

## Effect of Positive Psychology Interventions on Psychological Flourishing, Optimism, and Hope among Depressive Patients

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### Abstract:

**Background:** Positive Psychology (PP) has been found in numerous studies to improve symptoms of depressive disorders in patients when provided as part of therapy. **Aim of the study:** to evaluate the effect of positive psychology interventions on psychological flourishing, optimism, and hope among depressive patients. **Research Design:** A quasi experimental design was carried out. **Subjects:** A purposive sample of 50 patients with depression was recruited in the pre-test as well as the same sample in the post-test. **Setting:** This study was conducted at the El Azazi Mental Health Hospital in Abo Hamad City, El Sharkia, Egypt. **Tools of data collection:** Five tools were employed in this study: Demographic sheet, Beck Depression Inventory-II Scale, Short Flourishing scale, Life Orientation Test-Revised (Optimism), and Adult Hope Scale **Results:** The study revealed that the proportions of studied patients' moderate and severe levels of depression decreased after the intervention, and there were highly statistically significant improvements in the post-intervention mean score of depression, psychological flourishing, optimism, and hope. There was a positive correlation that was statistically significant between patients' scores of hope and flourishing at pre-intervention. Moreover, psychological flourishing was highly positively statistically correlated with optimism, whereas, optimism was highly negatively statistically correlated with depression after intervention. **Conclusion:** The positive psychology intervention was successful in improving depressive symptoms, psychological flourishing, optimism, and hope among depressive patients. **Recommendations:** It is recommended future study must involve larger numbers of participants from varied populations, and broad examinations to follow up are required.

**Keywords:** Positive Psychology Interventions, Psychological Flourishing, Optimism, Hope & Depression

### Introduction:

Depression is a frequent psychological condition that can have a detrimental influence on a person's thoughts, feelings, and behavior. Regarded as the most common disorder, it affects about 4.4% of people worldwide. Depression manifests as feelings of depression or sadness; reduced enjoyment of everyday activities; altered appetite; sleeplessness or excessive sleep; agitation or slowness of movement; exhaustion; sense of inadequacy or guilt; problems focusing and making decisions; and suicidal ideation (Ulitua et al., 2022).

Positive psychology interventions are a developing field in psychology rather than focusing on decreasing negative emotions and cognitions; such therapies use a variety of strategies to boost psychological well-being and foster positive sensations, behaviors, and cognitions. Increasing positive feelings has been shown to aid in the establishment of lifelong assets like psychological resilience as well as flourishing (Jain et al., 2023). Furthermore, PPIs are "treatment techniques or deliberate activities focused on promoting positive emotions, positive actions, or positive thoughts". PPIs

were originally intended to improve well-being; nevertheless, research suggests that untainted PPIs can also lessen symptoms of depression (Hanson, 2018).

Additionally, positive psychology means 'the study of the disorders and procedures that donate to flourishing or ideal performance of individuals, groups, and establishments'. One of the chief objectives of positive psychological study is the improvement and appraisal of positive psychology interventions (PPIs), which are intended actions or management approaches that assist in reaching flourishing and effective operations. Successful PPIs, on the other hand, foster positive feelings, behaviors, or opinions, and examples of this include gratitude practices, exercises using individual strengths, and forgiving (Stemmler et al., 2021).

Psychological flourishing is a multifaceted concept composed of various significant psychological components. According to psychologist Martin Seligman, flourishing is a structure in the PERMA model made up of five components: Positive feelings, Engagement, Relations, Meaning and purpose, and Accomplishments. This model can direct persons to

discover trails to a flourishing lifetime (Yudha & Urbayatun, 2020). Furthermore, the flourishing assumption underlines that an individual's lifetime must be ideal and practiced opportunities for their development, fruitfulness, and resilience. Flourishing, figuratively, can be linked to the thriving of flowers. This event conveys satisfaction with an organism's innate nature, humanizing self-welfare and that of others in an environmental or social system. The idiomatic use of the word "flourishing" seems to focus on notions of realizing one's possible (mentally, developmentally, frugally, etc.), successive, attaining, or creating some important charities to society (Abbasian, et al., 2022).

Optimism refers to a reasoning variable that represents one's favorable opinion about the future. Optimism usually has positive rather than negative outlooks and tends to express fewer stresses in their everyday lives, even when challenged with difficulties. What is likely to occur in the future can impact on how people handle circumstances in their everyday lives, their wellbeing, and how they manage feelings and stress (Carver & Scheier, 2019). However, optimism is more concentrated on general outlooks rather than why or how the objective is attained. Studies have established that optimism is associated with fewer indications of depression, greater levels of health, fewer rates of attrition, and higher insights into social support (Schug et al., 2021).

