COVID-19 Pandemic Fear, Anxiety and Quality of Life among Adolescent Girls with Special Needs

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Abstract

Background: The Corona Virus Disease 2019 is a major ongoing concern for the adolescents with disability. **Aim:** The study aimed to assess the effect of covid-19 pandemic fear, anxiety and quality of life among adolescent girls with special needs. **Design:** Descriptive cross-sectional study. **Setting:** The study was conducted at Deaf& dumb and blind schools for girls. A total of 140 deaf & dumb and blind girls were included in the study. **Study tools:** Three tools were used included; **tool 1 (Part 1):** Personal characteristics of the adolescent girls with special needs. **Tool 1 (Part 2):** World Health Organization Quality of Life. **Tool 2:** The COVID 2019 Fear scale. **Tool 3:** COVID 2019 anxiety scale. **Results:** It was found that 90.7% of the girls were from rural area, 85.7% were deaf and dumb and 61.4% of them had secondary education. 67.1% of Adolescent girls with special needs had high quality of life before the pandemic while they had moderate quality of life during. **Conclusion:** Adolescent girls with special needs had high level of Quality of Life before the pandemic, while difficulties and restrictions during the pandemic negatively affected adolescent Quality of Life. Age, type of disability, parents' education and occupation were affecting the quality of life domains. **Recommendations:** It is recommended to conduct training programs for adolescents with disabilities to improve their quality of life.

Keywords: Adolescent, Covid-19, Girls, Pandemic, Quality of Life, Special need

Introduction

The Corona Virus Disease 2019 (COVID-19) is derived from the Severe Acute Respiratory Syndrome Coronavirus 2 (SARSCoV-2), it is a highly contagious novel disease, COVID-19 acquired global consideration after being formally announced a pandemic by the World Health organization (WHO) on 11 March 2020 one-fifth of new cases from children in the United States [1-3]. Children and adolescent with special needs continue to experience social exclusion, prejudice, and a lack of health-related services while in quarantine, which might have a profoundly negative influence on their development for the rest of their lives, about one billion people with disabilities were impacted by the COVID-19 globally [4].

Adolescent with disabilities are more likely to contract COVID-19 and experience severe disease as a result of the underlying health issues. Access to inclusive public health information and communication techniques, which are crucial as preventive measures; is hampered by a number of challenges for adolescent with disabilities, particularly those who have hearing and vision impairments [5].

Early assessments of Health-Related Quality of Life (HRQoL) incorporate early perceptions of physical, psychological, and social wellbeing in light of individual differences and evolutionary development, as well as concern for one's capacity to fully engage in activities and perform physical, social, and psychosocial functions [6 and 7].

Physical distance laws have reduced the social interaction of disabled children, which has increased anxiety rates, the prevalence of mood disorders, self-harm, and worsened pre-existing mental health concerns [8]. Because they are the ones who perform the screenings, provide care to persons with disabilities, communicate with caregivers, provide health education on prevention and protection from COVID-19, and manage critical conditions, nurses play very essential responsibilities when dealing with COVID-19 [9]. Community health nurses are an important roles to support for people with disability due to disparate non-modifiable genetic and metabolic factors, meeting the care needs of people disability and educate non health care staff and family with factual information on relatives risks COVID -19 and infection control practices to protect the disabled person from infection [10].

Significance of the study:

Globally, the WHO report on disability showed that over one billion of the world's population (15%) live with some form of disability, of whom 2 to 4% experience significant difficulties in functioning [11]. Coronavirus pandemic is ongoing and achieving herd immunity through natural infection might be difficult [12]. Individuals living with disabilities, commonly encounter challenges while carrying out their daily life activities, without the COVID-19 context; children and adolescence with disabilities are experiencing particular obstacles in comparison with other

without disability **(13)** Barriers include those that limit community movement, communication, access to public transportation and healthcare services. Additionally, compared to the general population, adolescence with disabilities are more likely to have lower life quality and increased Anxiety **(14)**. COVID-19 pandemic is disturbing enough. But for children and adolescence with disability this pandemic has developed grater challenges, interruption and negative influences, which cause threats to their futures **(15)**. Unfortunately, because of a lack of research we only get a glimpse of the extra challenges these children and adolescence face.

Aim of study:

To assess the effect of COVID-19 pandemic fear, anxiety and quality of life among adolescent girls with special needs.

Research question:

What is the effect of COVID-19 pandemic fear, anxiety and quality of life among adolescent girls with special needs?

Subjects and methods:

Design:

The study moved along with a descriptive cross-sectional research model.

Setting:

In Assiut Governorate, Egypt there are 11 districts; each district includes school for children and adolescence with disability who suffering from hearing, seeing or intellectual disability. The current study conducted in the special schools for blindness, deafness and dumbness which located in Assiut City the capital of Assiut Governorate.

