3. Methods ≥70 % (≥58 degrees): High coping patterns.

#### **2- Operational Design:-**

Preparatory phase, Phase of validity and reliability of tools, pilot research, fieldwork, and ethical issues were all included in the operational design of this study.

#### **Preparatory phase:-**

Using books, papers, the internet, and magazines, this phase involved analyzing relevant historical, current, local, and global literatures as well as theoretical understanding of many elements of the research in order to build techniques for data collecting. The instruments for acquiring data for the study were created as a consequence. The researcher went to the chosen location at this step to get to know the staff and the study surroundings. The development of the instruments was guided by supervisors, and the comments of specialists were taken into consideration.

#### **Validity and Reliability:-**

##### **Validity of tools:-**

Must fulfil the requirements for the reliability and value of the study's data gathering instruments. Five professionals in the specialty of psychiatric and mental health nursing evaluated the instruments. In order to make the Depression, Anxiety, and Stress Scale and the Coping Patterns Scale simpler and more intelligible for the research sample, certain lines were rephrased in the English and Arabic translation while others were rearranged.

##### **Reliability of tools:-**

The researcher used reliability to verify the tools' internal consistency by administering the same participants under comparable circumstances on one or more occasions. Results of tests that were linked were compared (test and retest reliability). Analyzing the dependability of Alpha Cronach.

Tools	Alpha Cronbach	Internal consistency
Depression Anxiety Stress Scale (DASS)	0.903	Strong
Coping patterns scale	0.923	Strong

#### **Pilot study:-**

To assess the availability to applicate the created tools and how clear the included questions are, a pilot research was conducted on 10% (10 mothers) of the entire sample. The pilot research has also been used to calculate the amount of time each subject will need to spend answering the questions and to pinpoint any potential issues. This sample was left out of the study's real sample.

#### **Field Work / Procedure of Data Collection:**

The researcher met with Benha specialized children hospital director before applying for this study research to determine the perfect time needed to meet the participants who will be studied and explain the purpose and goals of the study. This was done after receiving official approval from Benha faculty of nursing dean to Benha specialized children hospital director.

After introducing herself to the subjects, the researcher went through the purpose of the study with each one of them. Each and every participant who met the requirements for inclusion gave their verbal consent. Every mother underwent an individual interview to get the relevant data using the instruments for collection of data; the average time required for the depression,

anxiety, and stress scales was around 10-15 minutes, and the coping strategies scale required about 25–30 minutes.

The actual fieldwork used for the data gathering procedure took three months to complete; it began at the beginning of April 2022 and ended in June 2022. Data from the study subjects were gathered by the researcher twice a week on Saturday and Tuesday during the morning and afternoon shifts (11 a.m.-2 p.m.). At least four to five moms of children with thalassemia were seen by the researcher on each visit.

#### **Ethical consideration :-**

The study is voluntary, and all participants were made aware that their names will not appear on the questionnaire sheet. The subjects were informed that the tool content was used for purposes of research only and that they had the right to withdraw from the study at any time without facing any repercussions while their anonymity and confidentiality were maintained and preserved.

#### **3-Administrative design :-**

In order to conduct the study and copy data from the tool to make data collecting easier, the researcher got an official permissions letter from dean of nursing faculty at Benha University to the Benha hospital for specialized children director.

#### **4-Statistical design:-**

Using a personal computer, the data gathered from the study's moms was edited, coded, and entered (PC). The Statistical Package used for Social Sciences (SPSS) version 25 was used for statistical analysis and computerized data entry. Frequencies and percentages were employed for categorical data, while the arithmetic mean (X) and standard deviation (SD) were utilized for quantitative data. Descriptive statistics were used to present the data. Comparing qualitative variables was done using the chi-square test (X<sup>2</sup>). The degree and direction of the link between two ranking variables are measured using Spearman correlation.