Hope is described as a condition of positive incentive based on three elements: goals (aims to be attained), pathways (preparation to attain these objectives), and agency (the enthusiasm that is focused on achieving these goals)." Hope theory emphasizes the attendance of individual agencies connected to objectives and the recognition of plans to attain those objectives. Hence, this theory proposes that a hopeful individual would endorse declarations as "I will attain my objective," but also "I have a strategy to attain this aim" and "I am enthused and assertive in my capability to use this strategy to attain this aim" (Corn, et al., 2020).

Hope is a significant adjustable in overcoming problematic life proceedings and conditions and a significant constituent in attaining contentment as scholars establish that sub factors of hope (e.g., positive future alignment) guess personal happiness (Sarıçam, 2015). Enhancing hope through precise actions may heighten wellness, positive attitude, and goal-oriented behavior while reducing signs of depression and anxiety. Moreover, elevated levels of hope may help to defend individuals in contradiction of negative and tense life proceedings (Teodorczuk, et al., 2018).

Additionally, individuals who have elevated level of hope are better capable to come back from exhausting

events, which leads to enhanced mental well-being. They stated that this is shown in increased incentive, progress in prophylactic arranging, and confidence in successful issue negotiating (Yıldırım, & Arslan, 2022).

According to current research, a person's hope is frequently shaped by natural personality traits and influenced by psychosocial circumstances (achievement in accomplishing objectives and fronting stressors, social assistance, and goal-concordant healthcare), environmental influences, and physiological elements involving stress hormones, immune system mediators, and neurotransmitters (Corn, et al., 2020).

In the area of positive psychology, the majority of research has focused on subjective well-being and its association with hope and optimism as a critical component of mental health. Despite being frequently used interchangeably, these two phrases refer to distinct things. Optimism can be considered as a broad positive phrase of expectation, while hope is more about one's cognitive drive (Dursun, 2021). Therefore, our research hypothesizes that the level of depression, psychological flourishing, optimism, and hope among depressed patients will be improved after implementing positive psychology interventions.

### Significance of the study:

Positive psychology strategies are planned to cultivate positive sentiments, cognitions, and conduct (World Health Organization, 2020) and (American Academy of Pediatrics, 2017). Over the previous 30 years, evidence supporting PPI efficiency has been accumulating. PPI has been revealed to both diminish depression and promote welfare and optimum functioning for the overall population, psychological health clusters, and patients suffer from chronic or fatal diseases (Lim & Tierney, 2023). Consistent with positive psychological intervention, these optimistic feelings may be industrialized to some level, which not only makes persons happier nevertheless also assistances in overcoming the signs of depression. However, minimal levels of hope and flourishing are connected with depression. Hence, it was deemed needed to comportment this study to evaluate the effect of positive psychology interventions on psychological flourishing, optimism, and hope among depressive patients.

### Aim of the study:

This study aimed to evaluate the effect of positive psychology interventions on psychological flourishing, optimism, and hope among depressive patients.

### Objectives:

- Assess psychological flourishing, optimism, and hope among patients with depression.

- Design, implement, and evaluate the effect of positive psychology interventions on psychological flourishing, optimism, and hope among patients with depression.

### Research Hypotheses:

**H1:** The level of depressive symptoms will be improved after implementing positive psychology interventions.

**H2:** The level of psychological flourishing, optimism, and hope will be enhanced after implementing positive psychology interventions.

### Subjects and Methods:

#### Research design:

A quasi-experimental study design was utilized in this study.

#### Setting:

This study was carried out in El Azazi Mental Health Hospital in Abo Hamad City, El Sharkia, Egypt.

#### Subjects:

A purposive sample of 50 patients with chronic depression in the pre-test and the same sample in the post-test. The patients who met these inclusion criteria: Patients range in age from 20 to 60 years old and are of both genders were selected. While, patients with depression caused by substance abuse or organic disease, other psychotic features, and as well as those who are unable to converse, were excluded.

#### Sample size:

According to, **Pietrowsky & Mikutta 2012** found that the Mean  $\pm$ SD positive effect in depressive patients was (22.44 $\pm$ 5.86) before the intervention, which improved after receiving a positive psychology program to be (26.89 $\pm$  6.35), the confidence level is 95% two sides with the power of study 95%, added one patient to be the round figure, Sample size calculated using Open Epi, is 50 patients selected randomly.

**Tools for Data Collection:** Five tools were used to collect the study data .

**Tool I: A self-administered Questionnaire for studied depressive patients** was developed by researchers after studying relevant literature. It was concealed two component:

**Part (1): Personal data sheet** it was developed by researchers after reviewing relevant literature and includes variables like age, gender, employment situation, and education level.

**Part (2): Clinical data of depressive patients**, which included marital status, family history of disorder, disorder occurrence, and disorder duration.

