Psycho- Educational Program for Enhancement of Self Compassion, Tolerance of Ambiguity and Body Image among Blind Adolescents.

[1]Hoda Abd ElmoatyMahmoud, [2]Monira Wadea Hanna&[3]Fathyea Said Sayed Ibrahim

[1,2]Lecturer of Psychiatric and Mental Health Nursing, Faculty of Nursing, Benha University. Egypt.

[3] Assistant professor of Psychiatric and Mental Health Nursing, Faculty of Nursing, Benha University. Egypt.

Abstract

Background: The sense of sight has essential role that is very clear, and the potential effects of the disruption or weakness of this sense are clear and may cause many significant difficulties that included of physical, psychological, behavioral, social and educational aspects especially among adolescents. **Aim:** this study aimed to evaluate the effect of psycho- educational program for enhancement of self-compassion, tolerance of ambiguity and body Image among blind adolescents. **Research design**: A quasi-experimental research design was utilized (pretest- posttest with follow-up) . **Setting:** The study was conducted in Al Noor School for the blind students at Benha City - Qalyubia Governorate. **Subjects:** A purposive sample of 50 students of preparatory and secondary school were included in this study. **Tools**: Four different tools were used; **Tool (1):** A structured Interviewing Questionnaire Sheet, **Tool (2):** Self-Compassion scale**Tool (3)** Ambiguity Tolerance scale , and **Tool (4):** Body image scale. **Results**: There is statistically significant positive correlation between study variables in which that higher self-compassion is associated with more positive body image and greater tolerance of ambiguity among adolescents. **Conclusion**: These results proved of efficacy of psycho- educational program for enhancement of self compassion, tolerance of ambiguity and body image among blind adolescents. **Recommendations:** Develop many intervention plans for reducing negative body image perception and also for the enhancing self-compassion and tolerance of ambiguity among blind adolescents.

Keywords: Blind adolescents, Body image, Self-compassion, Tolerance of ambiguity

Introduction:

Adolescence is a critical developmental stage that is characterized as the period of psychological development during which commitment to one's friends, family, and community as a whole develops. It is also a time of physical and psychological maturation as well as social adjustment. When teenage growth is successful, the result is a physiologically mature individual who can form strong relationships and has the cognitive and psychological capacity to handle the demands of adult life. Adolescents are also highly excited about their shape and body image, but they are also the most susceptible to negative effects from the threat of body shaming the psychosocial functioning in the later stages of his life **(Leung & Shek, 2020).**

One of the most vital sense organs in the human body, the eye, offers a wealth of information. Lack of vision can significantly restrict a person's ability to experience the world, resulting in reliance that affects not only the individual with the impairment but also their family and the community **(Khurshid & Malik, 2023)**. Vision is a crucial component of mental health. According to clinical definitions, blindness is the lack of a perception of light, which can vary from not being able to see light at all to still having some vision and cannot be corrected by medication, surgery, glasses, or contact lenses. Furthermore, blindness is a physical ailment that has profound emotional and physical repercussions. It results in significant differences in habits and lifestyle that could hinder a blind adolescent's ability to adjust socially, psychologically, and physically the most devastating sensory impairment **(Krishnan et al., 2021).**

Since it is difficult for blind adolescents to develop normally in terms of their social, emotional, and cognitive abilities, they are

obviously at a disadvantage. which experience a number of losses, such as those pertaining to their sense of self-worth, physical integrity, mobility, daily activities, leisure, employment, and independence, Apart from social competence **(Nair et al., 2022),** The blind adolescents struggle to complete his everyday responsibilities and occasionally relies on others to do the most basic ones. Self-esteem, life happiness, sadness, and communication issues with sighted individuals can all be negatively impacted by this dependence. Another effect of visual impairment is that it causes adolescents to feel helpless and to expect themselves to be less capable, which lowers their acceptance and results in poor performance **(Gupta & Parimal, 2023).**

The intriguing and unique manner a person gradually and logically constructs their self-perception of their existential body is known as body image. Numerous factors influence its physiological, libidinal, and sociological aspects, and maintaining the body's trustworthiness and solidarity via complete identity development is essential to ensuring strong protection. How blind teenagers imagine their bodies, how they think and feel about them, and how their personalities relate to their visual impairment. All things considered very worried about their appearance (they are incredibly hesitant) and less happy with their body and indicated more grounded relationship of self-perception with harassing and mental prosperity. Specially, Female are more vulnerable to body disappointment than male when not having the capacity to fulfill the societal guideline of the "flawless" body **(Deopura, 2022).**

However, tolerance of ambiguity is a personality trait that was initially thought of as a cognitive and perceptual individual difference

variable that directs social functioning, problem-solving behavior, belief and attitude systems, and thinking style. This propensity to view or understand unclear circumstances, events, or concepts as a source of psychological discomfort or danger as appealing, demanding, and fascinating is linked to prejudice and mental inflexibility. According to **(Hillen et al., 2017),**people who seek out ambiguity are more psychologically optimistic, have less rigid defenses, and are able to tolerate the discomfort of an ambiguous situation long enough to determine the correct interpretation or solution. As a result, they perform exceptionally well on ambiguous tasks**.**

Furthermore, blind adolescents' tolerance of ambiguity entails a significant increase in the variety and complexity of their social and personal lives, as well as a great deal of confusion and changes for both young and adults. As a result, challenges to their ability to cope with uncertainty resulting from mismatch may be approached intolerantly, where blind people may produce "false clarity" by excluding information that does not fit expectations. Blind adolescents suffer mostly from the negative psychological consequences of the dramatic changes in our society . Almost every situation involves challenges related to social and personal growth as well as coping mechanisms. Teenagers who are ambiguity tolerant are less likely to react hastily to uncertain or difficult circumstances and to find black-and-white answers **(Redlich et al., 2020).**

Having a positive outlook on oneself when things are going well is known as self-compassion. This quality works well as a safeguard to promote emotional resilience. The three elements of this construct—self-kindness versus self-judgment, awareness versus intense

identification, and human commonality versus isolation—indicate that everyone is flawed and that this problem is not unique to any one individual. Many good psychological outcomes, such as constructive problem-solving, marital stability, increased motivation to overcome interpersonal problems, decreased fear of failure, and reduced feelings of guilt, are linked to the concept of self-compassion. Adolescents who are compassionate are less prone than those who are not to feel bad. These emotions do occur occasionally, of course, but they are less frequent and persistent **(Qian et al., 2022).**

