WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.084
Volume 11, Issue 15, 702-721. Research Article ISSN 2277– 7105

EFFECT OF COVID 19 PANDEMIC ON PATIENTS WITH LOW VISION

[1]*Widat Sohail, [2]Hina Sharif, [3]Nisma Sehar, [4]Mahreen Tanveer and [5]Sadaf Qayyum

Pakistan.

Article Received on
06 Sept. 2022,

Revised on 27 Sept. 2022,
Accepted on 18 October 2022

DOI: 10.20959/wjpr202215-24900

***Corresponding Author**
Widat Sohail
Pakistan.

ABSTRACT

Background: COVID-19 pandemic commonly known as corona virus pandemic is one of the most deadly viral pandemic that not only effect the lifestyles but also changes the dynamic of the lifestyle. This pandemic has a vast effect on the daily life activities of not only normal people but also on people who are visually disabled. **Methodology:** A hospital based cross sectional study was conducted to determine the effect of COVID-19 pandemic in patients with low vision. It was focused on the impact of COVID-19 pandemic on daily life activities, healthcare access and transportation during the pandemic. A total of 80 Low vision patients were interviewed with the help of validated questionnaire. **Results:** The descriptive results shows that the male (72.5%) outnumbered the female respondents. It also show that majority of the respondents belong to the working class (52.5%) and only 22 from the total respondent were students. The results also shows that the majority of the respondent (70%) were not infected by COVID -19 virus. Majority of the respondents responded with the yes (63.3%) when asked about the effect of COVID-19 pandemic on their employment/education. It was concluded that the majority of the patients had faced no challenges while getting food supplies and prescription (73.3%). The results shows that the very few respondents had the knowledge about telehealth (17.5%) whereas majority preferred to visit hospital during COVID-19 pandemic lockdown (71.2%). The major reason for difficulty was bus/trains were restricted during lockdown (70%). It is also seen that the respondents had to work without pay (31.3%). It is also seen that the students faced the problem during online education (12.5%). The analytical analysis was carried out to find out the association between the effect of covid -19 and healthcare utilization during the pandemic. The results were calculated by using independent T-test and one way ANOVA. The result shows that COVID-19 pandemic have no significant effect on patients with low

vision. **Conclusion:** The study shows that the major effect of the covid-19 pandemic was on the respondent's employment and education. It also shoes that because of a lack of awareness and concern about the COVID-19 restrictions, there was no substantial link between COVID-19 lockdown and healthcare access for those with visual difficulties.

KEYWORDS: COVID-19 pandemic, lockdown, low vision, healthcare access, education, transportation, employment.

INTRODUCTION

COVID-19, commonly known as the coronavirus pandemic, is a worldwide coronavirus disease 2019 (COVID-19) pandemic caused by coronavirus 2, which causes severe acute respiratory syndrome. The virus was first found in December 2019 in the Chinese city of Wuhan; a lockdown in Wuhan and other cities in the neighboring Hubei area failed to stop the pandemic, which quickly spread throughout mainland China and around the world. On January 30, 2020, the World Health Organization (WHO) declared a Public Health Emergency of International Concern, and on March 11, 2020, officially declared a pandemic.[1]

Since 2021, various virus strains have evolved and spread over several countries, with the Alpha, Beta, and Delta strains being the most dangerous. Furthermore, as of October 22, 2021, 242 million cases have been registered, with 4.93 million deaths, making it one of the worst pandemics in history. This virus has infected about 78 million people in Asia, with 11 million fatalities documented so far. More than 70 million individuals have been cured of the virus. Approximately 1.27 million cases have been reported in Pakistan, with nearly 28,359 deaths so far.[2]

COVID-19 has been related to a variety of clinical symptoms, including asymptomatic infection and severe respiratory failure. The most frequent symptoms are fever, fatigue, dry cough, myalgia, and dyspnea. Less common symptoms include sputum production, headache, hemoptysis, and diarrhoea. Although pneumonia is found in the majority of COVID-19 infected individuals, pleuritic chest discomfort was reported in just a few cases.[3]

Coughing, sneezing, speaking, singing, and breathing can spread the virus in small liquid particles from an infected person's mouth or nose. These particles range in size from large respiratory droplets to tiny aerosols. If you come into contact with someone who has COVID-

19, you can become infected by breathing in the virus or touching a contaminated surface and then touching your eyes, nose, or mouth. The virus spreads more swiftly inside and in crowded locations.[3]

The only way to protect yourself from this deadly virus is to follow the SOPS that are given by World Health Organization (WHO). Social distance, hand washing, sanitization, wearing a face mask, and covering the face with an elbow while coughing are among the SOPS. Avoid crowded venues, poorly ventilated interior spaces, and extended interaction with people. One of the most important things a person may do during this testing period is to be vaccinated in accordance with official requirements. At the moment, this is the greatest strategy to prevent yourself and your loved ones from getting infected by this lethal virus.[3,4]

In Pakistan, roughly 0.07 million people with functional low vision (vision ranging from 20/60 to light perception) will be at risk of contracting this lethal virus. If people who have no sense of light are included, the number will be even greater. The bulk of the visually impaired people in the nation live in rural regions and belong to lower socioeconomic classes. If these categories of people get infected with COVID-19 in Pakistan, their morbidity and death rates are expected to be greater, although the risk varies depending on the degree of visual impairment.[5]

In the 10th revision of the WHO International Statistical Classification of Diseases, Injuries and Causes of Death, **"low vision"** is defined as

Visual acuity of less than 6/18 but equal to or better than 3/60, or a corresponding visual field loss to less than 20°, in the better eye with the best possible correction but the person has the potential to use vision for planning and execution of the task.[6]

Vision loss has been ranked third, behind arthritis and heart disease. The major causes of vision disability are uncorrected refractive error (43%) and cataract (33%). The most common eye diseases or abnormalities causing visual impairment include macular degeneration, retinitis pigmentosa, ocular trauma, glaucoma and corneal opacity.[7]