### **3. Results**

**Table (1)** Clarifies that, Less than half (46.0%) of the mothers who studied, their Age are ranged between 20-< 30 years With the mean  $\pm$ SD of age is  $34.7 \pm 6.58$  years. Also, more than half (52.0%) of them have Secondary Education (Diplome). As regard to marital status, most of (95.0%) of them are married. In addition, one-fifth (20.0%) of the studied mothers are working as three-fifth (60.0%) of them are employee at governmental sector. Moreover, one-tenth (10.0%) of the studied mothers have history from chronic disease as more than two-thirds (70.0%) of them have hypertension. Also, more than half (57.0%) of them have 1 – 2 children And Only (80%) of the studied mothers mention they have other children suffer from thalassemia. Furthermore, three-quarters (75.0%) of the studied mothers mentioned that, their monthly income not enough.

**Table (2)** Reflects that, higher than half (52.0%) of the affected children have thalassemia from 1-< 3 years; the Mean  $\pm$ SD of duration of disease is  $2.27 \pm 1.55$

years. Also, the vast majority (92.0%) of them have Beta thalassemia. Moreover, the majority (86.0%) of the affected children were hospitalized before that as more than half (53.5%) of them were admitted twice. In addition, more than three quarters (85.0%) of the affected children have complication as more than half (52.9%) of them have splenomegaly. Furthermore, the majority (85.0%) of the affected children mention they have disability caused by thalassemia as the vast majority (90.6%) of them have stunted growth. Also, more than three-quarter (78.0%) of the affected children have family history for thalassemia as the majority (87.2%) of them were the first-degree relatives.

**Figure (1)** Reflects that, half (50%) of the mothers who studied with moderate level of total depression. Also, more than half of them with moderate level of total anxiety and stress (55.0% & 52.0% respectively).

**Figure (2)** reveals that low levels of overall coping are present in more than half (55.0%) of the moms who participated in the study. Also, just 30.0%, or less than a third, of them, are with moderate level. While only

15.0% of the moms in the study have high levels of all coping mechanisms.

**Table (3)** Indicates correlation between total scale of depression, anxiety and stress and total scale of coping pattern among the mothers who studied. It reflects that, a highly statistically significant correlation which is positive is between total depression, anxiety and stress among the studied mothers at ( $P = <0.000^{**}$ ). While, a highly statistically significant correlation which is negative is between total depression, anxiety, stress of the mothers who studied and their total coping pattern at ( $P = <0.000^{**}$ ).

**Table (1)** Percentage distribution of the mothers who studied according to their socio-demographic characteristics (n=100).

Socio-demographic characteristics	Studied Mothers (n=100)	
	No.	%
<b>1) Age (year)</b>		
18-< 20 Years	5	5.0
20-< 30 Years	<b>46</b>	<b>46.0</b>
30-< 40 Years	30	30.0
40-< 50 Years	14	14.0
≥ 50 Years	5	5.0
<b>Mean ±SD</b>	<b>34.7 ± 6.58</b>	
<b>2) Education Level</b>		
Illiterate	4	4.0
Read and writes	8	8.0
Primary	8	8.0
Preparatory	15	15.0
Secondary (Diplome)	<b>52</b>	<b>52.0</b>
University	13	13.0
<b>3) Marital status</b>		
Married	<b>95</b>	<b>95.0</b>
Divorced	3	3.0
Widowed	2	2.0
<b>4) Occupation</b>		
Work	20	20.0
Not work	<b>80</b>	<b>80.0</b>
<b>- If the answer is work, what is the type of work? (n=20)</b>		
Employee at governmental sector	<b>12</b>	<b>60.0</b>
Employee at private sector	6	30.0
Free business	2	10.0
<b>5) History for any chronic disease</b>		
Yes	<b>10</b>	<b>10.0</b>
No	90	90.0
<b>*If yes, what is the type of this disease? (n=10)</b>		
Hypertension	<b>7</b>	<b>70.0</b>
Diabetes mellitus	4	30.0
Liver diseases	2	20.0
Kidney diseases	1	10.0

Breast cancer	1	10.0
<b>6) How many children do you have?</b>		
1 – 2 Children	<b>57</b>	<b>57.0</b>
3 – 4 Children	38	38.0
5 – 6 Children	5	5.0
<b>7) Do you have other children suffer from the same disease?</b>		
Yes	<b>8</b>	<b>8.0</b>
No	92	92.0
<b>- If yes. How many affected children do you have? (n=8).</b>		
1-2 children	<b>8</b>	<b>100.0</b>
3-4 children	0	0.0
More than 4 children	0	0.0
<b>8) Monthly income of the family</b>		
Enough	17	17.0
Not enough	<b>75</b>	<b>75.0</b>
Enough and save	8	8.0
<b>Total</b>	<b>100</b>	<b>100.0</b>