Adolescents with visual impairments can be effectively countered by psycho-educational methods. It must list stress-reduction strategies and strategies for improving their ability to cope. creating profiles of people with similar disabilities who excel as athletes and exchanging information to help reduce feelings of loneliness. A thorough assessment of the factors causing the current challenges faced by the young person and their family can also be obtained by observing their mood, behavior, and interactions with peers, family, friends, and other people. This will also help them learn more coping mechanisms and help blind adolescents choose the right courses of study and careers based on their preferred learning styles **(Jones & Maloney, 2023).**

As the primary healthcare providers for the blind, psychiatric mental health nurses should be able to recognize the social, medical, and rehabilitation needs and issues of their patients. A type of active learning known as disability simulation which is a technique that can be used to gain a better understanding of disabled people and involves simulating physical limitations, like blindness, for healthy individuals by having them wear blindfolds. This approach has the potential to influence people's

attitudes, particularly those of students, and is helpful for in-service training for those who work with disabled individuals. It will be beneficial to identify the variables associated with adjustment and their respective roles, as well as experience psychosocial stresses, so nurses may better understand the process of adjusting to visual loss. Furthermore, advanced nursing practice is thought toby creating data that is supported b y research and improving the standar d of care for adolescents **(Mansy et a l., 2023).**

Significance of the study

The prevalence of visual impairment is very high worldwide. Eighty percent of more than 40 million people with declining vision worldwide live in developing countries. There are roughly 65 million blind people in the US. Of the 314 million people with vision impairments worldwide, 45 million are blind. The prevalence of poor eyesight in Egypt is 3.1% across all age groups, or around 2.3 million people. Approximately 737 000 people, or 1.1% of the population, are blind. If proper action is not taken, the number of blind persons in Egypt will surpass one million by 2020. WHO projections from 2012 indicate that 110 million people with low vision would be at danger and that 148 million people would be blind globally of being blind. Approximately 90% of blind and VI people reside in developing countries **(Deopura, 2022).**

Blindness can limit an adolescent's ability to carry out one or more essential daily tasks due to physical, mental health, intellectual, or sensory impairment. These disabilities, whether short-term or long-term, can significantly affect an adolescent's quality of life. As a result, blind people have difficulty developing normally on the social, emotional, and cognitive levels. Therefore, in order to improve their body image, adolescents with visual impairments

require clear instructions that promote the development of social skills, independence, self-compassion, and tolerance for ambiguity.

Aim of the study:

This study aimed to evaluate the effect of a psycho-educational program for enhancement of self-compassion, tolerance of ambiguity and body image among blind adolescents. **This was achieved through** assessing levels of self-compassion, tolerance of ambiguity and body image, designing and implementing psycho-educational program, and evaluating effect of psycho-educational program on self-compassion, tolerance of ambiguity and body image Among Blind Adolescents

Research hypothesis:

H1: Mean score of the self-compassion among study group will be significantly higher after implementation of psycho-educational program compared to pre implementation.

H2: Mean score of the tolerance of ambiguity among study group will be significantly higher after implementation of psycho-educational program compared to pre implementation.

H3: The study group who obtained psycho-educational program will experience significantly higher mean score of body image satisfaction post- program compared to pre-program.

Definition of Key Terms

- **Self-compassion** - According to Neff, compassion has three components with two parts each that are exhibited during times of pain and failure. (1). being kind and understanding towards oneself rather than being self-critical (2).seeingones fallibility as part of larger human condition and experience rather than as

isolating and (3).holdingones thoughts and feelings in mindful awareness rather than avoiding them or over identifying with them.

- **Ambiguity Tolerance (AT)** defined as "the tendency to perceive ambiguous situations as desirable." An individual who is intolerant of ambiguity will be more likely to interpret ambiguous situations as a threat source.
- **Body image-** bodyimage isa complexconstruct constitutingthe following configuration emotional experience relatedto itsbody andfunction aswell asmental concept (perception andthoughts) regarding physical appearance.

Subject and methods

Research design:

A quasi-experimental research design was used, with one group receiving pretest –posttest with follow-up. One benefit of this research design is that it is directionally focused, which means that an independent variable is used to assess a dependent variable before ,immediately after and at a later time point following the intervention ..

Setting:

The study was conducted in Al Noor School for the blind students at Benha City - Qalyubia Governorate. which is affiliatedto Educational Administration which part of The Ministry of Education. The school consist 2 building, The first building consist of 4floors . The first floor involves area for administration, activity, art and daily living. Another floors contains 12 classrooms (1class for kg, 5classes primary, 3classes preparatory and 3classes secondary) and The second building is internal ward .

Subject:

A purposive sample of 50 students of preparatory and

secondary school was take from the above mentioned setting and included in the study based on (1) had no physical, psychiatric neurological disease that limited their cognitive and verbal capacity to follow the instruction. (2) voluntarily took part in the study, and (3) able to participate from the beginning until the end of the study. However, the blind adolescents who were being uncooperative during the study were excluded.

Tools of data collection:

To achieve the aim of the study, the researchers used four tools to collect relevant required data, which included the following tools:

Tool (1): A structured Interviewing Questionnaire.

This tool was developed by the researcher based on a scientific review of literature used to assess personal data of blind adolescents such as age, sex, educational level, residence, number of family members, father and mother job & type of relation between father and mother. Medical history data includes onset of blind state, cause and degree of blindness, complication & family history.

Tool (2):Self-Compassion Scale (SCS).

The scale was originally developed by **Neff (2003)** and adapted by the researcher and used to assess the characteristics of self-compassion and measure how often blind adolescents respond to feelings of inadequacy or suffering with. It consists of 26 items rated on a 3-point Likert scale. The scale divided into 3 positive and 3 negative subscales; The 3 positive subscales includes self-kindness (5 items), common humanity (4 items), and mindfulness (4 items) and responses for these positive subscales are (never (1), sometimes (2), and always (3). The 3 negative subscales include self-judgment (5 items), isolation (4

items), and over-identification (4 items), and responses for these negative subscales are never (3), sometimes (2), and always (1). The higher score indicating high self-compassion. This scale was translated into Arabic and tested again by the investigator.