Globally, 1 billion individuals are affected by uncorrected refractive error (88.4 million), cataract (94 million), glaucoma (7.7 million), corneal opacities (4.2 million), diabetic retinopathy (3.9 million), and trachoma (2 million), as well as near vision impairment caused by uncorrected presbyopia (826 million).[8] The standardized prevalence of low vision in

Pakistan is 1.7% and the total blindness is 0.2%. In Pakistan estimated 7, 27,000 adults have low vision. The most common causes of low vision in Pakistan are uncorrected refractive error, cataract, corneal opacity and retinal abnormalities.[9]

According to a larger body of research, COVID-19 infection and serious disease are disproportionately frequent among minority populations such as the BAME community in the United Kingdom (UK), individuals with socioeconomic challenges, and persons with underlying health conditions. Similarly, those with disabilities are more likely to be affected by the COVID-19 pandemic than people without impairments. Blindness and poor vision are two of the most prevalent causes of disability. People with visual impairments (low eyesight and blindness) are more prone to become infected with COVID-19 than those who do not have such impairments. This implies that about 253 million individuals throughout the world, more than two-thirds of whom live in developing or underdeveloped countries, will be at increased risk of contracting the covid 19 infection.[10]

The increased risk of catching the virus, as well as increased morbidity and mortality, might be attributed to a variety of possible characteristics linked with persons who have visual impairments. Firstly, there is a lack of sufficient understanding of the COVID-19 owing to a lack of accessible and properly prepared information for those with visual issues, particularly those in rural regions.[11]

Secondly, the regular need for personal assistance or help from others in carrying out basic and essential daily activities, notably for a person with blindness or severe visual impairment or a blind couple, such as crossing the street or procuring food and vegetables. Thirdly, Because the method for wearing a face mask and hand washing relies on visual function, there is a lack of awareness about the prevention and utilization of personal protective measures such as wearing a facemask and hand washing, which leads to incorrect practice.[12]

Fourth, the infection might be contracted owing to a lack of knowledge and awareness about how to clean their assistive devices. Fifth, people who have low vision rely on touch and tactile senses to do daily tasks or go outside, which increases their risk of contracting the virus. Sixth, a person with a vision impairment is frequently the victim of society's indifference and ignorance.[13]

Seventh, the effects of a nationwide emergency lockdown, such as the disruption of support networks, including personal help, and the likelihood of economic distress, all of which will have significant health and wellness impacts.

Eight, Due to a lack of good personal hygiene and ambient sanitation, the visually handicapped may be at a higher risk of infection. Kids with visual disabilities, particularly visually challenged students, are more prone than sighted students to have poor personal cleanliness. In a survey done in Ismailia City, Egypt's schools for the blind, a significant proportion of children had inadequate awareness of hand washing, face and ear care, dental hygiene, changing of clothing, and fingernail trimming, while having high cleanliness habits in other areas. According to a study conducted in Turkey, menstrual hygiene behaviors among women with visual impairment were not as good as they may be.[14]

In addition, limiting access to eye-care therapies may aggravate vision impairment, worsening the severity of the problem. Falls are more likely to hurt visually impaired people, leading to medical problems or bone fractures.

The purpose of this research is to see how the COVID-19 pandemic affects the daily lives of low vision patients. This study looked into the effects of the COVID-19 pandemic on low vision patients' everyday activities and services because they are one of the most vulnerable groups. This is being done to prepare people for the possibility of a pandemic in the future.

OBJECTIVES

- To assess the effect of COVID 19 lockdown on daily life activities of low vision patients visiting Tertiary Eye Care hospital Rawalpindi.
- To assess the effect of COVID-19 on healthcare utilization by patients during the pandemic.
- To find out the association of demographic variables with healthcare utilization by low vision patients during the COVID-19 pandemic.

MATERIAL AND METHODS

This study is carried out in tertiary eye care hospital in Rawalpindi in Pakistan. Convenient sampling was done. The sample size for this study was 25 which was very less so all the patients who visited low vision department during my study time period were included. The selection criteria is as follow:

Inclusion criteria

- Both gender will be considered.
- Only low vision patients will be considered.
- Only follow-up patients were considered.
- Patients above the age of 18 years will be considered.

Exclusion criteria

- Those who are blind.
- Those visiting other departments of the Al Shifa trust eye Hospital.

The data was collected through the semi self-structured questionnaire which assessed the effect of covid19 on low vision patient. Consent was taken from all the participant that participated. This research was conducted after the approval from the institutional review board.

RESULTS

4.1 Demographics data

A total of 80 low vision patients were included in this study. Male participant constituted 72.5% of the whole population. The age of the participant were categorize in four group 18 being the least age where as 55 was the highest age group of the participant. Only 42 participant were working whereas only 22 of the total participant were the students while other were either employed, unemployed or retired. All the follow up patients were taken into this study.

4.2 Descriptive analysis

Table 1: Frequency and Percentage of demographic variables of the respondents.

Variables	Frequency N=(80)	Percentage %
Gender		
• Male	58	72.5
• Female	22	27.5
Age		
• 18-25	31	38.8
• 26-35	16	20
• 36-45	20	25
• 46-55	13	16.3
Working		
• Yes	42	52.5
• No	38	47.5