Sample: A convenient sample was used**.**

Subjects:

The study population was comprised of children and adolescent girls suffering from blindness, deafness and dumbness in Assiut City, Assiut Governorate, Egypt. According to Department of special education, Assiut Governorate Directorate of Education, 2022 the total number of children and adolescent girls with blindness, deafness and dumbness in Assiut City is 158. In determining the sample size total coverage of all girls was done due to the small number. Data were collected from 140 girls who agreed to take place in the study. However, eighteen girls 18 (3 blind and 15 deaf and dumb) girls refused to share in the study. The study was completed with 140 girls (20 blind and 120 deaf and dumb). Figure 1 displays flow chart of sampling technique.
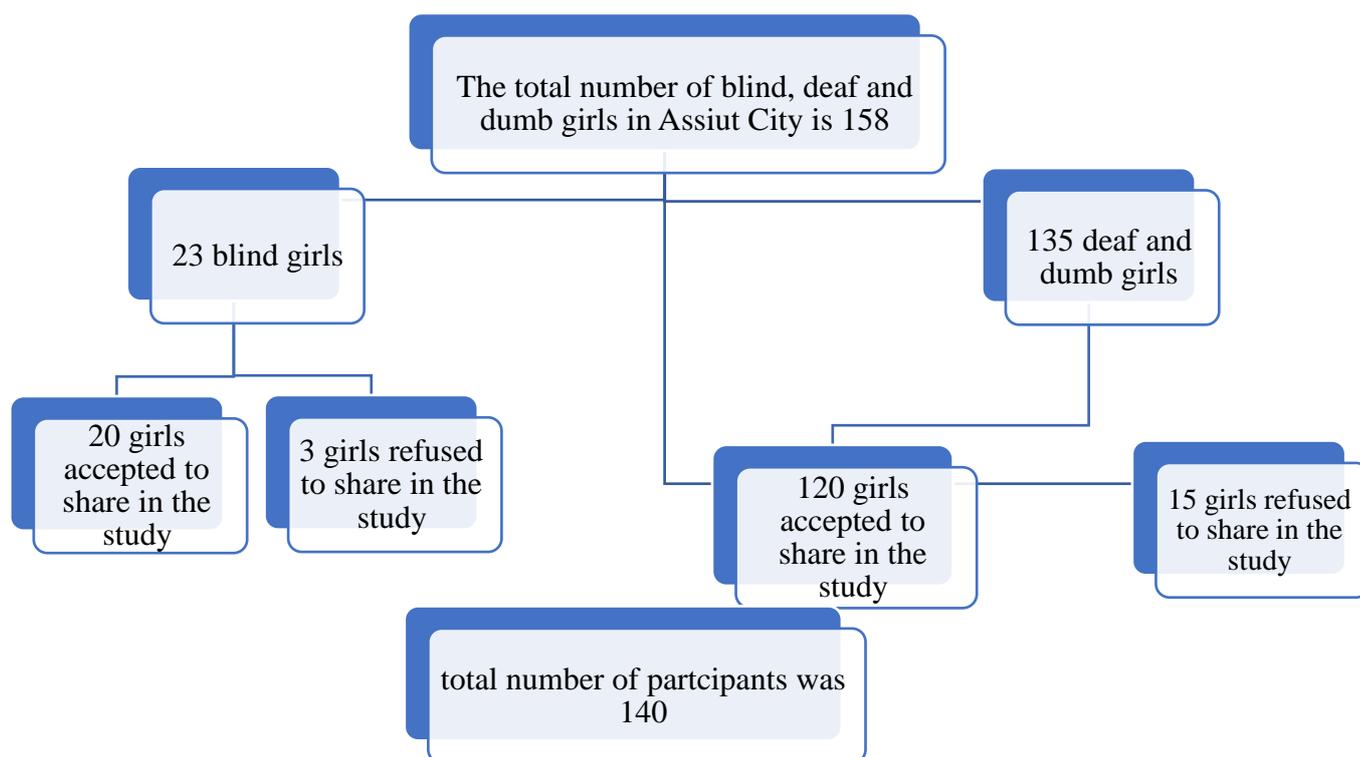
The total number of blind, deaf and dumb girls in Assiut City is 158

23 blind girls

135 deaf and dumb girls

20 girls accepted to share in the study

3 girls refused to share in the study

120 girls accepted to share in the study

15 girls refused to share in the study

total number of partcipants was 140

Figure 1: Flow chart of the sampling technique

Data collection tools:

Three tools were used in this study:

Tool I: Adolescent girls interviewing structured sheet, it composed of two parts;

Part 1: The personal characteristics which included (name, age, residence, type of disability, educational level, father education, mother education and occupation).

Part 2: World Health Organization Quality-of-Life Scale (WHOQOL-BREF): It is the short version of the WHOQOL-100 that "assesses individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It constituted of 26 items to measure quality of life among persons with disabilities" WHO, (2012) [16].

Quality of life scale was used once during the pandemic. As for the quality of life before the pandemic, how it was, the sample was asked about it (as a reported experience).

Regarding WHOQOL-BREF scoring; as being 5-point Likert-scale which was scored as ranged from strongly agree scored (1) to strongly disagree which scored (5), where the highest scores representing better HRQOL. Subscales were summed to provide a score for the overall HRQOL. Raw scores on 4 domains were calculated by adding the values of single items and transformed on a scale ranging from 0–100, where considered 100 the highest and 0 is the

lowest HRQOL. The following levels were according to **Bani-Issa, (2011)** [17] and were applied in the current study: Score ≤ 45, considered poor or bad HRQOL; score < 45–65, considered moderate HRQOL; and score > 65, considered relatively high HRQOL). There are four subscales or 4 domains of HRQOL. In the current study Cronbach's alpha is confirmed by 0.777.