The scoring system of the self-compassion scale was categorized as follows

Low self-compassion:26-43 (< 50%)

Moderate self-compassion: 44-60 (50% -< 75%)

High self-compassion: 61-78 (≥ 75% - ≥100 %)

Tool (3) : Tolerance of ambiguity scale

The scale was originally developed by **Yaser, (2015)** and adapted by the researcher to measure the Ambiguity Tolerance. It consists of 39 items distributed over four dimensions: -

First dimensions: Coping with ambiguous or complex situations: represented by items numbered (1-10).

Second dimensions: Flexibility and lack of rigidity: represented by the items numbered (11-21).

Third dimensions: The tendency towards novelty and originality: represented by the items numbered (22-30).

Fourth dimensions: Controlling the lack of information: represented by the items numbered (31-39). Rated on a 3-point Likert scale (strongly agree, moderately agree and slightly agree). Scores are assigned to the scale (3, 2, 1). These responses are reflected in the negative items numbered (5, 6, 8, 9, 12, 16, 17, 19, 20, 21, 22, 23, 24, 25, 28, 30, 33, 34, 35, 36, 37, 38, and 39). A high score on the scale indicates a high level of ambiguity tolerance This scale was translated into Arabic and tested again by the investigator.

Scoring system of ambiguity tolerance scale was categorized as follows:

Low ambiguity tolerance39-64.

Moderate ambiguity tolerance65-91.

High ambiguity tolerance92-117.

Tool (4): Body image satisfaction scale

The scale was adopted by **Jameel &Shamim (2019)** to measure self-body image .The scale of body image satisfaction is consisted on 14 items. These items were selected from the large pool of items which were generated by the researchers. The pool was generated from the literature of body image satisfaction. Rated on a 3-point Likert scale (DA = Disagree, UC = Uncertain, A = Agree). Scores are assigned to the scale (1, 2, 3). This scale was translated into Arabic and tested again by the investigator .

Scoring system of Body image satisfaction scale was categorized as follows

Low body image satisfaction**14-23**

Moderate body image satisfaction**24 -33**

High body image satisfaction **34 -42**

Methods

Development of tools:

This phase included reviewing relevant studies related to the topic of research literature using books, articles, journals, and the internet to get a clear picture of all the aspects related to the research topic to design the program and study tools for data collection during this phase.

Administrative approval:

Official letters were issued from the faculty of nursing to the director of Al Nour School for the Blind students in Benha City, explaining the aim of the study and requesting their permission for data collection and participation of blind adolescents in the research process.

Ethical considerations:

The ethical research considerations included the following:-

Ethical approval was obtained from the scientific research ethics committee, No (43) on September

2024, faculty of nursing, BenhaUniversity before starting the study. Researchers clarified the objectives and aim of the study to the blind adolescents included in the study before starting and emphasized that all data collected was strictly confidential and the data would be used for scientific purposes only. Informed consent was obtained from the study subjects before inclusion in the study. Blind adolescents were informed that they were allowed to choose whether to participate or not in the study and that they had the right to withdraw from the study at any time. Also, the study does not produce any harm to them.

Validity of the tools:

Before starting, the data collection, instruments were translated into Arabic and back to English and tested for its face and content validity by five experts in the field of Psychiatric & Mental Health Nursing to determine its completeness, accuracy, consistency, and relevance and clarity of the questions. The tools proved to be valid.

Reliability of the tools:

In the current study, all measurement tools demonstrated strong internal consistency. The **Self-Compassion Scale (SCS)**, which consists of 26 items, showed excellent reliability with a Cronbach's alpha ranging from **0.92 to 0.94** for the total scale The **39**-item Tolerance of ambiguity scale also indicated very good reliability, with a Cronbach's alpha of ranging from **0.90 to 0.92**, reflecting consistent measurement of various aspects of Tolerance of ambiguity scale. Similarly, the body image satisfaction scale a 14 itemscale assesses participants' general satisfaction with body and appearance. Demonstrated very good internal consistency with a Cronbach's alpha of **ranging from 0.84 to** 0.89 .These results confirm that all three instruments are reliable

for use in the current research context.

Pilot study:

A pilot study was conducted on 10% (5 blind adolescents) of the sample before embarking on the field of work that were chosen randomly to estimate the time needed to fill in the sheets and to identify obstacles or problems in data collection . As a result, the appropriate adjustments were made (changing some verbs & revised) were done then the final format was developed. Subjects who shared in the pilot study were included in the main study sample.

Field work

The study was carried out in the period from (beginning of October 2024 to the end of March 2025) the period of implementation was 6 months and after one month for follow-up. The Implementation of the study passed into four phases (assessment phase, designing phase, implementation phase, and evaluation phase).

Phase one: Assessment phase:

- A comfortable, private place was chosen for the interview with the blind adolescents. The researcher started data collection by orienting blind adolescents about the researcher's name, purpose, significance, and content of the study.
- The blind adolescents' eligibility and baseline data (pre/test).The researcher interviewed them individuallyfor any clarification and filled through interview by researcher; the interview ranged from 30-40 minutes from 10 AM to 1 AM at two days/week. This phase aimed to determine the study subject's needs as a baseline of intervention program

Phase two: Designing phase (Development of the program):

Based on the results obtained from the assessment tools and review of literature, the program

content was developed by the researchers in the form of a booklet (the booklet language written by Braille technique by assist with blind students teachers to allow students understanding the program content sessions.Psycho educational program aimed to enhancement of self-compassion, tolerance of ambiguity and body image among blind adolescents. Consists of theoretical and practical sessions in which each one of them has set of general and specific objectives.

General objectives of the program:

At the end of the implementation of the Psycho-educational program blind adolescents should be able to acquire knowledge and skills to improve their self-compassion and tolerance of ambiguity and body image satisfaction.

Specific objectives of the program:

At the end of Psycho-educational program the blind adolescents acquire knowledge and practical skills about: -

- Theoretical knowledge about blindness (meaning of blindness, treatment, prevention, and resources of help.

- Practice skills through his session focuses on practice on of self-compassion, training on expression of feelings and emotions experienced in their dealings with their lives, training on overcome negative thoughts and training on living skills.

Phase three: Implementation phase:

The program was implemented in 9 sessions; the first session was an introductory session and performed a pre-test, (2) sessions were theoretical sessions, and (5) practical sessions and the final session summary for all previous sessions and perform the post-test

The subjects were divided into 5 groups; each of them consisted of 9-10 blind adolescents. Each group

attended 9 sessions; 2 sessions per week were taken during the morning, and the duration of each session was about 30-45 minutes for theory and 60-90 minutes for practice.