Occupation				
• Student	22		27.5	
• Employed	38		47.5	
• Retired	7		8.8	
• Unemployed	10		12.5	
• Businessman	3		3.8	
When u become visually impaired				
• I became visually impaired prior to 2 years	5		6.3	
• I became visually impaired between 2-8 years	17		21.3	
• I became visually impaired 9-19 years	14		17.5	
• I became visually impaired in my 20s or before	44		55	
Cause of low vision				
• Glaucoma	3		3.8	
• Retinitis pigmentosa	31		38.8	
• High myopia	5		6.3	
• ARMD	3		3.8	
• Others	38		47.5	
Best corrected visual acuity	OD	OS	OD	OS
• 6/18-6/60	55	52	68.8	65
• 6/120-6/76	19	15	23.8	18.8
• 6/240-6/152	4	10	5	12.5
• C.F-PL+	2	3	2.5	3.8
Additional disability				
• Yes	9		11.3	
• No	71		88.7	
Any other family member with low vision				
• Yes	34		42.5	
• No	46		57.5	
Access to computer screen / smartphones				
• I do not use them	6		7.5	
• Use screen reading software	1		1.3	
• Use both screen reading /screen enlargement	1		1.3	
• Use built in feature	45		56.3	
• I did not make any changes	27		33.8	
Did you get covid 19				
• Yes	23		28.7	
• No	56		70	
• I prefer not to answer	1		1.3	
Does covid-19 affected your employment				
• Yes	49		63.3	
• No	30		37.5	
• I prefer not to answer	1		1.3	
How				
• Employment	36		45	
• Education	17		21.3	
• I prefer not to answer	27		33.8	
How did you get covid 19 information				
• News	76		95	
• Social networking sites	3		3.8	

• Others	1	1.3
Have you been vaccinated		
• Yes	23	28.7
• No	56	70
• I prefer not to answer	1	1.3

The quantitative variables of the demographics were measured using mean and standard deviation. These variables include education and monthly household income. The result is given below:

Table 2: mean and standard deviation of the variables.

Variable	Mean	Standard deviation
Education	8.35	3.881
Monthly household income (in Rupees)	36950	17541.199

Following shows the graphical representation of the variable

1. Getting prescription, food and supplies

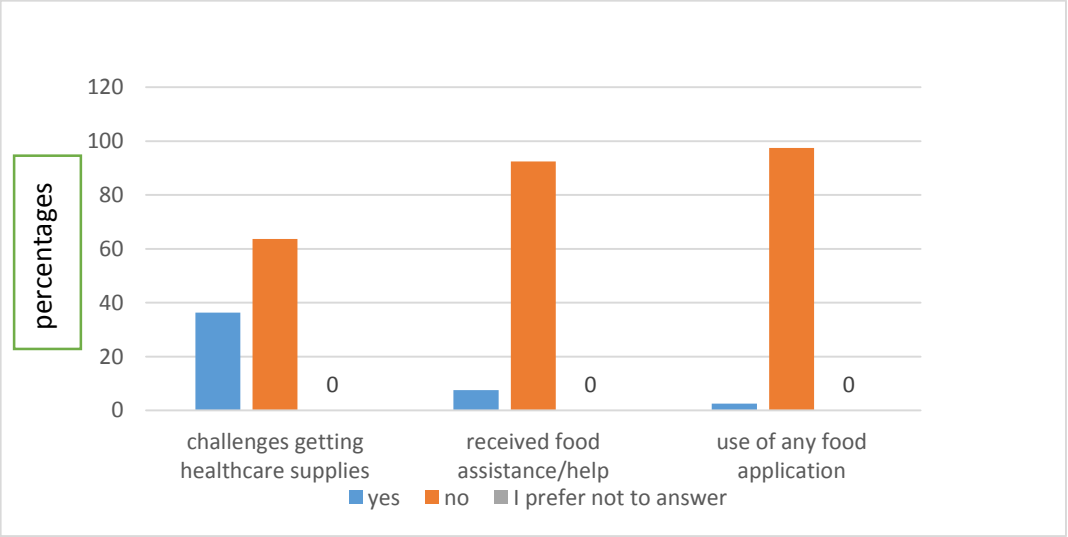


Figure 1: Shows effect of pandemic on getting prescription, food and supplies.

2. Access to Healthcare and Mental Wellbeing

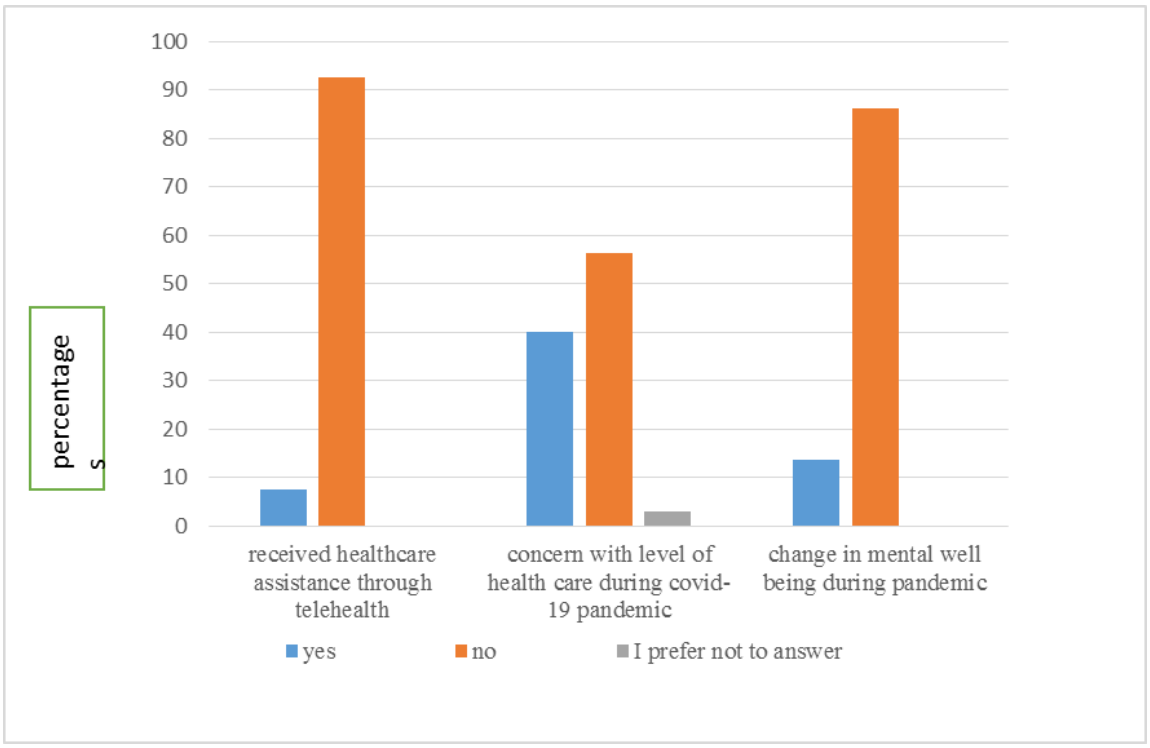


Figure 2: Shows effect of pandemic on healthcare access and mental wellbeing.