1. **"Physical domain"** involved 7 items comprised activities of daily living, dependence on medicinal substances and medical aids, energy and fatigue, mobility, pain and discomfort, sleep and rest and work capacity. The highest the score of the physical domain the highest quality of physical health.

2. **"Psychological domain"** explored 6 items regarding psychological health. It encompassed assessment of (body image and appearance, negative feelings, positive feelings, self-esteem spirituality/ religion / personal beliefs, thinking, learning, memory and concentration). The highest the score of the psychological domain the highest quality of psychological health.

3. **"Social relations domain"** investigates 3 items regarding social relations. It included assessment of (personal relationships, social support and sexual activity). The highest the score of the social relation domain the highest quality of healthy relations.

4. **"Environment domain" examines 8 items regarding environmental safety.** It included assessment of (financial resources freedom, physical safety and security, health and social care: accessibility and quality, home environment, opportunities for acquiring new information and skills, participation in and opportunities for recreation/leisure activities, physical environment (pollution /noise /traffic /climate) and transport). The highest the score of the environment domain the healthier and safer the environment.

Tool II: Fear of COVID-19 Scale (FCV-19S): This scale was formulated for the first time by **Ahorsu et al., (2020)** [18, 19]. The Arabic version of the Fear of COVID-19 Scale (FCV-19S) was used to measure fear levels about COVID-19 by **Alyami et al., 2020** [20]. This questionnaire consisted of 7 questions using 5-points Likert scale; in which the answers were "strongly disagreed", "disagreed", "neither agreed nor disagreed", "agreed" and "strongly agreed". The minimum and the maximum score for each question was 1 and 5, respectively. The total score was calculated as a range (7 to 35) where the higher score revealed greater level of COVID-19 fear. In the current study Cronbach's alpha was confirmed by 0.938.

Tool III: COVID-19 Anxiety Scale (CAS) consisted of 7 questions using a 4-points rating scale (0= not applicable, 1= hardly ever applicable, 2= sometimes applicable and 3= very applicable). The level of anxiety was measured by averaging the scores (ranging from 0 to 3), so that the higher the average, the greater the anxiety of the individual regarding COVID-19. The reliability and validity of this scale were tested by **Silva et al., (2020)** [21]. In the current study Cronbach's alpha was confirmed by 0.891.

Method:

Data collected during the period from mid-September to mid-November of the year 2022 on average two days/ week through face to face interview, in the school of the deaf and the dumb girls the researchers were assisted by a sign language interpreter to help them collect the needed data correctly, but in the school of the blind girls the researchers collect data by asking the girls directly. Before the data collection, a pilot study was conducted with 10 disabled students (5 blind and 5 deaf and dumb) to test the data collection tools in terms of clarity and unambiguousness. The pilot study results indicated that there was no need for changes. Hence, the structured interview sheets were included in the study. Over 140 disabled students (120 deaf and dumb and 20 blind who willing to contribute) were interviewed in person in the school after gaining of the official permission from the local authority to enter the schools and carrying out the study following explaining the aim and nature of the research. The researchers were keeping on individual meeting to protect their privacy and freedom to answer on the questionnaire questions on their own pace. Taking into account their own special health care needs and capabilities.

Ethical considerations:

Prior to data collection, approval of the Ethics Committee of the Faculty of Nursing, Assiut University was acquired. A study proposal and translated Arabic questionnaire form was prepared by the researchers and acknowledged from the Ethical Committee. An official letter approval obtained from the Faculty of Nursing Dean, Assiut University to the Department Manager of the special education, Assiut Governorate, Directorate of Education to conduct the study after full explanation of the study aim. The letter involved agreement to perform the study at deaf & dumb and blind schools for girls at Assiut City. After that; oral consent was obtained, after clarifying the nature and purpose of the study. There was no risk for study subjects during application of the research. Privacy was provided during data collection. Confidentiality and anonymity was ensured. The researchers confirmed that the research paper was following the common ethical principles in clinical research. Study subjects were had the right to refuse to participate or withdraw from the study without any rational at any time.

Data analysis: Data entry and analysis were done using SPSS version 22 (Statistical Package for Social Science). Then, it was presented as number, percentage, mean and standard deviation. Chi-square test was used to compare between qualitative variables. An independent sample t-test was used to compare quantitative variables between two groups and ANOVA test was used for more than two groups. Paired samples t-test was done to compare quantitative data before and during COVID-19. P-value considered statistically significant when $P < 0.05$.

Results

Table (1): Adolescent with special needs descriptive characteristics; the mean age was mean ± SD (Range)

18.54 ± 2.09 (13.0-22.0), 90.7% were from rural area, 85.7% were deaf and dumb and 61.4% of them were had secondary education.

Table (2): Shows the difference between QOL levels among adolescent girls with special needs before and during COVID-19. It was found that 83.6% had high level as concerning the physical domain before the pandemic, while 15.0% during it. The children and adolescence with special needs were had low quality of life during the COVID-19 while they had high quality of life before it. Statistical significance differences were found.