Sessions

Session 1(Introductory): Introducing the participants to each other, presenting the objectives of the procedure, listening to the participants' feelings and problems.

Theoretical sessions

Session 2: Recognize meaning of (blindness, causes, symptoms and treatment), effect on daily living, prevention of blindness, healthy eating and types of help.

Session 3: Recognize meaning of self-compassion, tolerance of ambiguity, body image and its effect on their lives.

Practical Sessions

Session 4: Practiceon of self-compassion (Practice daily affirmations- Practice self-forgiveness-Turn guilt into gratitude-Surround yourself with loved ones).

Session 5: Training on expression of feelings and emotions experienced in their dealings with their lives (practice reinforcement strategies of the expressed emotion, relaxation and meditation techniques to improve tension, anxiety and self-esteem).

Session 6&7: Training on overcome negative thoughts (increased acceptance of their visual disability. Acquire skills to deal with negative thoughts through training on Idea's Termination Technique - Self-monitoring - Self-Monologue Technique).

Session 8: Training on living skills (orientation and mobility training, writing and reading Braille)

Final session summary:

Session 9: Summarization and conclusion, reviewing the trained

materials, receiving feedback from blind adolescents.

Each session started with a summary of what was given at the previous session, and the objectives of the new session were mentioned, taking into consideration using of audio means to suit blind adolescents.(listening to the audio records related to program sessions that made by researchers to clear any the misunderstanding for blind adolescents.

Methods of teaching: - The blind adolescents received the same program content using the same teaching methods, there were group discussion, brain storming, demonstration, re-demonstration , real situation, group cooperation, and positive reinforcement.

Teaching materials (Media): - Suitable teaching aids were specially prepared for intervention as audio taped and oral questions

Phase four: Evaluation phase (post/test):

After the program implementation, the post-test was carried out by using the same tools as the pre-test and follow-up to reinforce the skills learned and address any ongoing challenges. This was done after the implementation of the program to evaluate the effect of psycho-educational program.

Statistical analysis:

The data were statistically analyzed using SPSS version 20. Numerical variables were presented as mean ± standard deviation (SD) and range, while qualitative data were expressed as frequencies and

percentages. Relationships between variables were assessed using the Friedman test and Student's t-test for continuous data, and Pearson's correlation analysis was conducted to determine the strength and direction of relationships between quantitative variables. A p-value of $\leq$ **0.05** was considered statistically significant, while a p-

value of ≤ **0.001** indicated high statistical significance.

Results :

Table (1): Shows distribution the socio-demographic characteristics of the studied adolescents. Their mean age of them is 14.96±1.56 years. Regarding to sex, two thirds of them are females (64.0%). In accordance with theireducational level, more than half of them have secondary education (58.0%). As regards their father job, more than two thirds of them are working (72.0%). While, less than half of their mothers not working (42.0%).

Table (2): Represents distribution of the medical history among studied adolescents. The results revealed that (66.0%) of the blind adolescentstheir illness appears at birth and the cause of blindness is congenital. Concerning the Blindness degree, (58.0%) of them have mild degree of blindness, while the minority(6.0%) of them have severe degree. As well as (64.0%) of studied adolescents have health problems, educational problems, social problems, emotional problems as related complication of blind state. Also (64.0%) of them had no family history of blindness

Figure (1): Demonstrates a substantial improvement in self-compassion levels following the intervention. The proportion of adolescents with high self-compassion increased notably post-program, while those at low levels declined. These changes were partially sustained at follow-up, indicating the program's lasting effect on enhancing self-compassion.
Table (3): Demonstrates that there is a statistically significant improvement in body image scores among adolescents at all program phases ($p < 0.001$). The mean score increased from 34.53 ± 14.45 pre-program to 95.22 ± 30.08 post-program, with a slight decline to 87.14 ± 7.94 at follow-up. All

pairwise comparisons are statistically significant, including a small but meaningful reduction from post- to follow-up (p = 0.007), indicating a sustained yet slightly attenuated effect over time.

Table (4): Shows, that there is statistically significant differences at adolescents' tolerance of ambiguity across program phases (p < 0.001 for all phases). Pre-program, most adolescents are at the moderate level (n = 38, M = 78.9 ± 6.5), with only 2 participants at the high level. While Post-program, there is a marked shift, with 25 participants reaching the high level (M = 95.8 ± 3.1) and only 1 remaining in the low category. As well, at follow-up, improvements are partially sustained, as 10 participants remained at the high level and most stayed in the moderate range (n = 37, M = 81.2 ± 5.4).

Table (5): Shows statistically significant positive correlations between the three variables. Self-compassion is strongly correlated with both body image (r = 0.612, p = 0.000) and ambiguity tolerance (r = 0.583, p = 0.001). Additionally, body image is positively correlated with ambiguity tolerance (r = 0.541, p = 0.001). These findings indicate that higher self-compassion is associated with more positive body image and greater tolerance of ambiguity among adolescents.

Table (6): Shows that self-compassion levels differed significantly across medical history characteristics. Blind adolescents from birth, with congenital causes, or experiencing mild blindness showed higher mean self-compassion scores post-program and at follow-up (p< 0.05 for all comparisons). These findings indicate that the onset, cause, and degree of blindness are significant factors influencing adolescents' self-compassion.

Table (7): Illustrates that body image levels did not relate significantly with onset or cause of blindness (p> 0.05), both post-program and at follow-up.

However, a significant relation was observed at the degree of blindness ($p< 0.05$), with higher body image scores reported among adolescents with mild visual impairment, suggesting that the severity of impairment may influence body image perception.

Table (8): Shows no statistically significant relation between tolerance of ambiguity and the onset or cause of blindness ($p> 0.05$) at both post-test and follow-up. However, a significant relation is observed with the degree of blindness ($p< 0.05$), where adolescents with moderate visual impairment reported the highest scores, while those with severe impairment have the lowest levels of ambiguity tolerance. This suggests that the severity of blindness may influence adolescents' capacity to tolerate ambiguity

Table (1): -Distribution of socio-demographic characteristicsamong the studied blind adolescents (n=50).