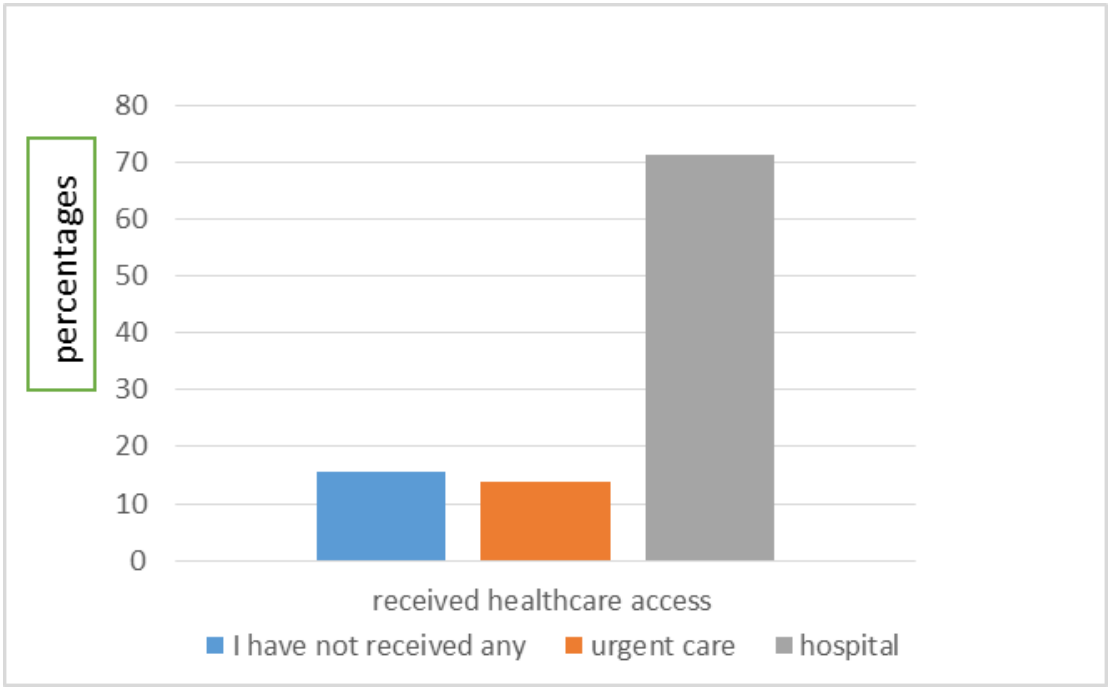


Figure 3: Shows the received healthcare of the respondent during pandemic.

3. Safety and Transportation

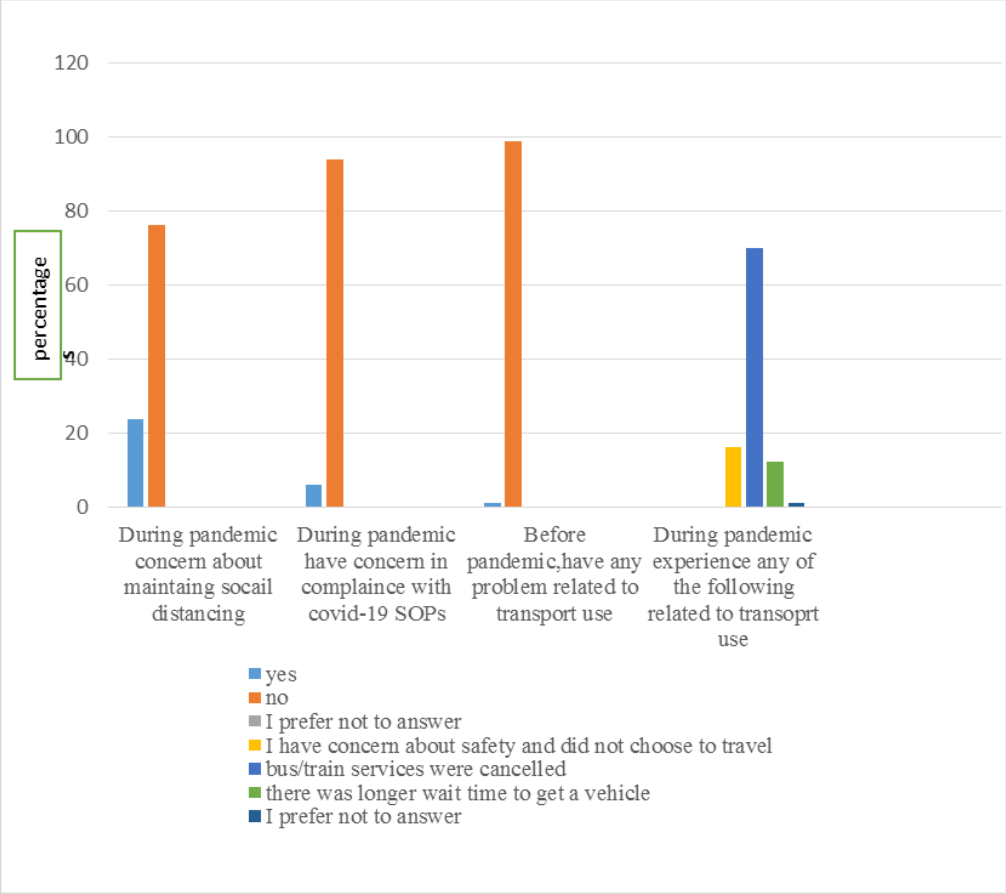
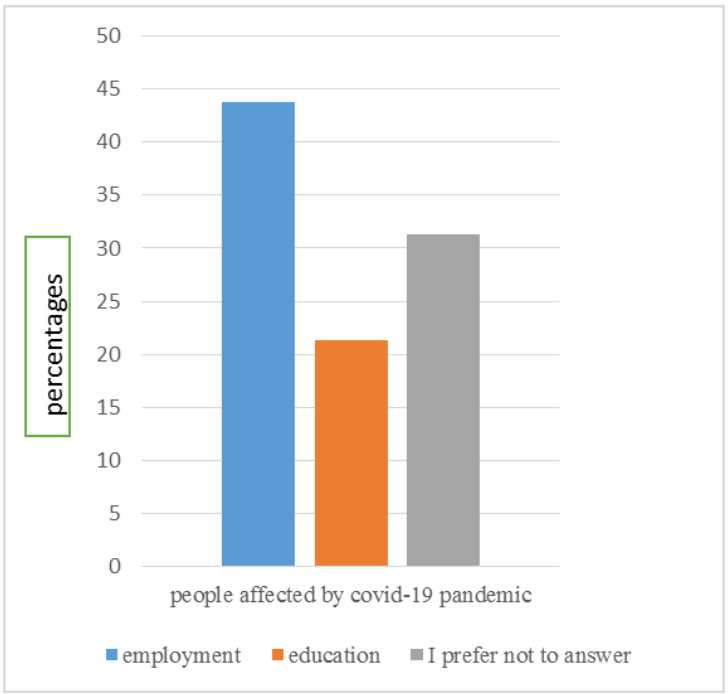


