

Research Paper

## A Study on COVID-19 Awareness Among the Indian Community

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### ABSTRACT

The impact of the coronavirus on individuals' physical well-being is evident in the growing global data on increasing COVID-19 cases and rising mortality rates. The World Health Organization (WHO) has recognized the COVID-19 outbreak as a significant international public health emergency. Furthermore, it is crucial to recognize the pandemic's effect on the mental health of both individuals and societies. This study's objective is to evaluate the mental health of individuals during the 2020 pandemic. A cross-sectional survey was conducted with the voluntary participation of 750 individuals. After applying specific criteria, a sample of 600 respondents was selected. The age range of the participants was 14 to 69 years, with an average age of  $33.032 \pm 12.10$  years. The sample was collected from various regions across the country, and the survey was coordinated by the Department of Psychology at HNBGU (a Central University) in Srinagar, Uttarakhand. To analyse the association between mental health and different factors such as locality and gender, chi-square statistics were employed. The study's findings reveal that the mental well-being and mental health of individuals were negatively impacted during the 2020 pandemic. Specifically, the results indicate that females experienced a more pronounced decline in mental health compared to males. Additionally, individuals residing in urban areas faced a greater impact on their mental health compared to those in rural areas. Stressors affecting mental health were notably significant among both males and females in urban areas. Interestingly, males in both urban and rural areas experienced similar levels of stress during the 2020 pandemic.

**Keywords:** COVID-19 Awareness, Indian Community

Coronavirus belongs to a group of viruses that are recognized for their impact on the respiratory system of individuals. This type of virus has the ability to multiply quickly, especially through person-to-person transmission. The initial instance of the novel coronavirus, known as COVID-19, was documented in Wuhan, China, on December 1, 2019. (Liu, C. (2020), Since then, the outbreak of this virus has been confirmed in various regions across the globe. These types of viruses are responsible for common ailments like the common cold, pneumonia, bronchitis, and respiratory problems like SARS (severe acute respiratory syndrome). The World Health Organization (WHO) has officially declared COVID-19 a worldwide pandemic due to its rapid spread in over 100 countries across the world. Researchers and scientists hold the belief that these viruses may have originated from snakes or bats and subsequently transmitted to humans. (Haitao

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Received: December 21, 2023; Revision Received: March 28, 2024; Accepted: March 31, 2024

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Guo, Guangxiang "George" Luo, Shou-Jiang Gao, (2020). Nonetheless, there exists an alternative conspiracy theory regarding this epidemic. It suggests that the Wuhan Institute of Virology houses specialized laboratories where this particular virus may have been artificially engineered, or it could have been accidentally transmitted by a laboratory technician who had contact with a bat carrying the virus. Subsequently, the virus may have spread beyond the lab when the technician interacted with others, (<https://www.nature.com/articles/d41586-021-01529-3>). Numerous scientists worldwide have researched this virus and concluded that it originates from wildlife, refuting any claims associated with bioengineering, (HTT Phung (2021)). These theories instill fear and spread unfounded rumours among the public, undermining international efforts to combat such viruses. Common symptoms of coronavirus include fever, the common cold, respiratory problems, coughing, and sneezing. Some patients may also develop pneumonia and experience organ failure, which can be fatal in certain cases. Coronavirus is extremely contagious, and some individuals may not display any symptoms until they test positive for the virus. The coronavirus has an incubation period that spans from 1 to 14 days. (Lauer, S. A. et al (2020)). The COVID-19 pandemic presented a multitude of mental health challenges for all age groups, including children and adolescents. Feelings of grief, fear, uncertainty, social isolation, and the increased use of screens have had detrimental effects on people's mental well-being. According to UNICEF (the United Nations International Children's Emergency Fund) reports, as of March 2021, over 330 million young individuals had been confined to their homes for a minimum of nine months, since the virus started spreading uncontrollably a year ago.

### **MATERIAL & METHODS**

The aim of the study is to measure the level of awareness on COVID-19 among people of India.

#### *Study Design & Sample*

An online survey was carried out, involving 233 participants hailing from various regions of the country. In this study, 64% of the respondents were male, while 36% were female. Regarding the respondents' residential backgrounds, 34% were from urban areas, and 66% were from rural areas. Additionally, the age distribution of participants was as follows: 52% were below 30 years old, 32% were between 31 and 45 years old, and 16% were above 45 years old. The study utilized a self-structured questionnaire to examine individuals' awareness of COVID-19.

#### *Assessment of COVID-19 Awareness*

A self-developed questionnaire called the COVID-19 Awareness Scale, created by "Prof. Manju K Pandey" from the Department of Psychology at HNBGU Srinagar Garhwal, was employed to assess an individual's knowledge about COVID-19. This scale comprises 40 items and employs a three-point rating system, where each item offers three response options: 'YES,' 'NO,' and 'CAN'T SAY.' This questionnaire is available in both Hindi and English languages. To facilitate a meaningful interpretation and draw conclusions from the results, a purposefully designed scoring sheet is used. Numeric scores are assigned to each item, with a "Right" response indicating a facet of COVID-19 awareness. A higher number of "Right" answers reflect a higher level of awareness, while a lower number of "Right" answers indicate a lower level of awareness.