Socio-demographic characteristics	Studied adolescents (n=50)	
	N	%
Age(In years)		
13- 14	21	42%
15-16	18	36%
17-18	11	22%
M±SD **14.96±1.56 years**		
Sex		
Male	18	36%
Female	32	64%
Education level		
Preparatory	21	42%
Secondary	29	58%
Residence		
Urban	24	48%
Rural	26	52%
Family Size (members)		
1-2	26	52%
3-5	24	48%
More than 5	0	0%
M±SD2.88±1.29		
Father job		
Work	36	72%
Not work	14	28%
Mother job		
Work	29	58%
Not work	21	42%

Table (2):-Distribution of medical history among studied blind adolescents (n=50).

Medical history	Studied adolescents (n=50)	
	N	%
Onset of Blind state		
From the birth	33	66%
From 1 year to less than 5 years	6	12%
From 5 years to less than 10 years	6	12%
From 10- 15 years	5	10%
M±SD4.07 ±2.39		
The cause of Blindness		
Congenital	33	66%
Accidental	17	34%
The Blindness degree		
Mild	29	58%
Moderate	18	36%
Severe	3	6%
Complication of blind state		
Health problems	6	12%
Educational problems	8	16%
Social problems	2	4%
Emotional problems	2	4%
All of the above	32	64%
Family History of Blindness		
Yes	18	36%
No	32	64%
Degree of kinship (n=18)		
First Degree	11	60%
Second Degree	7	40%

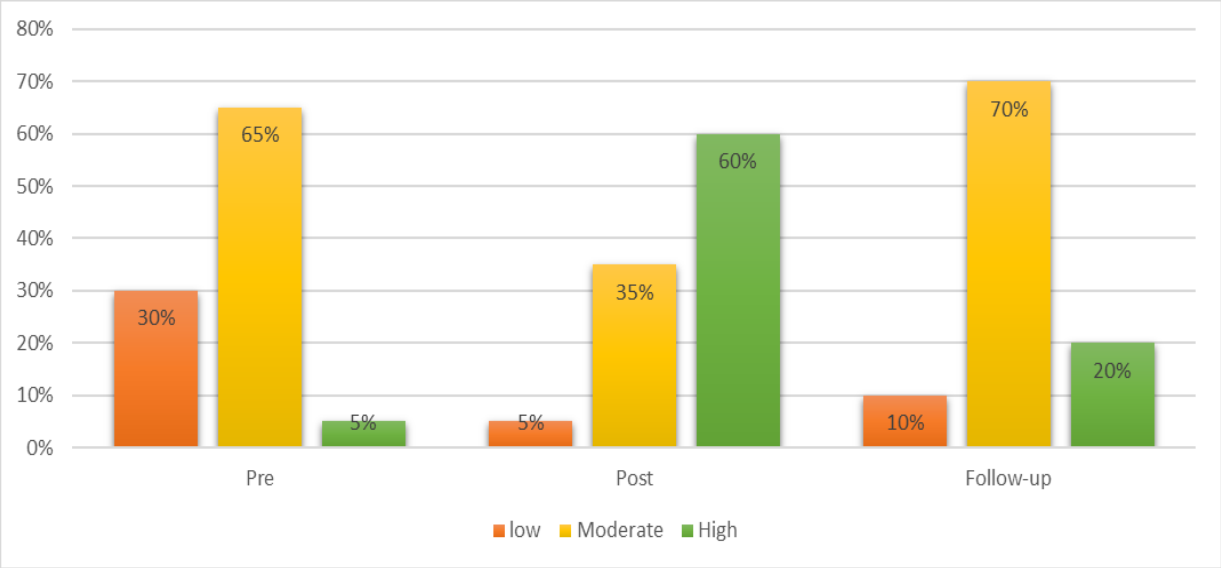

Figure (1): Levels of self-compassion among the studied blind adolescents pre, post and follow up programimplementation n= (50)

Table (3): -Mean score of body image amongstudied blind adolescents at pre, post and follow up program implementation (n=50).

Time	Body Image (Mean ± SD)	Comparison	Mean Difference	SD	T-value	P-value
Pre	34.53 ± 14.45	Pre – Post	60.56	33.04	13.596	< **0.001**
Post	95.22 ± 30.08	Pre – Follow-up	57.10	14.43	25.648	< **0.001**
Follow-up	87.14 ± 7.94	Post – Follow-up	11.87	25.25	2.859	*< 0.007*

Table (4): -Mean scores tolerance of ambiguity among the studied blind adolescents pre, post and follow up the program implementation. n=50

Phase	Level	Number	Mean Score (M± SD)	P- value
Pre	Low	10	60.5 ±3.2	< 0.001
	Moderate	38	78.9 ± 6.5	
	High	2	95.0 ±1.4	
Post	Low	1	63.0 ± **0.0**	< 0.001
	Moderate	24	83.5 ± 4.8	
	High	25	95.8 ± 3.1	
Follow-up	Low	3	62.7 ±1.2	< 0.001
	Moderate	37	81. 2±5.4	
	High	10	± **2.7**92.7	

Table (5): Correlation between Self-Compassion, Body Image and tolerance of Ambiguity among the studied blind adolescents (n = 50).

Items	Body Image		self -compassion	
	r	P	r	P
Self -compassion	0.612	0.000**		
Body Image				
Tolerance of Ambiguity	0.541	0.001**	0.583	0.001**

(**) highly statistically significant at p<0.001.

Table (6): Relationship between medical history and total mean score of self-compassion among the studied blind adolescents post and follow up program implementation.

Medical history		N	Total level of self-compassion										
			Post Test			ANOVA or T-test			Follow up Test			ANOVA or T-test	
			Mean	±	SD	test value		P-value	Mean	±	SD	test value	P-value
Onset of the illness	From the birth	33	34.840	±	13.291	F	2.430	<0.05*	30.640	±	11.351	2.210	<0.05*
	From 1 year to less than 5 years	6	23.167	±	12.774				20.623	±	10.723		
	From 5 years to less than 10 years	6	21.507	±	11.228				19.721	±	9.321		
	From 10- 15 years	5	18.750	±	7.632				16.850	±	6.701		
Cause of blindness	Congenital	33	36.743	±	13.238	F	3.958	<0.05*	33.543	±	11.338	2.958	<0.05*
	Accidental	17	29.429	±	14.480				26.329	±	12.543		
Degree of blindness	Mild	29	41.125	±	16.013	F	2.023	<0.05*	37.225	±	13.243	1.223	<0.05*
	Moderate	18	34.565	±	14.301				30.765	±	11.311		
	Severe	3	24.365	±	12.501				19.466	±	9.651		

*Statistically significant at p<0.05.