**Tool II: Beck Depression Inventory-II (BDI-II) Scale** this scale was initially created by **Beck et al., (1996)** to evaluate depression signs and symptoms. It is made up of 21 groupings of statements. The replies are on a four-point Likert scale that measures the

intensity of the depressive symptoms, from "no symptoms" to "severe symptoms".

#### Scoring system:

The items indicated "no symptoms," "mild," "moderate," and "severe" have ratings of 0, 1, 2, and 3, accordingly. The overall scores for the 21 statements are added for a maximum score of 63. The levels of depression are classified as follows:

- None: total score <10
- Mild: total score 10-20
- Moderate: total score 21-30
- Severe: total score 31.+

**Tool III: Short Flourishing scale** this scale was created by **Diener et al., (2010)** to evaluate flourishing and positive as well as negative emotions. It contains eight items. The responses follow a seven-point Likert scale. 1 means strongly disagree; 2 means disagree; 3 means slightly disagree; 4 means mixed; 5 means slightly agree; 6 means agree; and 7 means strongly agree.

#### Scoring system:

Add answers that range from 1 to 7 for the eight items. For a total that ranges from 8 to 56. A higher score denotes a person's greater psychological resources and strengths.

**Tool IV: Life Orientation Test-Revised (Optimism) (LOT-R)** The LOT-R was created by **Scheier et al., (1994)**. The researchers modified and translated it into Arabic, as well as verified its content and reliability. A 10-items assessment of optimism vs pessimism. Of the ten items, three assess optimism, three evaluate pessimism, and four act as fillers. Participants assess each of the items on a four-point scale: 0 for strongly disagree, 1 for disagree, 2 for neutral, 3 for agree, and 4 for strongly agreeing. Total LOT-R scores are computed by adding the three positively and negatively stated items (which are reverse-coded).

#### Scoring system:

Items 3, 7, and 9 are reverse assessed (or evaluated individually to assess pessimism). Also, the items of 1,4,10 evaluate optimism, but the items of 2, 5, 6, and 8 are considered fillers and not of scoring. The scoring is kept constant; there is no criterion for being an optimist or pessimist.

**Tool V: Adult Hope Scale (AHS)** A 12-items scale measuring a respondent's degree of hope was established by **Snyder et al., (1991)**.The scale is classified into two subscales that make up Snyder's cognition theory of hope: (1) Agency (i.e., goal-directed energy), and (2) Pathways (i.e., goal-setting). Of the 12 items, 4 are for the Agency subscale, and 4 are for the Pathways subscale. The remaining 4 things are fillers. Every statement is graded on eight point Likert scale with Definitely True and Definitely False as extremes.

**Scoring system:**

The agency subscale consists of the items listed 2, 9, 10, and 12 .

The pathway subscale consists of the items listed 1, 4, 6, and 8 .

Researchers can analyze the results at the subscale level or merge the two subscales together to generate a total hope score.

**Content Validity and Reliability:**

To determine whether or not the tools met the study's goal, content validity was used to adjust the training program and tools. Three nurses and two doctors from the medical staff comprised the five-person expert panel that judged it. The results showed that the Depression scale, Flourishing scale, Optimism scale, and Hope scale each had a Cronbach's alpha reliability coefficient of "0.821, 0.753, 0.832, and 0.761" respectively.

**Field Work:**

The study included the successive phases of assessment, planning, implementation, and evaluation. It lasted six months, from the commencing of August 2023 to the cessation of January 2024. The researchers allocated two days weekly (Monday and Wednesday) from 10 am to 1 pm.

**Assessment phase:**

After finishing the tools and obtaining the relevant official approvals, the researchers started looking for participants who met the prerequisites. Before inviting patients to participate, they provided an outline of the study's objectives and introduced themselves. The researcher discussed with each patient separately and obtained verbal and written permission to donate. The time spent on every scale and question varied from 30 to 35 minutes.

**Planning phase:**

The researchers prepared the program sessions using the assessment phase data and relevant literature. The booklet's objectives and content were adjusted to the patient's specific needs. There were two major sections in this handbook. The first theoretical section component included information regarding depression, hope, psychological flourishing, and optimism. The second practical section about how to understand the self, six steps of meditation, Positive thinking training, Practical exercises for gratitude, and how to practice gratitude. The lecture, role-playing, and discussion were utilized as methods of teaching. A suitable various media were used including videos, posters, and pictures.

**Implementation phase:**

The training was executed through small group sessions. The researchers divided study subjects into two groups on two days weekly (Monday and Wednesday) from 10 a.m to 1 p.m for the

implementation of the sessions in small groups through divided sessions into three sessions per day; each session involved about 8 depressed patients. Ten sessions lasting 10 weeks are scheduled, each of its has a title, objective, and content. The length of each session varied based on how well patients retained the content and was determined by their reaction, availability of time, and the topic matter of the session. The theoretical portion lasted 30-40 minutes, whereas the practical portion took 35-45 minutes.