Figure (2): Denotes the levels of COVID-19 Anxiety among the adolescent girls with special needs; findings regarding inspection of the levels of COVID-19 anxiety implied that 56.4% had moderate level of COVID-19 anxiety and 35.7% had low level.

Figure (3): Presents Fear of COVID-19 among adolescent girls with special needs and expresses that 62.1% had moderate fear of COVID-19 and 35.0% had low fear of COVID-19.

Table (3): Indicates the relation between adolescent girls' characteristics with mean of COVID-19 anxiety and fear scale scores; types of disabilities and father education were found to be effective. There were significant differences.

Table (4): Shows a significant difference in the studied adolescent girls QOL physical domain and their demographic data pre and during COVID-19 in relation to their age (p=0.003), type of disability (<0.001*)

Table (5): Presents a significant difference in the studied adolescent girls QOL Psychological domain and their demographic data pre and during COVID-19 in relation to their type of disability (0.002*, <0.001*) respectively.

Table (6): Declares a significant difference in the studied adolescent girls QOL Social relations domain and their demographic data pre and during COVID-19 in relation to their type of disability (<0.001*)

Table (7): Identifies a significant difference in the studied adolescent girls QOL Environment domain and their demographic data pre and during COVID-19 in relation to their age, type of disability, father and mother education, and mother occupation (<0.001*)

Table (8): Clears a significant difference in the studied adolescent girls QOL with mean score of **WHOQOL-BREF total score** before and during COVID -19 in relation to their age, type of disability, and father education pre COVID-19 (<0.001*).

Table (1): Personal and socio-economic characteristics of adolescent girls with special needs (n= 140).

Characteristics	N	%
Age (years):		
< 18	45	32.1
18 - < 20	39	27.9
≥ 20	56	40.0
Mean ± SD (Range)	18.54 ± 2.09 (13.0-22.0)	
Residence:		
Rural	127	90.7
Urban	13	9.3
Types of disabilities:		
Blind	20	14.3
Deaf and dumb	120	85.7
Educational level:		
Preparatory	54	38.6
Secondary	86	61.4
Father education:		
Illiterate	21	15.0
Read & write	19	13.6
Primary	18	12.9
Preparatory	21	15.0
Secondary	39	27.9
Technical institute	11	7.9
University	10	7.1
Post-graduate	1	0.7
Mother education:		
Illiterate	53	37.9
Read & write	25	17.9
Primary	13	9.3
Preparatory	15	10.7
Secondary	25	17.9
Technical institute	2	1.4
University	7	5.0
Mother occupation:		
Working	39	27.9
Not working	101	72.1

Table (2): Difference between QOL levels among adolescent girls with special needs before and during COVID-19 (n= 140)

| QOL levels	Before COVID-19		During COVID-19		P-value
	No	%	No	%	
Physical:					
Poor	0	0.0	13	9.3	
Moderate	23	16.4	106	75.7	<0.001*
High	117	83.6	21	15.0	
Psychological:					
Poor	2	1.4	21	15.0	
Moderate	41	29.3	47	33.6	<0.001*
High	97	69.3	72	51.4	
Social relationships:					
Poor	3	2.1	22	15.7	
Moderate	28	20.0	70	50.0	<0.001*
High	109	77.9	48	34.3	
Environment:					
Poor	18	12.9	68	48.6	
Moderate	81	57.9	54	38.6	<0.001*
High	41	29.3	18	12.9	
Total WHOQOL-BREF:					
Poor	1	0.7	23	16.4	
Moderate	45	32.1	98	70.0	<0.001*
High	94	67.1	19	13.6	