Figure 4: Shows the effect of covid 19 pandemic on safety and transportation.

Employment and Education



Figures 5: Shows the effect of pandemic on employment and education.

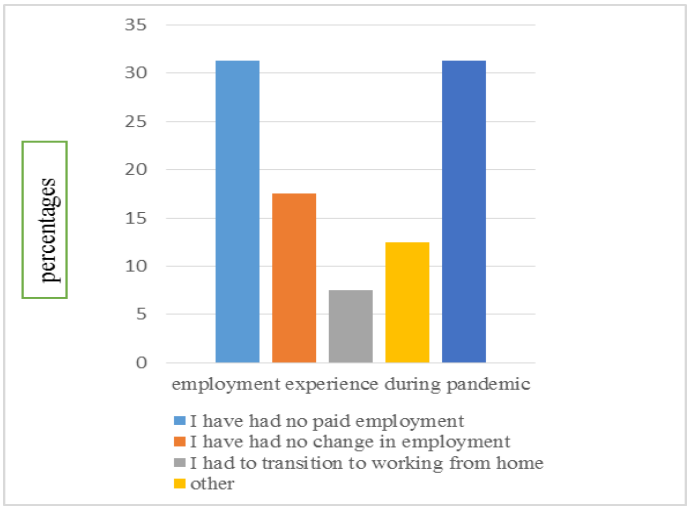


Figure 6: Shows employment experience during pandemic.