**First session:** The researchers explained the purpose of the intervention, determined the place of meeting, the time table, and importance of the intervention.

**Second session:** The main objective of this session was to enhance depressive patients' knowledge about definition, etiology, signs and symptoms of disease.

**Third Session:** The main objective of this session was to enhance depressive patients' knowledge about understanding the self, the positive self, and the benefit of positive thinking. Additionally, definition of hope, its importance, and characteristics of individuals with high level of hope.

**Fourth session:** The main objective of this session was to promote depressive patients' knowledge about definition and importance of optimism.

**Fifth session:** The main objective of this session was to promote depressive patients' knowledge about definition, dimensions, importance of flourishing, and characteristics of individuals with high flourishing.

**Sixth session:** The main objective of this session was to improve depressive patients' knowledge about importance of gratitude, and role of positive psychology in achieving mental health.

**Seventh session:** The main objective of this session was to provide depressive patients how to understand the self, six steps of meditation.

**Eighth session:** The main objective of this session was to help depressive patients apply exercises and illustrate other steps of meditation.

**Ninth session:** The main objective of this session was to help depressive patients apply exercises and techniques of positive thinking to build and improve resilience.

**Tenth session:** The main objective of this session was to help depressive patients apply Practical exercises for gratitude.

**Evaluation phase:**

After the positive psychology session, an evaluation (post-test) was performed immediately after ending the implementation on sessions to assess psychological flourishing, optimism, and hope scores using the same scales as the pre-test.

**Pilot study:**

A pilot study was done with the assistance of five depressed patients (10% of the sample), who were chosen at random to ensure the clarity and

comprehension of the items provided plus to determine how much time will be needed to complete the tools.

#### Administrative design:

Prior to conducting the study, formal approval was acquired from the Faculty of Nursing's Research Ethics Committee and the general director of the El Azazi Hospital for Mental Health in Abo Hamad City. Meetings were arranged between the researcher and nursing administration professionals to inform them of the research's goals and objectives, as well as to strengthen collaboration during the study's implementation phase. Before beginning data collection, patients provided oral agreements.

#### Ethical consideration:

During the interview, patients were informed about the study's objective and advantages, as well as the fact that their participation was optional and that they might withdraw at any moment for any reason. Furthermore, all data was coded to protect the respondents' confidentiality and identities. The study's implementation had no negative effects; nevertheless, the positive psychology interventions had beneficial effects on enhanced flourishing optimism, and hope.

#### Results:

**Table (1): Demographic Characteristics of the Studied Patients (n =50).**

Demographic Characteristics	No.	%
<b>Age</b>		
30-<40	27	54.00
40-60	23	46.00
Mean ± SD	39.74±6.33	
<b>Gender</b>		
Male	44	88.00
Female	6	12.00
<b>Residence</b>		
Rural	43	86.00
Urban	7	14.00
<b>Education</b>		
Educated	31	62.00
Illiterate	19	38.00
<b>Job</b>		
Employed	13	26.00
Unemployed	37	74.00
<b>Marital status</b>		
Married	26	52.00
Unmarried	24	48.00
<b>Income</b>		
Enough	27	54.00
Not enough	23	46.00