Chi-square test
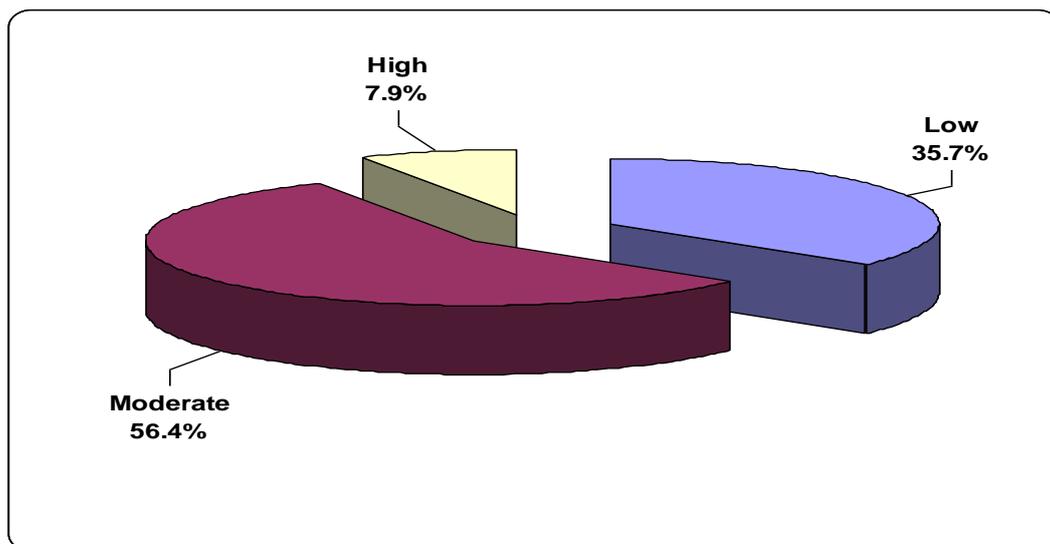
Figure (2): Levels of COVID-19 anxiety among adolescent girls with special needs regarding (n= 140).
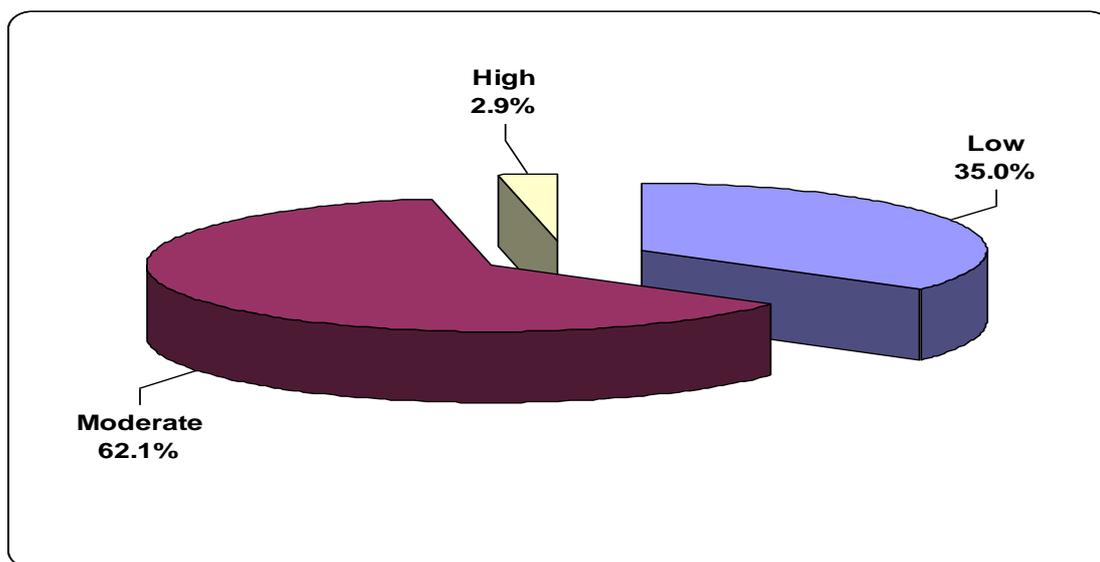

Figure (3): levels of COVID-19 Fear among adolescent girls with special needs (n= 140).

Table (3): Relation between adolescent girls' characteristics with mean scores of COVID-19 anxiety and fear (n= 140)

Characteristics	COVID-19 Anxiety	Fear of COVID-19
	Mean ± SD	Mean ± SD
Age (years):		
< 18	9.29 ± 3.80	18.18 ± 4.74
18 - < 20	8.18 ± 4.08	16.72 ± 4.97
≥ 20	8.54 ± 2.66	17.23 ± 2.88
P-value	0.323	0.263
Residence:		
Rural	8.55 ± 3.41	17.31 ± 4.09
Urban	9.92 ± 4.05	18.15 ± 5.13
P-value	0.177	0.493
Types of disabilities:		
Blind	10.65 ± 6.63	19.15 ± 8.73
Deaf and dumb	8.35 ± 2.53	17.10 ± 2.76
P-value	0.006*	0.042*
Educational level:		
Preparatory	8.78 ± 4.04	17.41 ± 5.00
Secondary	8.62 ± 3.11	17.38 ± 3.60
P-value	0.791	0.974
Father education:		
Illiterate/ Read & write	7.25 ± 3.18	16.53 ± 4.37
Basic education	8.95 ± 3.48	17.08 ± 4.85
Secondary or more	9.44 ± 3.44	18.16 ± 3.46
P-value	0.006*	0.134
Mother education:		
Illiterate/ Read & write	8.37 ± 3.50	17.26 ± 4.63
Basic education	8.64 ± 3.39	17.36 ± 4.08
Secondary or more	9.41 ± 3.52	17.74 ± 3.14
P-value	0.350	0.857
Mother occupation:		
Working	9.15 ± 3.50	17.46 ± 3.24
Not working	8.50 ± 3.48	17.37 ± 4.50
P-value	0.318	0.904

Independent samples t-test

ANOVA test

Table (4): Relation between adolescent girls' characteristics with mean score of physical domain before and during COVID -19 (n= 140)