4.1 Education

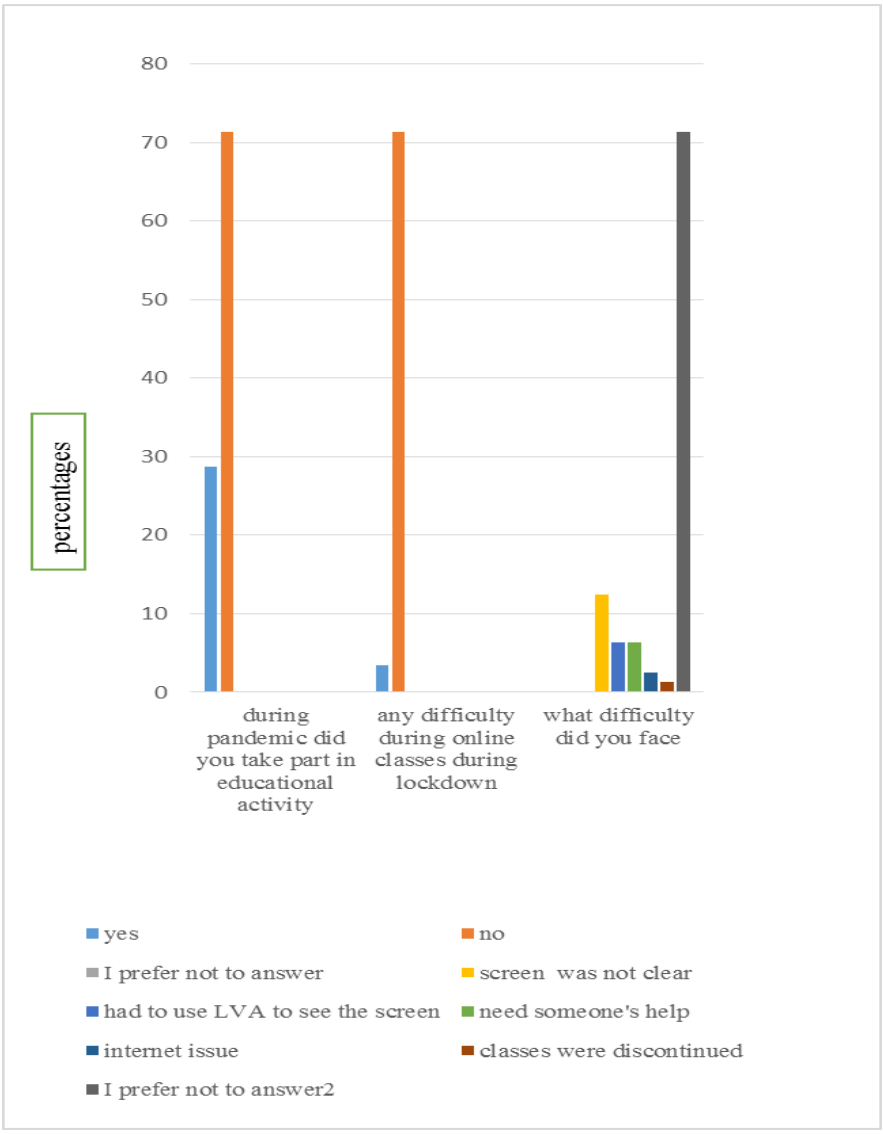


Figure 7: Shows the effect of covid 19 pandemic on educational activity of respondent.

Inferential Analysis

T-test

Independent samples t-test was run to check association of outcome (healthcare access) with gender. The test was run after checking assumptions of normality and homogeneity of variance (Levene's test). Results showed that mean and standard deviation for effect of COVID 19 pandemic on healthcare access for gender is (male 1.99±0.93, female 2.11±0.280), t (78) =0.109; p-value= 0.92. This result shows that statistically no significant association is present between the outcome variable i.e. healthcare access and gender.

ANOVA one way test

One way analysis of variance was conducted after checking assumptions of normality and homogeneity of variances (Leven's test). Apparently the results shows that the age f (76) =1.713 p-value=0.17, education f (77) =1.33 p-value=0.876, occupation f (75) =1.305 p-value=0.27, infected with the COVID-19 virus f (77) =0.863 p-value=0.42 have no statistically significant association with healthcare access during COVID-19 pandemic.

Table 3: ANOVA one way test results.

Variables	N	Mean ±SD	Statistic (df)	P value
Age				
1. 18-25	31	2.1± 0.27		
2. 26-35	16	1.96 ± 0.240	6.304 (76)	0. 17
3. 36-45	20	2.00± 0.286		
4. 46-55	13	1.92 ± 0.364		
Education				
1. 0-5	29	2.03±.272	6.720 (77)	0. 876
2. 6-10	32	2.00±.317		
3. 11-16	19	1.87 ±.292		
Occupation				
1. Student	22	2.11±.280		
2. Employed	38	1.96±.281	6.304 (75)	0.276
3. Retired	7	1.95±.30		
4. Unemployed	10	2.10±0.316		
5. Businessman	3	2.11±0.385		
Did you get covid-19				
1. Yes	23	2.00±.284	6.595 (77)	0.426
2. No	56	2.04±.296		
3. I prefer not to answer	1	1.67		

DISCUSSION

A hospital-based cross-sectional study was conducted to determine the effect of a COVID-19 pandemic in patients with low vision. It was focused on the impact of a COVID-19 pandemic on the daily life activities of low vision patients. It also emphasizes the effect of the COVID - 19 on healthcare access and transportation during a pandemic. Low vision patients were interviewed with the help of a validated questionnaire. A total number of 80 respondents of both genders were included in this during three months ranging from November 2021-January 2022. The data was collected from the low vision patients who visits the low vision department of the Tertiary Eye Care Hospital of Rawalpindi.

This study showed that the age of the patients was taken 18 to 55 years. A total of 72.5% of males and 27.5% of females were included in this study. Male respondents were outnumbered than female respondents. More than half of the participants were working (52.5%) and out of this nonworking 22 of the respondents were students.

The quantitative variable was measured also which shows that the mean education of the respondents were 8.35±3.881 and the monthly household income of the respondents in rupees was 36,950±17541.19. This shows that the majority of the respondents have just cleared their secondary education and most of the respondents belong to low socioeconomic status.

The majority of the respondents became visually impaired in their 20s or before (55%) whereas the remaining became visually impaired between 2 to 8 years (21.3%) or in between 9-19 years (17.5%). this is mainly due to congenital diseases such as retinitis pigmentosa or congenital macular degeneration diseases. The cause of low vision of the respondents includes glaucoma (3.8%), retinitis pigmentosa (38.8%), high myopia (6.3%), ARMD (3.8%), and others (47.5%). The other causes that constitute 47.5% include optic atrophy, albinism (both musculocutaneous and ocular albinism), macular dystrophies, ocular trauma and cataract.

The best-corrected visual acuity of the respondents taken from ETDRS was 6/18-6/60 in the right eye (68.8%) and left eye (65%). Some of the respondents also had a visual acuity of 6/120-6/76 in the right eye (23.8%) and left eye (18.8%), 6/240-6/152 in the right eye (5%) and left eye (12.5%). It was also reported that 88.7% of the respondents had no additional disability whereas only 11.3% had an additional disability. This additional disability majority include diabetes mellitus and hypertension. It was also seen from the respondent's response

that only 42.5% of the respondent had any family member with low vision while a majority of the respondents (57.5%) do not have any low vision family member. The majority of the respondents access their mobile phones and computer screen with the built-in feature of zoom and brightness to see the screen (56.3%) whereas other don't make any changes (33.8%) while some of them do not use them (7.5%).

The descriptive results of this study also show that the majority of the respondent (70%) were not infected by the covid -19 virus while only (28.7%) were infected by the covid-19 virus and some (1.3%) prefer not to answer this question, this is mainly due to lack of knowledge among the respondent about the coronavirus or maybe due to the stigma it has been associated with.

When the respondents were asked about the effect of a covid-19 pandemic on their general life or employment, the majority of the respondent responded with yes (63.3%) this is due to the nationwide lockdown that resulted in an impact on their employment i.e. in terms of their financial disparity and educational loss which was majorly given as a reason of impact by students who suffered during online classes. Only (37.5%) of the respondent answers no this was majorly due to their saving or due to little change in their employment. Only 22 students have been included in this study out of which 17 students responded with the effect of covid 19 pandemic on them in terms of their educational activity.