Table (7): Relationship between medical history and total mean score of body image among studied blind adolescents post and follow up program implementation.

Medical history		N	Total level of body image										
			Post Test			ANOVA or T-test			Follow up Test			ANOVA or T-test	
			Mean	±	SD	test value		P-value	Mean	±	SD	test value	P-value
Onset of the illness	From the birth	33	66.840	±	14.156	F	0.412	> 0.05	62.905	±	14.566	0.419	> 0.05
	From 1 year to less than 5 years	6	63.846	±	16.344				57.769	±	16.387		
	From 5 years to less than 10 years	6	60.653	±	15.532				53.672	±	15.342		
	From 10- 15 years	5	64.667	±	11.719				65.000	±	1.065		
Cause of blindness	**Congenital**	33	85.333	±	3.243	F	0.764	>0.05	69.667	±	15.044	0.874	>0.05
	Accidental	17	67.900	±	15.576				57.500	±	17.665		
Degree of blindness	Mild	29	73.941	±	15.073	F	0.327	**<0.05 ***	69.118	±	15.208	1.652	**<0.05***
	Moderate	18	72.565	±	15.843				64.235	±	11.343		
	Severe	3	62.465	±	14.843				58.043	±	12.443		

*Statistically significant at p<0.05.

Table (8): Relationship between medical history and total mean score tolerance of ambiguity among the studied blind adolescents post and follow up program implementation.

Medical history		N	Total level of tolerance of ambiguity										
			Post Test			ANOVA or T-test			Follow up Test			ANOVA or T-test	
			Mean	±	SD	test value		P-value	Mean	±	SD	test value	P-value
Onset of the illness	From the birth	33	96.440	±	18.259	F	0.632	> 0.05	87.605	±	14.432	0.719	> 0.05
	From 1 year to less than 5 years	6	88.646	±	19.344				82.759	±	13.587		
	From 5 years to less than 10 years	6	86.651	±	18.562				83.962	±	13.342		
	From 10- 15 years	5	74.567	±	15.819				68.021	±	10.065		
Cause of blindness	**Congenital**	33	89.733	±	14.243	F	0.954	>0.05	79.867	±	13.344	0.824	>0.05
	Accidental	17	77.923	±	16.876				68.512	±	14.765		
Degree of blindness	Mild	29	79.941	±	15.933	F	0.427	**<0.05 ***	69.918	±	12.808	1.321	**<0.05 ***
	Moderate	18	92.465	±	17.843				84.735	±	14.643		
	Severe	3	64.465	±	16.863				58.453	±	13.843		

*Statistically significant at p<0.05.

Discussion

Blindness is a physically crippling condition that has major financial and emotional repercussions. Blindness leads to significant changes in habits and lifestyle. It could lead to issues with social, psychological, and physical integration. Teenagers, families, and the community are all significantly impacted. Children and schoolchildren should get at least one screening and vision test each year to identify issues early and lower the chance of blindness. **Woldeamanuelet al.,(2020)**Therefore, the current study's goal was to assess how a psycho-educational program affected blind adolescents' body image, self-compassion, and ability to tolerate ambiguity.

According to the current study, the mean age of the teenagers under study was 14.96±1.56 years, and over half of them had completed secondary school. According to the researcher, they are in secondary school at this age because vision impairment may have been discovered later than expected due to treatment neglect. Additionally, in order to grant the kid the opportunity to attend such an educational program at the expense and responsibility of the government, the choice to enroll the child in school necessitates a disability approval document.

Two-thirds of them are female in terms of sex. According to their educational background, over half of them are from rural areas and have completed secondary school. According to the researchers, this might be because, as is customary in rural societies, they were exposed to diseases or trauma at a young age while playing or helping out around the house with their parents. Additionally, the dearth of cutting-edge medical facilities for eye issues in rural locations can be the cause. Regarding their father's employment, over two-thirds of them

are employed. However, fewer than half of their mothers are unemployed.

According to the medical history of the adolescents under study, over two-thirds of them were born blind. These results concur with those of **Nobre et al. (2000).** According to the study, the child's age at birth was when the impairment first appeared. According to the researchers, moms are in charge of providing care and recognizing the issue. If they are aware of their child's visual impairment, they may consult an ophthalmologist early on or put off seeking treatment for the child.

According to the current study, the underlying reason was congenital in almost two thirds of the adolescents investigated this could be related to the challenge of early diagnosis of congenital vision abnormalities. This result was in line with **Heijthuijsen et al. (2013),** who pointed out that abnormalities from birth and perinatal causes—primarily retinopathy of prematurity—were the main causes of serious vision loss or blindness. This finding was contradictory with **Awan et al., (2018)** which revealed the most prominent cause was refractive error in the large majority followed by amblyopia.

In terms of blindness severity, the most of them have mild blindness, while a small percentage have severe blindness. The family's desire to provide for the child, particularly through treatment and follow-up to keep him from getting worse, may be the source of this discovery. This finding contradicted that of **Parrey (2019),** who discovered that the sample under study had severe blindness, which is more severe than mild blindness.

The current study found that, almost two-thirds of the teenagers without a family history of blindness suffer physical, scholastic, social, and emotional issues. According to the

researchers, this might be because there is no consanguineous marriage, but it happens during pregnancy (prematurity) or infancy (infection, trauma). This outcome was comparable to that of **Bakkar et al. (2018),** who found that almost two-thirds of participants had no family history of eye conditions. These findings, however, are at odds with those of **Jamil & Atta (2017),** who pointed out that over half of the students used spectacles and had a family history of vision issues.

Regarding the adolescents' degree of self-compassion before and after the program's implementation. It revealed that whereas a small percentage of individuals exhibited high levels of self-compassion prior to the program's introduction, this changed to over two-thirds of them after it was implemented. This conclusion might be the result of an effective educational program that teaches teenagers how to forgive themselves, practice daily affirmations, and transform their guilt into gratitude by surrounding themselves with acts of love. This finding is comparable to that of **Abolfazl et al. (2024),** who discovered that blind students' self-compassion was lower before psychological intervention, which increased their self-acceptance and self-compassion.