#### Statistical analysis:

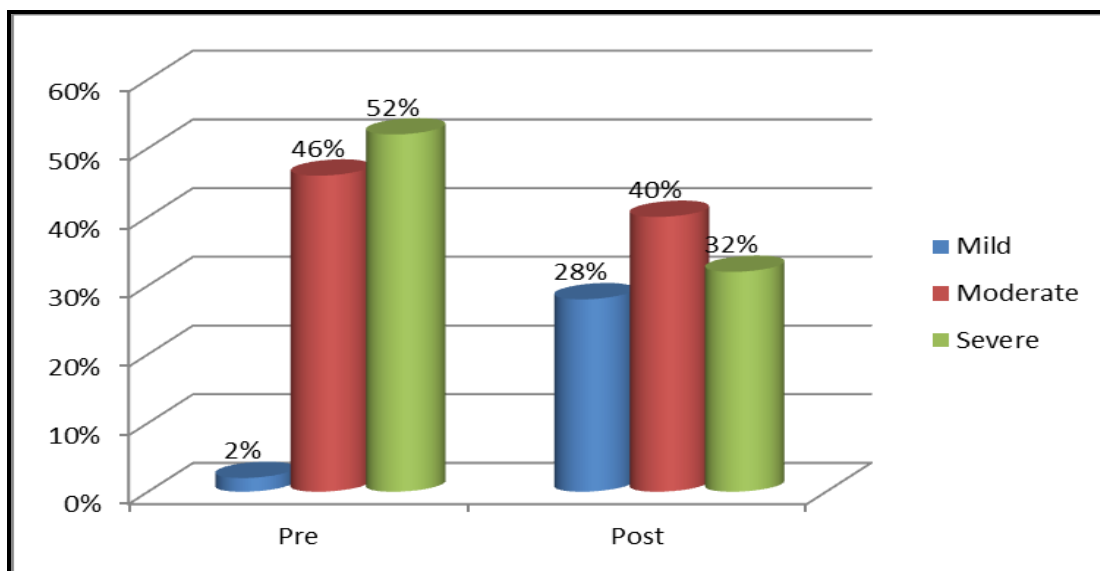
SPSS 20.0 for Windows was applied to gather, present, and statistically analyze all of the data (SPSS Inc., Chicago, IL, USA 2011). Quantitative data is presented as mean ± SD, whereas qualitative data were given as absolute and relative frequencies (number and %). A paired t-test was employed to contrast two dependent groups with normally distributed variables. Marginal homogeneity was utilized to compare two dependent categorical data sets. The Spearman correlation coefficient was used to analyze the relationship among research variables; (+) implies direct correlation and (-) implies inverse correlation; values close to one suggest strong correlation, while values near zero indicate poor correlation. Multiple linear regressions are used to do predictive analyses. The data is provided, and the relationship between dependent and independent variables is clarified using multiple linear regression. The Cronbach alpha coefficient was applied to evaluate the reliability of the scales according to their internal stability. P-values < 0.05 were statistically significant, whereas p-values < 0.001 were viewed as highly significant.

**Table (2): Disease Characteristics of the Studied Patients (n = 50).**

Items	No.	%
<b>Family History of Disorder</b>		
No	13	26.00
Yes	37	74.00
<b>Incidence of Disorder</b>		
<20 years	8	16.0
20-40 years	42	84.00
<b>Duration of Disorder</b>		
<1 years	1	2.00
1-5 years	28	56.00
5-10 years	21	42.00

**Table (3): Total Mean Scores of Depression, Flourishing, Optimism, and Hope of the Studied Patients throughout Study Phases (n=50).**

Scores	Pre	Post	Paired T-test	p-value
	Mean ±SD			
<b>Depression Score</b>	31.04±6.01	12.80 ±3.37	19.886	0.001**
<b>Flourishing Score</b>	20.20±3.71	51.96 ±2.58	-40.414-	0.001**
<b>Optimism Score</b>	6.94±1.11	23.18 ±1.17	-64.541-	0.001**
<b>Hope Score</b>	20.12±3.80	58.08 ±4.35	-47.943-	0.001**



**Figure (1): Percent of Depression Level among Studied Patients throughout Study Phases (n= 50).**

**Table (4): Correlation Matrix of Studied Patients' Depression, Flourishing, Optimism, and Hope before Intervention (n =50).**

Scores	Depression		Flourishing		Optimism	
	R	P	R	p	r	p
<b>Depression</b>						
<b>Flourishing</b>	-0.215	0.134				
<b>Optimism</b>	-0.070	0.631	0.247	0.084		
<b>Hope</b>	-0.015	0.916	0.351	0.012*	0.064	0.657

r: correlation coefficient, non-significant(  $p > 0.05$ ),

\*: statistically significant (  $p < 0.05$ ),

\*\* : statistically highly significant (  $p < 0.001$ ).

**Table (5): Correlation Matrix of Studied Patients' Depression, Flourishing, Optimism and Hope after Intervention (n =50).**

Scores	Depression		Flourishing		Optimism	
	r	p	R	P	r	p
<b>Depression</b>						
<b>Flourishing</b>	-0.244	0.088				
<b>Optimism</b>	-0.362	0.001**	0.285	0.045*		
<b>Hope</b>	-0.002	0.991	-0.065	0.654	-0.179	0.214

r: correlation coefficient, non-significant(  $p>0.05$ ),

\*: statistically significant ( $p<0.05$ ),

\*\*: statistically highly significant ( $p <0.001$ ).