The study result shows that the majority of the respondent (95%) got the covid-19 virus information from television. This might be due to the reason they only can hear and are unable not to watch the screen or read from a newspaper because of their visual acuity. The study also shows that due to lack of knowledge and not having proper information about the covid-19 vaccination only (28.7%) of the respondent got themselves vaccinated whereas (70%) were unvaccinated and some of the respondents prefer not to answer. These results show the descriptive analysis of the demographic variables which are the independent variables of this study.

Descriptive analysis of outcome variables

The outcome variables of this study are divided into four parts which include:

- Getting prescription food and supplies
- Access to healthcare and mental wellbeing
- Safety and transportation

- Employment and education

Getting prescription food and supplies

This part of the outcome variable includes three questions that mainly depend on their daily life activities. The results of this variable show that 36.3% of the respondent had the difficulty in getting healthcare supplies (prescription) whereas 73.7% had faced no challenge in getting their needed supplies this is due to their dependency on other family members for their basic needs.

The result also shows that only 7.5% of the respondents received food assistance/help during this time. This very low percentage of receiving help might be due to a lack of knowledge about the programs running in the country during this stressful time or due to their family who help them in their necessities. In Pakistan people who are visually disabled depends on their family and they became one of the mere responsibility of the family so due to this reason also they prefer not to consider any such program into their account.

As Pakistan is one of the developing countries and the majority of the people with visual disability lives in rural area shows that they have less knowledge about the facilities that might be present on the internet for them. It is also accounted that these patients depend merely on their family members for basic needs shows that the result for use of any food application is not majorly.

Access to healthcare and mental wellbeing

This part of the outcome variable shows the effect of covid-19 on healthcare access during the pandemic. This section includes questions related to healthcare access and the response was taken from each participant. According to research published in ARVO Journals by Niranjani Nagaranjan et al., persons with visual disabilities have serious concerns about healthcare access and usage.[15]

This section also further clears that due to lack of knowledge available about the healthcare system and facilities available for the patients, patients were unable to facilitate themselves with the telehealth facility that was provided by the hospital to all their patients and result of this shows that only 17.5% of the individual facilitates themselves from this while 78.8% of the respondent were unable to use this and some (3.8%) prefer not to answer this question.

During the pandemic majority of the respondents responded that they prefer to visit the hospital during the lockdown, smart lockdown and micro lockdown. The result shows that almost 71.2 % of the respondent visited the hospital for their follow-ups or other reasons while some (13.8%) required urgent care and some (15%) of them prefer not to visit any hospital for their safety. So comparing this study with the study being published in ARVO journals it is concluded that the people with visual disabilities showed less concern with the level of healthcare access and usage.

When asked about their safety and concern with covid 19 while admitting to the hospital or while receiving healthcare, 23.8% of the respondent shows concern while the remaining 76.2% were satisfied with the facilities they received. The results show that 13.8% of the respondent felt distressed during the pandemic and the majority responded with the distress was only during an early covid-19 phase that occur in March 2020.

Safety and transportation

These outcomes discuss the effect of a pandemic on safety and transportation during the lockdown. The results depict that majority of the patients do not have any problem while practicing social distancing and sops of the covid-19 virus. It was also concluded from the results that before the covid-19 pandemic none of the respondents faces any problem with transport facility but during pandemic due to restrictions and lockdown had faced problems while using public transport. The major problem faced by the respondent includes bus and trains were cancelled and restricted 70%, followed by a long waiting time of 12.5% whereas some of the respondents chooses not to travel 16.3% during the covid-19 pandemic due to their safety concerns.

The American Foundation for the blind also surveyed in terms of safety and transportation which conclude 68 per cent of participants expressed concern about safety while travelling, with only a few expressing concern about transportation restrictions. Comparing this with my study it is concluded that only 12.5% had a concern about their safety while travelling. The difference between these two study results is merely the knowledge and the seriousness and compliance towards the restrictions that were imposed by the governments of the respective countries.[16]

Employment and Education

The outcome of this variable was concluded by asking respondents different questions and then noting down the response. A total of 22 participants were students while the remaining were either employed, retired or unemployed. The result shows that the covid-19 had an impact on employment (45%) and education 21.3%. while the remaining who do not answer this were either retired, housewives or businessmen.

When the respondents were asked about the effect on employment they responded with the following answers they had no paid employment during this time followed by some who had no change in their employees while others responded with that they had to transition to work at home which was somehow troublesome as some of them due to their visual acuity had a problem in viewing the screen.

The American Foundation for blind conducted a survey in which it also looked at employment, with 47 per cent of participants expressing concerns about their jobs, and 38 per cent reporting accessibility issues with at least one of the technology tools they needed to do their jobs, as well as being unable to access technology that was necessary for their jobs at home. So comparing both the studies it is concluded that the people with visual disabilities affected employment during a pandemic.[16]

When 22 of the respondents who were students were asked about facing difficulty in their educational activity, the majority of them answer with yes while some answered no also. The major reason for facing difficulty includes screen was not clear (12.5%), followed by use of low vision aid (6.3%) and someone's help (6.3%) while some of the respondents had internet issues (2.5%) and some of the respondent's classes were cancelled (1.3%).

The American Foundation for blind conducted this survey on the effect of covid-19 on low vision in which it is concluded that 59 percent of participants expressed concerns about their education as a result of their vision loss.[16]

Inferential analysis

The inferential analysis was carried out to check the association of demographic variables with healthcare access. The demographic variables (independent variable) include age, gender, education, occupation and infection with covid-19. The association was checked by using an independent sample T-test and one way ANOVA.

The independent T-test was run for a variable that have a binomial category and for this research it was run for gender. The t-test was applied to find out the association of effect of covid 19 on low vision patients with gender and the test results shows that it has no significant association with healthcare access. This might be due to the lack of knowledge and seriousness that the respondents had and due to lack of compliance with the covid-19 restriction.