The current study found that, adolescents' body image scores have improved statistically significantly throughout all program phases. This discovery might be the result of blind teenagers being contented with their body forms, feeling that they have many blessings and skills, being able to accomplish their goals, being self-assured, and learning how to express their emotions and apply reinforcement techniques. This finding aligned with the findings of **Hafiz & Farid (2019),** who found that the majority of visually impaired pupils are contented with their body shapes.

They never felt that their blindness was a hindrance to their beauty and were always content with the way they looked. They may be able to handle challenges and find solutions by relying on their coping mechanisms and strengths.

The current study found that, there are statistically significant variations in adolescents' ambiguity tolerance throughout program phases. The majority of teenagers are at the intermediate level prior to the program. There is a noticeable change after the program, with 25 participants achieving the high level. This conclusion might be the result of psycho-educational programs that teach teenagers how to deal with negative thoughts, boost their acceptance of their visual impairment, and develop coping mechanisms to effectively handle unclear circumstances, events, and concepts. This outcome was consistent with **Stoycheva& Katya's (1998)** findings that groups produced a statistically Significant differences exist in teenagers' ambiguity tolerance, which reflects contrasting approaches to ambiguous situations and a true variation in their tolerance for uncertainty.

The current study's findings indicated that there were positive, statistically significant correlations between the study variables of self-compassion, body image, and tolerance of ambiguity. These results suggest that among the blind adolescents under study, a higher level of self-compassion is linked to a more positive body image and a greater ability to tolerate ambiguity. According to the researchers, blind adolescents should practice self-kindness, humanity, and mindfulness in order to avoid self-judgment, loneliness, and having a positive body image. They should also gain more control and learn how to handle ambiguous situations. This result is

consistent with a study by **Nimisha and Sannet Thomas (2020)** that found a significant relationship between adolescents' self-compassion and body area satisfaction. In contrast, **James-Kangal (2020)** found a negative link between ambiguity and the teenagers under research.

The current study's findings showed that greater mean self-compassion scores at follow-up and post-program were associated with the medical history of the blind teenagers under study. These results suggest that teenagers' self-compassion is significantly influenced by the occurrence, etiology, and severity of blindness. This could be explained as, the occurrence of blindness conditions earlier in life has an impact on the structure of adolescents' self-concept and self-esteem, making them less compensated with themselves. Family support and adjustment can help blind adolescents express negative emotions, which helps them cope with their condition, which worsens after the program is put into place. This outcome is consistent with the research conducted by **Yıldırım and Sarı (2022).**Which indicates that the experimental group's self-compassion scores on the pre-, post-, and follow-up tests differ statistically significantly. However, the results contradict **Moghanlou et al. (2024),** who found that the normal group's average self-compassion score was higher than that of the blind and VI groups.

Regarding the association between the medical history characteristics of the blind adolescents under study and their body image levels, the current study's findings demonstrated a significant relationship at the degree of blindness, with adolescents with mild visual impairment reporting higher body image scores. According to the researchers, when the degree of impairment is low, the perception of body image becomes positive, indicating that the degree of

impairment may have an impact on body image perception, which is a significant aspect of blind adolescents' lives. The study was validated by the findings of **Jameel and Shamim (2019) ,**demonstrated that both male and female students with visual impairments who were studied felt always engaged. possess many positive traits and can perform tasks just as well as the majority of people. They are content with the shapes of their bodies. They didn't think that becoming blind would affect how they looked. The analysis disagrees with **Deopura's (2022)** findings, which stated that blind children between the ages of 12 and 14 have better overall body image dimensions than blind children between the ages of 15 and 17.

According to the current study's findings, there is a significant correlation between the degree of blindness and the tolerance of ambiguity. Adolescents with moderate visual impairment reported the highest levels of ambiguity tolerance, while those with severe impairment had the lowest. This relationship was found between the medical history characteristics of the blind adolescents under study and the tolerance of ambiguity, this could be returned to the degree of blindness may have an impact on how well teenagers can handle ambiguity. This indicates that adolescents with low and moderate levels of blindness were able to enhance their ability to handle ambiguity. The findings are consistent with a study by **Colombo et al. (2024)** that discovered ambiguity may also have a detrimental effect on adolescents' well-being and communication.

Conclusion

Based on the study's findings and hypothesis, the results confirmed the theoretical and practical effectiveness of a psycho-educational program for improving blind adolescents' self-

compassion, tolerance of ambiguity and body image . Following program implementation, there were statistically significant positive correlations between body image, self-compassion, and tolerance of ambiguity.

Recommendation

- Develop many intervention plans for reducing negative body image concept and also for the enhancing self-compassion and tolerance of ambiguity among blind adolescents.
- Self-compassion training programs tailored for blind adolescents.
- Suggestion of that psychologists and counselors should incorporate self-compassion, tolerance of ambiguity and body image concepts among adolescents and practices into training courses to enhance mental health for blind adolescents.

Conflict of interest

The authors claim to have no conflicts of interest.

Acknowledgments

The authors would also want to thank all of the blind adolescents who took part in this study. In which thank director and teachers of Al Nour School for the Blindness whose providing the necessary support and assistance for this study.

References

- **Abolfazl, J., Esmaeil, S., &Ahmadreza,K.(2024)).**Comparisonof self-acceptance, self-compassion and fear of negative evaluation by others in blind, visually impaired and normal people, Journal of Preventive Counseling (JPC), Vol. 5, No. 2, 73-90 . DOI: 10.22098/JPC.2024.14636.1217.
- **Awan, A. R., Jamshed, J., Khan, M. M., & Latif, Z. (2018):** Prevalence and causes of visual impairment and blindness among school children in

Muzaffarabad, Pakistan. Int J Sci Rep, 4(4), 93-8. http://dx.doi.org/10.18203/issn. 2454-2156.IntJSciRep20181393.