**Table (6): Best Fitting Multiple Linear Regression for Depression, Flourishing, Hope and Optimism Scores (n =50).**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
<b>Depression score<sup>a</sup></b>							
(Constant)	24.820	2.568		9.665	0.000	19.654	29.987
Intervention program	-0.136	0.065	-0.261	-2.101	0.041*	-0.265	-0.006
Age	-0.240	0.066	-0.451	-3.636	<0.001**	-0.373	-0.107
<b>Flourishing score<sup>b</sup></b>							
(Constant)	34.753	1.639		21.202	0.000	31.454	38.052
Intervention program	0.387	0.034	0.831	11.517	0.000	0.319	0.454
Family history	1.216	0.421	0.208	2.886	0.006	0.368	2.064
Age	0.071	0.030	0.173	2.393	0.021	0.011	0.130
<b>Hope score<sup>c</sup></b>							
(Constant)	62.814	1.807		34.754	0.000	59.180	66.448
Intervention program	0.572	0.076	0.735	7.507	<0.001**	0.419	0.725
Marital status	-3.199	1.157	-0.371	-2.765	<0.001**	-5.525	-0.872
<b>Optimism scored<sup>d</sup></b>							
(Constant)	12.772	2.423		5.272	0.000	7.892	17.651
Intervention program	0.499	0.050	0.758	9.999	0.000	0.399	0.600
Flourishing	0.084	0.038	0.186	2.227	0.031*	0.008	0.161
Incidence	-0.706	0.272	-0.223	-2.594	0.013*	-1.254	-0.158
Family history	-0.449	0.207	-0.170	-2.168	0.036*	-0.866	-0.032

<sup>a</sup>R-square=0.584, ANOVA:  $F= 12.175, P<0.001$ , variables entered and excluded: sex, residence, education, job, marital status, income, family history, incidence, duration, flourishing score, optimism score, and hope score.

<sup>b</sup>R-square = 0.877, ANOVA:  $F= 50.960, P<0.001$ , variables entered and excluded: sex, residence, education, job, marital status, income, incidence, duration, depression score, optimism score, and hope score. <sup>c</sup>R-square= 0.371, ANOVA:  $F= 7.643, P<0.001$ , variables entered and excluded: sex, age, residence, education, job, income, family history, incidence, duration, depression score, optimism score, and flourishing score.

<sup>d</sup>R-square=0.863, ANOVA:  $F= 32.888, P<0.001$ .

**Table (1):** Shows that more than half of the studied patients' age was from 30 to less than 40 years with a Mean  $\pm$  SD of  $39.74\pm 6.33$ , the majority of them were males (88.0%), and 86.0% resided in rural areas. Slightly less than two third of them (62.0%) were educated, while slightly less than three fourth of them (74.0%) were unemployed. More than half of them

(52.0%) were married and 54.0% of them have enough income.

**Table (2):** Denotes that three fourth of studied patients (74.0%) had a familial history of psychiatric illness, the majority of them (84.0%) a disease incidence between the ages of 20 and 40, and more than half of them (56.0%) had a disease duration between the ages of 1 and 5.

**Table (3):** Reveals that there was a highly statistically significant improvement in the post-intervention mean score of depression ( $31.04 \pm 6.01$ ) when compared to the pre-intervention mean score of  $12.80 \pm 3.37$  at  $p < 0.001$ . There was a highly statistically significant improvement in the post-intervention mean score of flourishing ( $20.20 \pm 3.71$ ) when compared to the pre-intervention mean score of  $51.96 \pm 2.58$  at  $p < 0.001$ . Additionally, the table displays a highly statistically significant improvement in the post-intervention mean score of optimism ( $6.94 \pm 1.11$ ) when compared to the pre-intervention mean score of  $23.18 \pm 1.17$  at  $p < 0.001$ . Furthermore, this table reveals that there was a highly statistically significant enhancement in the post-intervention mean score of hope ( $20.12 \pm 3.80$ ) when compared to the pre-intervention mean score of  $58.08 \pm 4.35$  at  $p < 0.001$ .

As displayed in **figure (1)**: The percentage of studied patients with moderate depression decreased from 46% before the intervention to 40% after the intervention, and the percentage of studied patients with severe depression decreased from 52% before the intervention to 32% after the intervention. However, the percentage of studied patients with mild depression increased from 2% before the intervention to 28% after the intervention.

**Table (4):** Demonstrates that only a statistically significant positive correlation between patients' scores of hope and flourishing persisted ( $r=0.351$  at  $P=0.12$ ).

**Table (5):** Clarifies that there was a statistically significant negative correlation between patients' score of optimism and depression persisted ( $r=-0.362$  at  $P=0.001$ ). It also illustrates a statistically significant and positive correlation between their optimism and flourishing scores ( $r=0.285$  at  $P=0.045$ ).

According to the multivariate analyses **Table (6)**: the intervention program and patients' age were statistically significant negative predictors of the depression score. As shown by its standardized beta coefficient ( $-0.451$ ), the positive psychology intervention was the most influential factor on this score.

Regarding the flourishing score, the table displays that the intervention program was its main statistically significant positive predictor, in addition to the patients' age and family history. As displayed by its standardized beta coefficient ( $0.831$ ), the positive psychology intervention was the most influential factor on the flourishing score.