(\*) select more than one answer

Table (2) Clinical data of the affected children

Clinical data	Affected children (n=100)	
	No.	%
<b>1)Duration of disease</b>		
1-< 3 years	<b>52</b>	<b>52.0</b>
3-< 6 years	28	28.0
6-< 9 years	10	10.0
9 years or more	10	10.0
<b>Mean ±SD</b>	<b>2.27 ± 1.55</b>	
<b>2)The type of thalassemia that your child suffers from</b>		
Beta thalassemia	<b>92</b>	<b>92.0</b>
Alpha thalassemia	8	8.0
<b>3)Previous hospital admission</b>		
Yes	<b>86</b>	<b>86.0</b>
No	14	14.0
<b>- If yes. How many times of the hospital admission? (n=86)</b>		
One time	18	20.9
Two times	<b>46</b>	<b>53.5</b>
Three times	14	16.3
Four- or More times	8	9.3
<b>4) Affected child suffer from any complication?</b>		
Yes	<b>85</b>	<b>85.0</b>
No	15	15.0
<b>*If yes, what is the type of this complication? (n=85)</b>		
Heart diseases.	22	25.9
Chronic liver hepatitis	6	7.1
Liver Cirrhosis	33	38.8
Hepatocellular carcinoma	5	5.9
Endocrine problems	8	9.4
Hypogonadism	19	22.4
Diabetes mellitus	38	44.7
Osteoporosis	20	23.5
Splenomegaly	<b>45</b>	<b>52.9</b>
<b>5) Thalassemia causes the disability to affected child?</b>		
Yes	<b>85</b>	<b>85.0</b>
No	15	15.0
<b>*If yes. What is the type of this disability? (n=85)</b>		
Physical disability	<b>48</b>	<b>56.5</b>

Mental disability	6	7.1
Stunted growth	77	90.6
<b>6)Family history for thalassemia (Inheritance)</b>		
Yes	78	78.0
No	22	22.0
<b>-If yes. What is the degree of relationship?(n=78)</b>		
First degree relatives	68	87.2
Second degree relatives	10	12.8
<b>Total</b>	100	100%