- **Bakkar, M.,Alzghoul, E.,& Haddad, M. (2018):** Clinical characteristics and causes of visual impairment in a low vision clinic in northern Jordan. Clinical Ophthalmology (Auckland, NZ), 12, 631.
- **Colombo, C., Confalonieri, E., &Cuccì, G.(2024).**The dimensions of uncertainty and ambiguity in adolescents and young adults' romantic relationships A systematic, copyright © FrancoAngeli review, Vol. 46 , ISSN 0391-6081
- **Deopura, P. (2022).** A Comparative Study of Body Image of Visually Impaired Adolescent in Rajasthan State. International Journal of Indian Psychology, 10(4), 2203-2210. DIP:18.01.208.20221004, DOI:10.25215/1004.20
- **Gupta, K., & Parimal, B. S. (2023)**. Lived Menstrual Experiences of Blind Menstruators: Empowering Blind Menstruators for Sustainable Development. In Women's Empowerment for a Sustainable Future: Transcultural and Positive Psychology Perspectives (pp. 539-552). Cham: Springer International Publishing. DOI:10.1007/978-3-031-25924-1_33
- **Hafiz, T., & Farid, S. (2019).** Relation of self confidence with self body image of visual impaired children. Available via license: CC BY 4.0Journal of Research in Psychology1.1.9
- **Heijthuijsen, A. A., Beunders, V. A., Jiawan, D., de Mesquita-Voigt, A. M., Pawiroredjo, J., Mourits, M., Tanck, M.,**

Verhoeff, J., & Saeed, P. (2013). Causes of severe visual impairment and blindness in children in the Republic of Suriname. The British journal of ophthalmology, 97(7), 812–815. https://doi.org/10.1136/bjophthalmol-2011-301000

- **Hillen, M., Gutheil, C., Strout, T., Smets, E., & Han, P. (2017).**Tolerance of uncertainty: conceptual analysis, integrative model, and implications for healthcare. *Soc Sci Med* 2017; 62-180
- **Jameel, H., &Shamim, F.(2019).** Relationship of Self-confidence with self body image of visually impaired children, Journal of Research in Psychology 1(1); 9-11,DOI:10.31580/jrp.v1i1.517 www.readersinsight.net/jrp
- **James-Kangal, N. (2020).** Development and Initial Validation of the Relational Ambiguity Scale [Doctoral dissertation, University of Cincinnati]
- **Jamil, N. F., & Atta, B. A. (2017).** Screening for Visual Impairment among Primary School Students in Baghdad Al-Karkh. Iraqi Journal of Community Medicine, 3., 136-140.
- **Jones, B. A.,& Maloney, L. H. (2023).** Meeting the Needs of Students With Coexisting Visual Impairments and Learning Disabilities. sagepub.com/journals, Intervention in School and Clinic. Hammill Institute on Disabilities; Vol. 50(4) 226–233.
- **Khurshid, F. & Malik, S.(2023).** Perception of Visually Impaired Youth about Familial, Academic And Caregivers Support. Global Journal of Human Social Science, 11(9); 55-62.

- **Krishnan, R., S. Narayanan, K. L., Murali, S. M., Sangeetha, A., Ram, C. S., & Robinson, Y. H. (2021) .**Lot based Blind People Monitoring System for Visually Impaired Care Homes. In 2021 5th International Conference on Trends in Electronics and Informatics (ICOEI) (pp. 505-509). IEEE. http://dx.doi.org/10.1109/ICOEI51242.2021.9452924
- **Leung, J. & Shek, D. (2020).** Theories of adolescent development: Overview. In S. Hupp & J. D. Jewell (Eds.), The Encyclopedia of child and adolescent development (pp. 1–12). https://doi.org/10.1002/9781119171492. wecad305**.**
- **Mansy, A. M.,Osman, Z. A., & Abd El Wahab, E. (2023).**PsychosocialAnd Academic Adjustment Among Visually Impaired And Sighted Female Adolescents. Scientific Nursing Journal, DSNJ, Vol 1. No.2.
- **Moghanlou,A., Sadri, E., &Kiani,A.(2024).**Comparison of self-acceptance, self-compassion and fear of negative evaluation by others in blind, visually impaired and normal people, Journal of Preventive Counseling, Vol. 5, No. 2, DOI: 10.22098/JPC.
- **Nair, V., Olmschenk, G., Seiple, H., & Zhu, Z. (2022).** ASSIST: Evaluating the usability and performance of an indoor navigation assistant for blind and visually impaired people. Assistive Technology, 34(3): 289-299. https://doi.org/10.1080/10400435.2020.1809553
- **Neff, K. D. (2003).** The development and validation of a scale to measure self-compassion. Self and Identity,

2(3), 223–250. https://doi.org/10.1080/15298860309027

- **Nimisha, K. A., Sannet Thomas, S.(2020).** Body Image And Self-Compassion Among Adolescents),International Research Journal of Modernization in Engineering Technology and Science, Vol : 2, Issue:10, ISSN: 2582-5208
- **Nobre, M.R., Temporini, E. R., Kara, J.N., &Montilha, R. D. (2000).** Rehabilitation services for visually impaired children: early intervention or a long delay? RevistaOcupacion Humana, 8(4). https://doi.org/10.25214/25907816.519
- **Parrey, M. (2019).**Prevalence and causes of visual impairment in Saudi children of Arar city. Ann Clin Anal Med. 2019, 10:693-7. 10.4328/ACAM.6107.
- **Qian, S., Lim, V. K., & Gao, Y. (2022).** Can qualitative job insecurity instigate workplace incivility? The moderating roles of self-compassion and rumination. Career Development International, (ahead-of-print). DOI:10.1108/CDI-11-2021-0280
- **Redlich,D., Memmert, D., &Kreitz, C. (2020).** A systematic overview of methods, their limitations, and their opportunities to investigate inattentional blindness, cognitive psychology. https://doi.org/10.1002/acp.3746
- **Stoycheva,L.,& Katya, F. (1998)**. Ambiguity Tolerance: Adolescents' Responses to Uncertaintyin Life. Lancet Global Health, 9(2), e144-e160.
- **Woldeamanuel, G., Biru, M., Geta, T.,&Areru, B. (2020):**

Visual impairment and associated factors among primary school children in Gurage Zone, Southern Ethiopia. African Health Sciences, 20 (1), 533-542. https://doi.org/10.4314/ahs.v20i1.60

- **Yaser, A. (2015)**.Cognitive Style (Tolerance-Intolerance For Ambiguity) And Its Relation To Problem Solving Strategies Among Mu'tah University Students. Master thesis , pp:1-93.
- **Yıldırım, M., &Sarı, T. (2022).** Exploring the effects of self-compassion development program for adolescents on self-compassion, fear of self-compassion and subjective well-being. Turkish Psychological Counseling and Guidance Journal, 12(64), 109-129. https://doi.org/10.17066/tpdrd.10960