Characteristics	Physical domain before COVID -19	Physical domain during COVID -19
	Mean ± SD	Mean ± SD
Age (years):		
< 18	73.65 ± 7.65	59.68 ± 13.71
18 - < 20	73.48 ± 8.11	57.58 ± 12.20
≥ 20	70.66 ± 7.81	52.35 ± 7.13
P-value	0.103	0.003*
Residence:		
Rural	72.55 ± 7.95	56.09 ± 11.59
Urban	70.99 ± 7.81	56.92 ± 10.13
P-value	0.499	0.802
Types of disabilities:		
Blind	78.86 ± 8.52	78.71 ± 8.82
Deaf and dumb	71.33 ± 7.31	52.40 ± 6.37
P-value	<0.001*	<0.001*
Educational level:		
Preparatory	73.02 ± 7.14	57.88 ± 12.12
Secondary	72.03 ± 8.39	55.08 ± 10.91
P-value	0.474	0.159
Father education:		
Illiterate/ Read & write	69.43 ± 6.85	55.64 ± 9.62
Basic education	73.70 ± 8.55	58.97 ± 12.79
Secondary or more	73.54 ± 7.75	54.71 ± 11.47
P-value	0.018	0.181
Mother education:		
Illiterate/ Read & write	71.61 ± 8.02	57.55 ± 11.35
Basic education	72.04 ± 5.89	52.55 ± 7.39
Secondary or more	74.54 ± 8.91	55.97 ± 13.77
P-value	0.192	0.139
Mother occupation:		
Working	73.77 ± 8.26	55.31 ± 12.95
Not working	71.88 ± 7.76	56.49 ± 10.84
P-value	0.206	0.586

　　Independent samples t-test　　　　　　　　　　ANOVA test

Table (5): Relation between adolescent girls' characteristics with mean score of Psychological domain before and during COVID -19 (n= 140)

Characteristics	Psychological before COVID -19	Psychological during COVID -19
	Mean ± SD	Mean ± SD
Age (years):		
< 18	74.07 ± 10.80	66.74 ± 13.81
18 - < 20	73.68 ± 12.21	63.68 ± 15.61
≥ 20	69.76 ± 14.23	59.17 ± 14.09
P-value	0.169	0.032*
Residence:		
Rural	72.49 ± 12.65	63.28 ± 14.54
Urban	69.74 ± 13.71	58.72 ± 16.25
P-value	0.460	0.288
Types of disabilities:		
Blind	80.33 ± 9.96	81.50 ± 9.94
Deaf and dumb	70.89 ± 12.66	59.75 ± 12.98
P-value	0.002*	<0.001*
Educational level:		
Preparatory	73.09 ± 11.78	65.19 ± 14.42
Secondary	71.71 ± 13.32	61.40 ± 14.77
P-value	0.534	0.138
Father education:		
Illiterate/ Read & write	67.25 ± 13.14	58.25 ± 14.30
Basic education	74.10 ± 11.53	66.07 ± 13.93
Secondary or more	74.32 ± 12.46	63.83 ± 14.93
P-value	0.012*	0.047*
Mother education:		
Illiterate/ Read & write	70.47 ± 12.99	62.14 ± 14.89
Basic education	73.93 ± 11.62	63.45 ± 12.72
Secondary or more	74.90 ± 12.67	64.02 ± 16.06
P-value	0.175	0.802
Mother occupation:		
Working	73.59 ± 12.36	63.42 ± 15.47
Not working	71.72 ± 12.88	62.64 ± 14.46
P-value	0.437	0.78

Independent samples t-test   ANOVA test

Table (6): Relation between adolescent girls' characteristics with mean score of Social relations domain before and during COVID -19 (n= 140)

Characteristics	Social Relationships before COVID -19	Social relationships during COVID -19
	Mean ± SD	Mean ± SD
Age (years):		
< 18	73.19 ± 13.52	63.41 ± 18.67
18 - < 20	74.19 ± 13.86	56.07 ± 18.78
≥ 20	70.24 ± 11.51	56.19 ± 14.49
P-value	0.290	0.068
Residence:		
Rural	72.39 ± 12.92	58.22 ± 17.63
Urban	71.28 ± 12.88	61.03 ± 14.87
P-value	0.769	0.58
Types of disabilities:		
Blind	87.00 ± 12.33	87.00 ± 12.33
Deaf and dumb	69.83 ± 11.27	53.72 ± 12.97
P-value	<0.001*	<0.001*
Educational level:		
Preparatory	71.11 ± 14.36	60.12 ± 19.27
Secondary	73.02 ± 11.88	57.44 ± 16.08
P-value	0.394	0.376
Father education:		
Illiterate/ Read & write	69.17 ± 13.97	56.33 ± 15.83
Basic education	73.33 ± 12.33	59.32 ± 20.51
Secondary or more	73.66 ± 12.32	59.34 ± 16.27
P-value	0.193	0.656
Mother education:		
Illiterate/ Read & write	71.03 ± 13.67	58.21 ± 18.47
Basic education	70.71 ± 8.95	56.90 ± 14.79
Secondary or more	76.47 ± 13.15	60.39 ± 16.97
P-value	0.092	0.721
Mother occupation:		
Working	73.85 ± 12.83	60.00 ± 16.54
Not working	71.68 ± 12.91	57.89 ± 17.71
P-value	0.375	0.521

Independent samples t-test   ANOVA test

Table (7): Relation between adolescent girls' characteristics with mean score of Environment domain before and during COVID -19 (n= 140)