(\*) select more than one answer

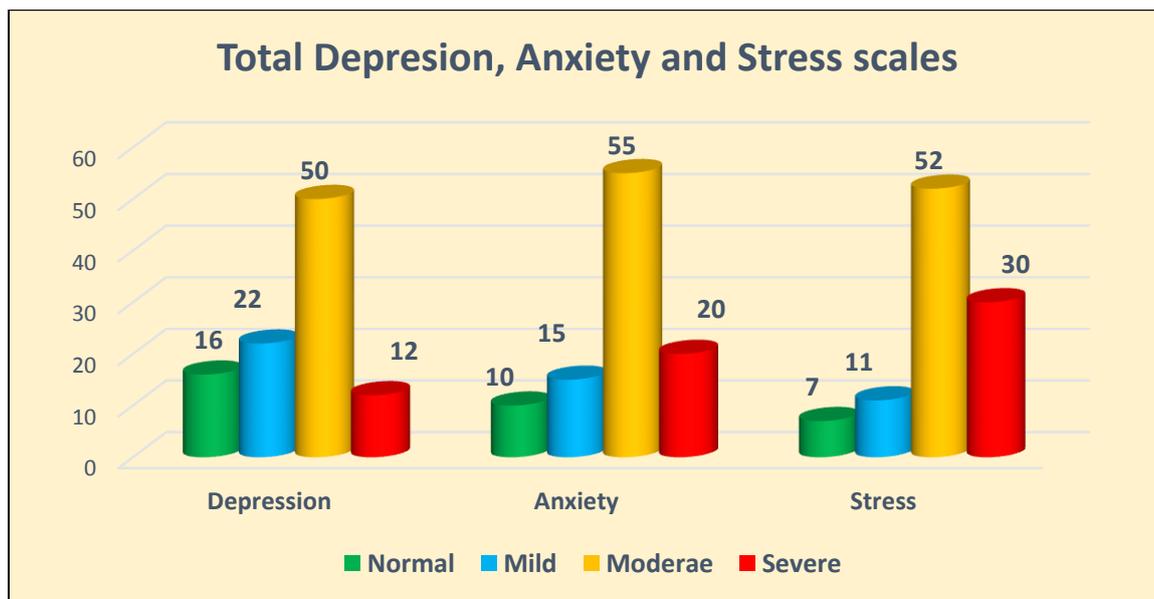


Fig. (1) Total depression, anxiety and stress among the studied children (n=100).

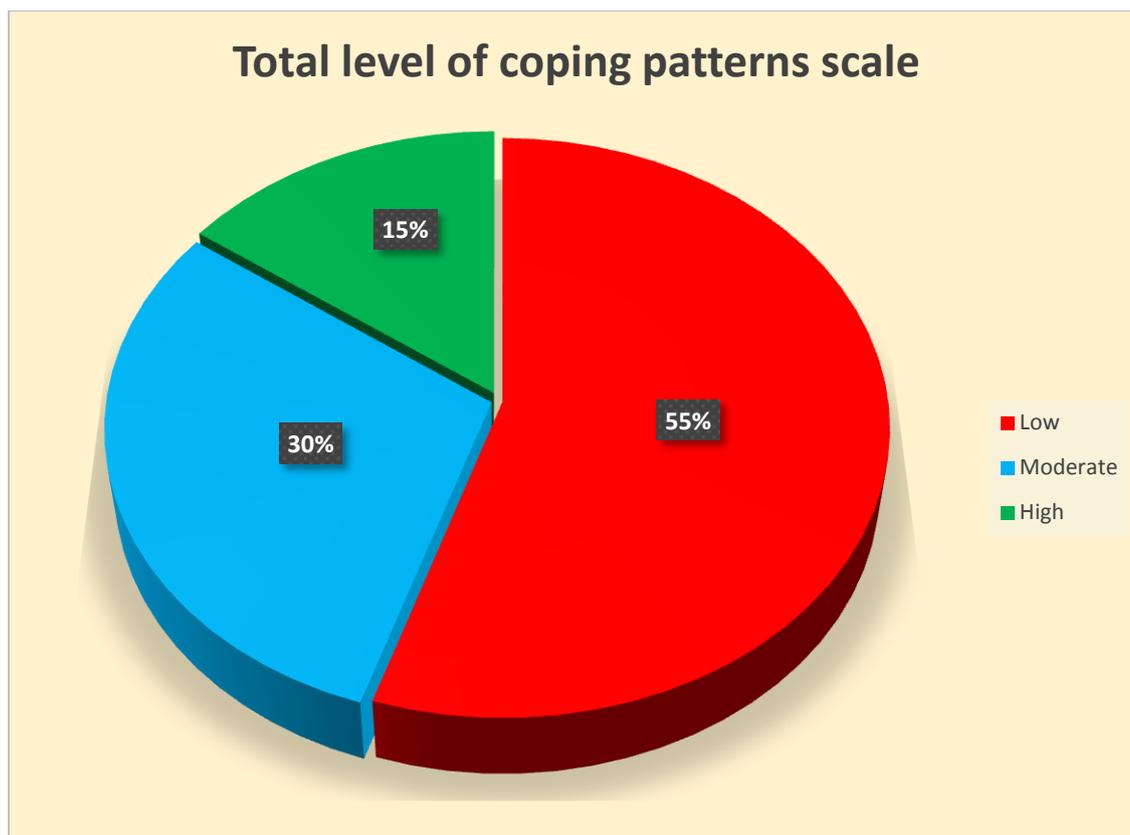


Fig. (2) Total coping patterns among the studied children (n=100).

Table (3) Correlation between total depression, anxiety and stress scale and total coping pattern scale among the studied mothers (n=100)

Items	Total depression subscale		Total anxiety subscale		Total stress subscale	
	r	p-value	r	p-value	r	p-value
Total anxiety subscale	0.537	<0.001**				
Total stress subscale	0.542	<0.001**	0.611	<0.001**		
Total coping pattern scale	-0.520	<0.001**	-0.561	<0.001**	-0.532	<0.001**

\*\*highly significant at p < 0.001.