Concerning the hope score, the table shows that the intervention program was its main statistically significant positive predictor. Conversely, their marital status was a negative predictor. As its

standardized beta coefficient ( $0.735$ ), the positive psychology intervention was the most influential factor on the hope score.

The table also reveals that the intervention program was its main statistically significant positive predictor of the optimism score, in addition to the flourishing score. Conversely, disease incidence and family history were negative predictors. As presented by its standardized beta coefficient ( $0.758$ ), the positive psychology intervention was the most influential factor on the optimism score.

### Discussion:

The objective of the research was to determine the effect of positive psychology intervention on flourishing, optimism, and hope among depressive patients. The first hypothesis was that the depressive symptoms of the participants would be decreased after taking part in the program of Positive Psychology Intervention (PPI). According to the hypothesis, the researchers discovered that there was a highly statistically significant improvement in the post-intervention mean score of depression. Moreover, the PPI was found to be an independent, significant negative predictor of the depression score. This change may be believed to be a response to the positive psychology intervention, which involves activities such as meditation, Positive thinking training, and Practical exercises for gratitude that assist depressed people to alleviate depression symptoms by turning their attention from their negative emotions and thoughts, developing positive feelings, improving resilience, boosting their self-esteem, promoting a sense of purpose and significance in life, and improving their optimism and hope for the future.

This result was consistent with a study carried out by **Lim & Tierney, (2023)** which discovered that the PPI was more effective in improving well-being (flourishing) and decreased depression among participants. Additionally, an Indian study by **Jain et al., (2022)** showed that the patients with major depressive disorder experience fewer depressive symptoms and enhanced well-being after implementing a positive psychology program. Also, an Indian study by **Jain et al., (2023)** revealed that the PPI improves wellbeing, happiness, life satisfaction, and attentiveness in addition to reducing depression symptoms. On the same line, an Indonesian study done by **Ulitua et al., (2022)** reported that the conclusions of this analysis suggest that PPIs can lower depression symptoms, and possibly are responsible for avoiding depression. Further, the study conducted by **Pan et al., (2022)** showed that the PPIs are useful in relieving symptoms



of depressive disorders, with significantly lower depression scores vs. to control groups.

Regarding the level of depressive symptoms, this study revealed that there was a reduction in moderate and severe levels of depression, while, there was an increase in mild depression after the intervention. This may be attributed to the positive psychology interventions which may help to reduce the severity level of depression as the depressive patients with severe and moderate symptoms improved after the intervention and turned into mild symptoms which made the increased percentage of patients with mild symptoms after the program.

Similar results were detected by [Guo et al., (2017); Ducasse et al., (2019); Shi et al., (2020); and Stemmler et al., (2021)] which demonstrated that PPI considerably improved individuals' depression levels, and BDI-II scores reduced significantly.

The second hypothesis in the current study postulated that the level of flourishing, optimism, and hope will be improved after implementing PPI. So, the study demonstrated that there was an improvement in the flourishing scores after the implementation of the program. Additionally, the significant independent positive prediction of the flourishing score was the PPI. This could be explained by the fact that positive psychology programs promote flourishing by encouraging respondents to become mindful of and accept their current circumstances rather than ruminating on unresolved past events; also it included some activities as counting the blessings; exercising kindness, and developing one's own strengths have been also shown to improve well-being.

These results were in line with those of Przybylko et al., (2022) which demonstrated that the positive psychology and medical lifestyle practices can enhance human flourishing. As well, the study done by Yurayat & Seechaliao (2021) revealed that the online positive psychology program effectively improved the emotional well-being among college students.

Regarding the score of optimism among depressive patients, the current research showed that the optimism scores had improved after the intervention. Furthermore, the optimism score was significantly and independently predicted positively by the PPI. This may be due to that the intervention helps patients gain the purpose and significance in their life by exploring their passions, strengths, and values. PPI involves activities that enable life objectives that fostering a positive and optimistic view point, and the ability to cope with depression and disappointment. PPI teaches the participants to adopt an optimistic outlook on life and encourages them to challenge their negative thoughts and replace them with more realistic and optimistic ones.

These study findings matched with those of a previous similar study carried out by Krifa et al., (2022), & Klösters, (2019) who showed that after implementing PPI, the experimental group showed a greater advance in optimism, and hope than the control group. On the same line, an American study done by Celano et al., (2017) concluded that the PPI was effective in reducing suicidal thoughts and feelings of depression while also boosting optimism and thankfulness in people suffering from major depression.

As well, Baourda, Brouzos, & Vassilopoulos, (2023), and Ngamthipwatthana, Nanthasarn, & Phattharayuttawat (2020) who conducted that the positive psychology practices were a helpful means of promoting optimism and hope among participants.