Characteristics	Environment before COVID -19	Environment during COVID -19
	Mean ± SD	Mean ± SD
Age (years):		
< 18	64.39 ± 13.72	55.00 ± 18.32
18 - < 20	63.40 ± 11.76	49.68 ± 17.60
≥ 20	57.19 ± 10.00	42.81 ± 11.32
P-value	0.005*	0.001*
Residence:		
Rural	61.22 ± 11.75	48.41 ± 15.94
Urban	61.35 ± 16.32	50.96 ± 20.98
P-value	0.972	0.594
Types of disabilities:		
Blind	81.25 ± 8.72	81.25 ± 8.72
Deaf and dumb	57.90 ± 9.07	43.21 ± 9.66
P-value	<0.001*	<0.001*
Educational level:		
Preparatory	62.55 ± 13.12	51.85 ± 17.51
Secondary	60.41 ± 11.54	46.63 ± 15.41
P-value	0.313	0.066
Father education:		
Illiterate/ Read & write	54.87 ± 13.42	42.12 ± 17.20
Basic education	60.38 ± 11.32	48.27 ± 16.66
Secondary or more	65.94 ± 9.74	53.16 ± 14.32
P-value	<0.001*	0.004*
Mother education:		
Illiterate/ Read & write	57.95 ± 13.23	45.77 ± 17.72
Basic education	62.68 ± 7.13	48.57 ± 10.96
Secondary or more	67.57 ± 10.25	55.29 ± 15.36
P-value	<0.001*	0.017*
Mother occupation:		
Working	66.03 ± 10.21	54.62 ± 14.59
Not working	59.38 ± 12.40	46.34 ± 16.53
P-value	0.003*	0.007*

Independent samples t-test

ANOVA test

Table (8): Relation between adolescent girls' characteristics with mean score of WHOQOL-BREF before and during COVID -19 (n= 140)

Characteristics	WHOQOL-BREF before COVID -19	WHOQOL-BREF during COVID -19
	Mean ± SD	Mean ± SD
Age (years):		
< 18	71.09 ± 9.78	60.82 ± 14.72
18 - < 20	70.75 ± 9.99	56.77 ± 14.48
≥ 20	66.29 ± 9.47	51.59 ± 8.62
P-value	0.024*	0.001*
Residence:		
Rural	69.22 ± 9.86	55.97 ± 13.05
Urban	67.69 ± 10.78	56.27 ± 13.81
P-value	0.599	0.938
Types of disabilities:		
Blind	81.54 ± 7.94	81.77 ± 8.03
Deaf and dumb	67.00 ± 8.62	51.71 ± 7.69
P-value	<0.001*	<0.001*
Educational level:		
Preparatory	69.81 ± 10.11	58.43 ± 14.34
Secondary	68.61 ± 9.82	54.47 ± 12.04
P-value	0.487	0.081
Father education:		
Illiterate/ Read & write	64.37 ± 10.72	52.12 ± 12.91
Basic education	69.84 ± 9.56	57.77 ± 14.09
Secondary or more	71.68 ± 8.55	57.41 ± 12.15
P-value	0.001*	0.083
Mother education:		
Illiterate/ Read & write	67.16 ± 10.78	55.20 ± 14.04
Basic education	69.64 ± 6.68	54.89 ± 9.26
Secondary or more	73.01 ± 9.02	58.76 ± 13.40
P-value	0.014*	0.369
Mother occupation:		
Working	71.66 ± 8.74	58.09 ± 12.71
Not working	68.08 ± 10.20	55.19 ± 13.18
P-value	0.055	0.242

Independent samples t-test   ANOVA test

Discussion:

Disability was defined as an umbrella term, affects an individual's participation in activities of daily living due to multiple factors, including differences in motor, sensory, cognitive, language, emotion, or health and usually requires therapeutic services. Children and adolescence with special health care needs are more likely to have ongoing disruption to health care, education and community life as a result of COVID-19 pandemic [10].

The current study aimed to assess the effect of COVID-19 pandemic fear, anxiety and quality of life among adolescent girls with special needs

The fact that findings of the present study revealed that the mean age of the studied sample mean ± SD (Range) 18.54 ± 2.09 (13.0-22.0), the majority were from rural area, most of them were deaf and dumb and about two-thirds had secondary education. In the current study; the majority of girls were from rural area this may be due to the presence of stigma; that parents in urban area didn't want to educate their children in public specialized school and preferred to make them stay at home on the contrary the rural parents **Faccioli et al., (2021**)[22] in their study reported that adolescents' ages were almost equally distributed between ages 13 and over 18 years. Beside, **Yazcayir and Gurgur, (2021)**[23] emphasized that disabled children and adolescence in rural areas are deprived of necessary resources.

According to mother education, the present study illustrated that more than one-third of mothers were illiterates.

Education affect many aspect of life including health behaviors, also due to low educational level of mothers they cannot deliver correct information about COVID-19 to their disabled children.

Concerning the Quality of Life (QOL); the present study concluded that the studied sample QOL was poor during the pandemic, while it was high before it with statistical significance difference. Some lifestyle factors change the QOL of most children with special developmental needs; the first is difficulties with their sleep cycles, which are associated with children's mental problem. The second is the stress that parents carry from their jobs impairs their child care skills and affects the well-being of the children **Ncube et al., (2018) and Yesil et al., (2022)** [24 and 25].