#### 4. Discussion

Less than half of the investigated mothers' ages varied between 20 and 30 years, according to the present study's findings, with the mean age and standard deviation being 34.7 and 6.58 years, respectively. According to the researcher, this result may be related to the study moms' young marriages because the legal age of marriage in Egypt is between 18 and 30 years old.

This current result is in agreement with [9] who discovered that, the moms who looked at ranged in age from 20 to 30. On the other hand, this study's findings conflict with those of [10] who claimed that the parents of their subjects varied in age from 41 to 50 years.

Regarding level of education, According to the researcher, the current study's result that more than half of the analyzed mothers had a secondary education might be explained by the widespread perception that in Egypt, especially for females, marriage is preferred before school.

The current finding is in line with a research by [11] which found that higher than half of the women who investigated had a secondary education. Additionally, this outcome was consistent with [12].s finding that roughly a third of moms of young children had a secondary education.

The findings of the present study indicated that the great majority of the moms who were evaluated were married. According to the study, this may be the result of marriage being more valued in Egyptian society. Also, they view marriage as a chaste and protective institution for women.

The research by [11] which noted that the majority of the investigated moms were married, corroborated this conclusion. Additionally, this outcome was in line with the findings of [13] who discovered that most of the studied mothers in his study were married.

Regarding occupation, the present study findings reported that most of the studied mothers were not

working while one-fifth of them were working as three-fifth of them were employee at governmental sector, from the researcher perspective, this result might be due to lack of employment opportunities and unemployment issue in Egypt, the mother has opted not to work outside the home to make money but instead focuses all of her time, love, and energy to her sick kid and the rest of her family.

This result was similar with a study of [14] who showed that the majority of his studied mothers were housewives. Additionally, this finding is in accordance with [15] who stated that higher than three quarters of mothers who studied were housewives.

According to history from any chronic disease, the present study results presented that one-tenth of the mothers who studied had history from chronic disease as more than two-thirds of them had hypertension, from the point of view of the researcher, this is might be due to psychological distress experienced as a result of their children illness which had a bad effect on mothers' physical health.

This result was in the same line with the study done by [16] who found that less than one third of her studied mothers were suffering from a disease. However, this result was inconsistent with [17] who revealed that, higher than three quarters of his subjects who studied had not any chronic illness.

The present study finding illustrated that higher than half of the mothers who studied had one to two children. Moreover, the minority of them had other children suffer from thalassemia. On the same line, [18] showed that more than half of his mothers who studied had a number of children from one to three and the only 8% of them had other children suffer from thalassemia.

Regarding clinical data of the affected children, the results of the present study reported that higher than half of the affected children had thalassemia from 1-< 3 years. Also, most of them have Beta thalassemia. Moreover, most of the affected children were hospitalized before that as more than half of them were admitted twice. In addition, more than three quarters of the affected children had complication as in excess of half of them had splenomegaly.

From the perspective of the researcher, these results might be due to thalassemia is chronic illness causes in which, not enough hemoglobin were made by the body, leading to anemia that causes pallor, exhaustion and stunted growth and the children must get blood transfusions in order to sustain their body's production of healthy hemoglobin for growth and development, which results in repeated hospitalizations and difficulties. On the same line, a study carried out by [19] found that higher than three-quarter's of his children who studied had the disease from three years, admitted frequently in hospitals and had many complications.

Furthermore, the majority of the affected children mentioned that they had disability caused by thalassemia as the vast majority of them had stunted growth. Also, higher than three-quarter of the affected children had family history for thalassemia as the majority of them

were the first-degree relatives from the researcher perspective, these findings might be because of the thalassemia is inherited disease causes anemia and leading to stunted growth and other severe complications. These results were in accordance with the study of [14] who reflected that higher than three quarters of his children who studied had first degree of family history and had stunted growth.