The one way ANOVA was run for variables that have more than two categories and for this research it was run for age, education, occupation and infection with covid-19. The results of the test show that healthcare access has no significant association with demographic variables. This might be due to the lack of knowledge among the respondent or due to the seriousness of the pandemic. People did not take this pandemic seriously and did not follow the restrictions completely. The study conducted by Niranjani Nagaranjan et al. shows in regression analysis that no gender differences were noted for maintaining eye care regimen or caregiver access.[19]

Limitation

Limitations of this research includes:

- Sample size was less.
- Short time duration that was only three months.
- This study has outnumbered individuals of less education level than individuals with high education level.

Strength

This study is the only study conducted in this region. A very limited work has been done in this aspect in Pakistan.

CONCLUSION

The focus of this thesis was to see how COVID-19 affected people with limited eyesight. The impact of COVID-19 is not as severe as it is in the general population, indicating that persons with visual impairments rely primarily on their family members. Because of a lack of awareness and concern about the COVID-19 restrictions, there was no substantial link between COVID-19 lockdown and healthcare access for those with visual difficulties. The data also show that throughout the lockdowns, respondents had no trouble acquiring their

essential medication. This may be due to their reliance on family members to meet all of their requirements.

This survey also found that respondents who were students suffered the most during the lockdown in terms of their educational activities. This is mostly due to their weak vision, which prevents them from seeing visual display units adequately. It is also seen through the results that people who are employed suffered the most in terms of their income and some had to lose their job while few had a little change.

This study also found that persons with visual disabilities were concerned about their safety when travelling, therefore some may choose not to go during the testing period. Some patients expressed issues about the level of healthcare delivered to them during the testing period, as evidenced by the results. This issue might be related to the hospital administration's rigorous adherence to COVID-19 sops limitations to prevent the virus from spreading. Television was the sole source of information for COVID-19. This is because people with visual difficulties prefer to listen to the news rather than read it.

REFERENCES

1. Severe acute respiratory syndrome CORONAVIRUS 2 [Internet]. Wikipedia. Wikimedia Foundation;2021[cited2021Aug23].Availablefrom: https://en.wikipedia.org/wiki/Severe_acute_respiratory_syndrome_coronavirus_2
2. Softnio.19situation[Internet].COVID. Available from: https://covid.gov.pk/
3. Severe acute respiratory syndrome CORONAVIRUS 2 [Internet]. Wikipedia. Wikimedia Foundation;2021.Availablefrom: https://en.wikipedia.org/wiki/Severe_acute_respiratory_syndrome_coronavirus_2
4. Coronavirus [Internet]. World Health Organization. World Health Organization. Available from: https://www.who.int/health-topics/coronavirus#tab=tab_1
5. Senjam SS. Impact of covid-19 pandemic on people living with visual disability [Internet]. Indian journal of ophthalmology. Wolters Kluwer - Medknow; 2020. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7574069/
6. Low vision definition WHO [Internet]. Google search. Google; Available from: https://www.who.int/blindness/Vision2020_report.pdf
7. Visual impairment [Internet]. Wikipedia. Wikimedia Foundation; 2021. Available from: https://en.wikipedia.org/wiki/Visual_impairment

8. Visual impairment [Internet]. Wikipedia. Wikimedia Foundation; 2021 Available from: https://en.wikipedia.org/wiki/Visual_impairment#Cause
9. Jadoon MZ, Dineen B, Bourne RRA, Shah SP, Khan MA, Johnson GJ, et al. Prevalence of blindness and visual impairment in Pakistan: The Pakistan National Blindness and Visual Impairment Survey [Internet]. Investigative Ophthalmology & Visual Science. The Association for Research in Vision and Ophthalmology; 2006 Available from: https://doi.org/10.1167/iovs.06-0374
10. T; K. Evidence mounts on the disproportionate effect of covid-19 on ethnic minorities [Internet]. The Lancet. Respiratory medicine. U.S. National Library of Medicine; Availablefrom: https://pubmed.ncbi.nlm.nih.gov/32401711/?from_term=Lancet%5Bjour%5D%2BAND%2B2020%2F5%2F14%5Bedat%5D&from_no_cache=yes&from_pos=7
11. Senjam SS. Impact of covid-19 pandemic on people living with visual disability [Internet]. Indian journal of ophthalmology. Wolters Kluwer - Medknow; 2020. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7574069/
12. Senjam SS. Impact of covid-19 pandemic on people living with visual disability [Internet]. Indian journal of ophthalmology. Wolters Kluwer - Medknow; 2020]. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7574069/
13. Ignored and neglected: India remains unfriendly to her ... [Internet]. Available from: https://www.thecitizen.in/index.php/en/newsdetail/index/8/9451/ignored-and-neglected-india-remains-unfriendly-to-her-people-with-special-needs
14. Fares AAA, Shenouda D, El-Shelil DNSMEE. [PDF] evaluation of personal hygiene among students with visual impairment at Al-Nour School for Blind: Ismailia city: Semantic scholar [Internet]. 1970. Available from: https://www.semanticscholar.org/paper/Evaluation-of-Personal-Hygiene-Among-Students-with-Fares-Shenouda/6854541979bd45e534ebda41e77feed9ec5cfa68
15. Nagarajan N, Varadaraj V, Rosenblum PL, Swenor BK. Impact of the COVID-19 pandemic on healthcare access and utilization for American adults who are blind or have low vision [Internet]. Investigative Ophthalmology & Visual Science. The Association for Research in VisionandOphthalmology;2021Availablefrom: https://iovs.arvojournals.org/article.aspx?articleid=2773513
16. AFB's journey FORWARD SURVEY [Internet]. afb.iad1.qualtrics.com. Available from:https://afb.iad1.qualtrics.com/jfe/form/SV_cMAKGicB71Gpojk