Nobari et al., (2021) [7] supported the results of the current study; as they reported that the COVID-19 pandemic substantially affected the children and adolescents' quality of life with statistical significance difference. In the same context, **Niemensivu et al., (2018)** [26] who recorded that there was statistical significance difference between quality of life before COVID-19. Moreover, the results of **Moor et al., (2021)** [27] demonstrated that most of children and adolescence living with disability were not engaging in sufficient healthy movement behaviors during the pandemic and they were experiencing declines in overall health as a result of the pandemic.

The result of the present research were disagreed with **Makris et al.,(2019)**[28] who found that physical quality of life was significantly impaired among

those with cerebral palsy, however, inconsistent findings were noted in relation to the effect of cerebral palsy on psychological and social quality of life. This may explained different disabilities of the study sample do not include cognitive abilities and cognitions that interfere with well-being practices.

Also, the present findings were incongruent with those of **Ferreira et al., (2021)** [29] they stated that there wasn't correlation between children and adolescence with special needs quality of life before and during COVID 19 pandemic. As well as,**Ueda et al., (2021)**[30] identified that COVID-19 pandemic restricted daily life activities and resulted in mandated social distancing measures, which required children to stay at home and to wear masks to prevent infection when going out. This presumed to be associated more with lifestyle changes, low quality of life as a high level of uncertainty increased level of maladaptive. Moreover, these results disagreed with **Oliveira et al., (2018)** [31] who concluded that there was no statistical significance difference in their quality of life.

The present study reported that more than half of the studied children had moderate level of anxiety and about two-thirds had moderate level of fear, while less than one tenth had high levels of anxiety and fear. Fear and anxiety are adaptive reactions to unknown conditions such COVID-19 pandemic. This is probably one of the reasons that psychological disorders were commonly reported during the COVID-19 pandemic as mentioned by **Qiu, (2020)** [32]**.**

These results were supported by **Twenge and Joiner, (2020)** [33] in their comparative study who reported that COVID-19 pandemic significantly increased anxiety symptoms in the general United States population compared to pre-pandemic. Moreover; the results was consistent with **Faccioli et al., (2021)** [22] who noticed that more than two-thirds were had more COVID-19 anxiety level. This may be attributing with the students' lack of awareness and information about the dangers and complications of COVID-19. Also in a review study carried out by **Fardin, (2020)** [34] showed that COVID-19 pandemic is associated with significantly negative psychological effects such as increased anxiety and fear. In a systematic review performed by **Shoham, (2019)**[35] disclosed that anxiety is one of the most common disorders associated with hearing loss and those children reported high levels of anxiety disorders. As well as, **Fäldt et al., (2022)** [36] informed that the children described that they were worried that someone will get sick and end up in hospital. Several of the children communicated that their anxiety mainly concerned the older generation. On the other hand, the present study was in contrast with **Ariapooran and Khezeli, (2021)** [37] who observed that more than half of them had high level of anxiety. It may be explained by lack of proper health education program in the school which focused on COVID-19 diseases.

Concerning the relation between adolescent girls with special needs' characteristics with mean of COVID-19 anxiety and fear scale scores, there

were statistical significance relation between anxiety and fear scale scores and types of disabilities. Also there was a statistical significance relation between anxiety scale scores and the father education. These results were in disagreement with **Lei et al., (2020** [38] that the results showed that exposing children to excessive information causes elevated levels of stress and anxiety. Another remarkable finding in this study was that living in the urban area was a protective factor from anxiety.

Regard the relation between adolescent girls with special needs' characteristics with mean of WHOQOL-BREF and its domains before and during COVID-19, there were statistical significance relation between WHOQL-BREF and age, types of disability, father education, mother education and mother occupation before COVID-19. The findings were consistence with **Ueda et al., (2021)** [30] who stated that there were statistical significances relation between quality of life and factors as worsening sleep patterns and mothers' usual working. But the current results were inconsistent with **Kharshiing et al., (2021)** [39] who reported that Quality of Life (QoL) was substantially affected by personal variables.

Limitations:

Having to conduct the study at evening in the dormitory, it made difficulty to meet larger number especially the disabled boys were accepted as a limitation. Since the data of the deaf and dumb girls was requiring intermitting sign translator it was taken a lot of time to fill in the questionnaire. Because the data were collected at evening and the blind girls were them in the dormitory in the evening so as not to disrupt them from studying and to make them feel comfortable while filling out the questionnaire was also recognized as struggles.

Conclusion:

Adolescent girls with special needs had QOL which was at a medium level before the pandemic, while difficulties and restrictions during the pandemic negatively affect adolescent QOL. They are in need to improve their quality of life and to be trained to lead a better life. Due to little knowledge concerning the pandemic for the disabled adolescent, it is thought to be acceptable that they had moderate level of anxiety and fear from COVID-19.

Recommendations:

1. Conducting a life coaching symposiums for the disabled adolescent girls about pandemic diseases and disaster to assure better lead in life.
2. Conducting qualitative studies to determine the health needs of adolescent with special needs.
3. Further studies including larger sample size for better generalization of the findings.

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