Regarding **total** scale of depression, anxiety and stress among the mothers who studied, the present study findings illustrated that half of the mothers who studied were with moderate level of total depression. Also, more than half of them with moderate level of total anxiety and stress scales.

From the point of view of the researcher, these results could be as a result of that, the mothers of children face many difficulties in caring of their children with thalassemia and frequent worries from their children disease and its complications later and also, fear of loss their children at any time. These results approve with the study achieved by [20] who proved that higher than half of his studied caregivers reported that had difficulties in feeling relaxant and had beliefs that they did not be able to dealing with life situations correctly; higher than half of them reported moderate level of psychological problems(stress, anxiety and depression).

Regarding to the **total** coping patterns scales, the present study result showed that higher than half of the mothers who studied were with low level of total coping patterns. Also, less than a third of them had moderate level while less than a fifth of them have high percentage of coping patterns.

From the point of view of the researcher, these results might be due to that thalassemia is a stressful event faced by the mothers, and they are not using coping mechanisms adequately in order to deal with it especially this disease is lasting for long time and need frequent hospitalization and follow up so it's very important to provide these mothers with sufficient knowledge about how to cope with the disease. These results are supported with a study conducted by [21] who revealed that more than half of his studied mothers had low level of coping behavior for the children disease. Also, these findings are consistent with [22] who reported that nearly two third of his mothers who studied attained results on all three coping practices scales that were lower than expected.

According to relationship between to socio demographic characteristics of the mothers who studied and their total level of coping patterns, the current study findings illustrated that a highly statistically significant relation were between mothers' total coping patterns and their socio-demographic characteristics as age, educational level, occupation, history for any chronic disease, number of children and having other children suffer from the same disease and monthly income of the family.

From the perspective of the researcher, these results might be explained by the fact that mothers have a better ability to deal with the situation and greater flexibility to adopt coping strategies with good

demographic factors. These results were in accordance with the study of [21] who discussed that a highly statistically significant association was between demographic data of the participants and overall coping. But this result is in difference with a study carried out by [22] who illustrated that there no significant relationship between the demographic data and the total score of coping behaviors of the his studied mothers.

Concerning correlation between scale of total depression, anxiety and stress and scale of total coping pattern among the studied mothers, the study results clarified that a highly statistically significant correlation which was positive was between total depression, anxiety and stress among the studied mothers. While, a highly statistically significant correlation which was negative was between total depressions, anxiety, stress of the studied mothers and their total coping pattern.

From the researcher perspective, this finding might be due to the children with thalassemia expose to intensive and serious medical therapies and their complications lifelong, which have important effects on their caregiver's psychological status and coping pattern. It leads an increase in the frequency of stress, depression and anxiety among them with a negative effect on physical and mental health and increases burden. With improving psychological status of mother leading to enhance ability of them for coping with the children disease.

This result was similar with the study done by [23] who revealed that a significant correlation was between stress, anxiety and depression of caregivers and with their coping strategies. Also, this result was in agreement with [24] who illustrated that a significant correlation was between psychological distress and coping patterns among of his studied mothers of children with thalassemia.

For relationship between the socio-demographic characteristics of the affected children and total level of anxiety subscale among the mothers who studied, the present study results revealed that a statistically significant relation was between mothers' total anxiety and child age, school stage of the affected child and ranking of affected child. This result may be could to with advanced age and high level of education among children help them to understand their condition and follow up treatment regimens which decrease their mother's worries.

### 5. Conclusion:

**Based on the results of the present study**, it was determined that between half and higher than half of the moms had moderate-level psychological issues (depression, anxiety and stress). Additionally, higher than half of them displayed poor overall coping strategies. Additionally, among the moms who were tested, a highly statistically significant link which is positive is between overall depression, anxiety, and stress. While a strongly statistically significant inverse relationship is between the mothers' overall coping strategies and their levels of depression, anxiety, and stress.

### 6. Recommendations

### These suggestions are put out in light of the findings of the current study:

- Psycho-educational program for all mothers of children with thalassemia to decrease their problems in psychological status and enhance their coping patterns and giving factual information helps to correct any false ideas about thalassemia treatment.
- Intervention and counseling session to unit's staff through educational programs to raise awareness and promote the bio psychological approach to the disease and the mothers.

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