The present study result clarified that there was a significant enhancement in the post-intervention/ pre-intervention mean score of hope. Moreover, the PPI was a significant independent positive predictor of the hope score. This may be related to that the training covered fundamental ideas such as exercising optimistic thinking, preparing enjoyable and fulfilling activities, thinking positively, appreciating one's strengths, planning for the meaning of life, and returning to happy memories that increase hope. The intervention included two activities: a worksheet where participants wrote their targets and the positive self-talk that they employed, and guided imagery, in which they were instructed to visualize a goal they would attain and the approach they would use.

A nearly similar finding was reported by Gao, & Meng, (2023) who found that the experimental group experienced reduced levels of stress, anxiety, and sadness and increased levels of hope in comparison to the control group after the positive psychology intervention. Also, a Chinese study performed by Tang, et al., (2023) found that the positive psychology expressive writing (PPEW) reduced stigma while improving hope, way of coping, and quality lifestyle in schizophrenia patients. Further, the study by Gumus Demir, et al., (2021) showed that the integrated positive psychology interactions program promoted the hopeful levels among the elderly persons.

However, an African study performed by Teodorczuk, et al., (2020) showed that there were not any significant differences in happiness or hope between the both of the groups following the sessions.

The current study results showed that there was a statistically significant positive correlation between patients' scores of hope and flourishing persisted before the intervention. This result might be attributed to that those who experience greater levels of flourishing also have higher feelings of well-being,

make positive assessments of the society around them, are more likely to have a beneficial life, and feel more independent and in control of their lives, all of which contribute to a rise in hope. On the same line, a crucial aspect of human flourishing is hope. Hope may help people endure obstacles, enjoy life, and reach their goals, all of which contribute to more flourishing.

This results were in accordance with that of the study of **Mirsadegh, et al., (2022)** which proved that flourishing and hope have a positive and significant association at the level of  $P < 0.01$ . As well, the study of **Marino Clyne, (2023)** specified that there was a significant positive correlation between the participants' overall Hope Index and Psychological Flourishing Scale scores. **Belen, et al., (2020)** concluded that greater degrees of flourishing among participants were correlated with greater hope scores. The recent study's findings demonstrated the patients' scores of optimism were significantly and negatively correlated with depression. This could be because optimism is logically associated with less depression because optimists see positive things coming in the future, while depressed persons do not. Optimists, such as high hopes, have a lower percentage of negative affective components like grief, which is a sign of depression.

These results corresponded to those of **D'Souza et al., (2020) & Luo et al., (2023)** who proved that there were a significant negative correlation between the optimism and depression scores. Also, the study performed by **Mo et al., (2022)** suggested that there was a statistically significant negative relationship between optimism and depressive and anxious symptoms.

Finally, in the present study, a highly statistically significant positive correlation was reported between patients' scores of optimism and flourishing. Additionally, the flourishing was a significant independent positive prediction of the optimism score. This could be explained by optimistic people can have stronger coping mechanisms, positive goals, and the capacity to reinterpret bad experiences, which improves their overall psychological well-being. By developing optimism, people with Major Depressive Disorder (MDD) can confront their negative thought patterns, adopt a more optimistic perspective, and build resilience, all of which contribute to their flourishing.

In this respect, the previous results of the current study are confirmed by **Sahai & Singh, (2017); Klösters, (2019); & Oriol & Miranda (2023)** who concluded that there was a significant positive relationship between subjective happiness and optimism. Further, the study carried out by **Yıldırım,**

**(2020)** found that flourishing and optimism have a significant and positive correlation.

### Conclusion:

According to the study's outcomes, it can be stated that implementing a positive psychology intervention enhanced the psychological flourishing, optimism, and hope of depressed patients while reducing the severity and moderate levels of depressive symptoms to a mild level.

### Recommendation:

Based on the current study findings, the following recommendations are suggested:

- Implementing a positive psychology intervention program for psychiatric health nurses and all health teams to enhance their psychological flourishing, optimism, and hope to help them deal with patients.
- The psychiatric health nurses frequently assess all depressive patients to identify those with low psychological flourishing, optimism, and hope. Moreover, nurses apply positive psychology intervention to decrease the level of depression and promote mental health.
- Future studies must involve larger numbers of participants from varied populations and be undertaken by professional therapists. Standard protocols must to be adhered to; and broad examinations to follow up are required.

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The first author participated to the sample collection, conceptualization, preparation, implementation the program sessions, and reference gathering. The second author contributed in the investigation formal analysis, data analysis, and writing-original draft. The third author participated in practical program, reference gathering, writing-manuscript, and editing. All author reviewed and gave their approval to the final draft. Submission to the journal was done by third author.

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