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### Statistical Analysis

The data analysis involved the utilization of statistical techniques such as "Mean," "Standard Deviation," "ANOVA" (Analysis of Variance), and "t-test."

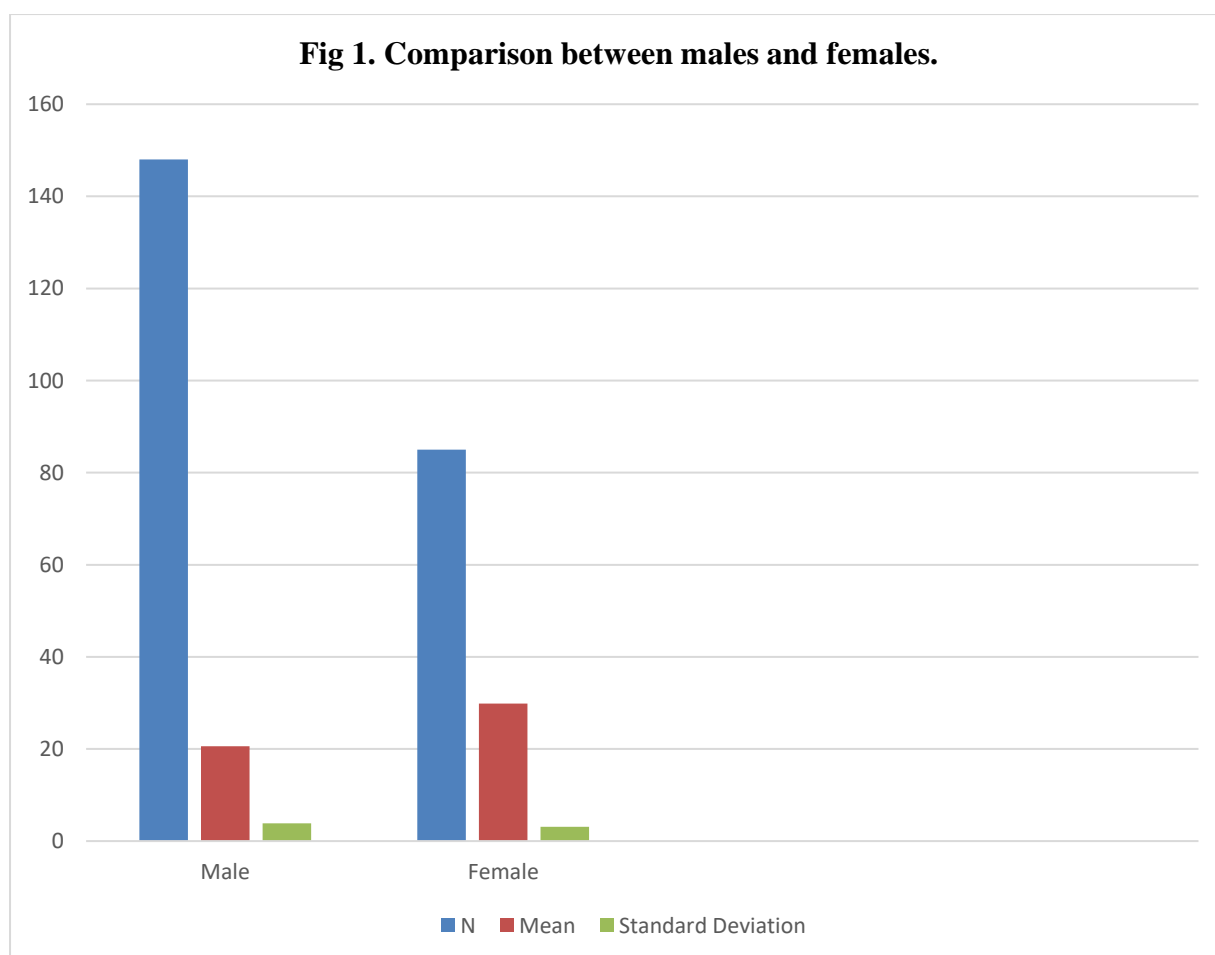
### Baseline Characteristics of Data

S. No	Baseline Characteristics	N (=233)
1.	Gender (Male/Female)	148/85
2.	Socio-Economic Status (Low/Medium/High)	64/107/62
3.	Education (Class12 <sup>th</sup> /Graduation/Postgraduation/Ph.D.)	35/85/91/22

## RESULTS

Table 1. Comparison between males and females on their COVID-19 awareness.

Subjects	N	M±SD	SeM	t Value
Male	148	20.58 ±3.875	.318	-0.647
Female	85	29.85 ±3.096	.335	

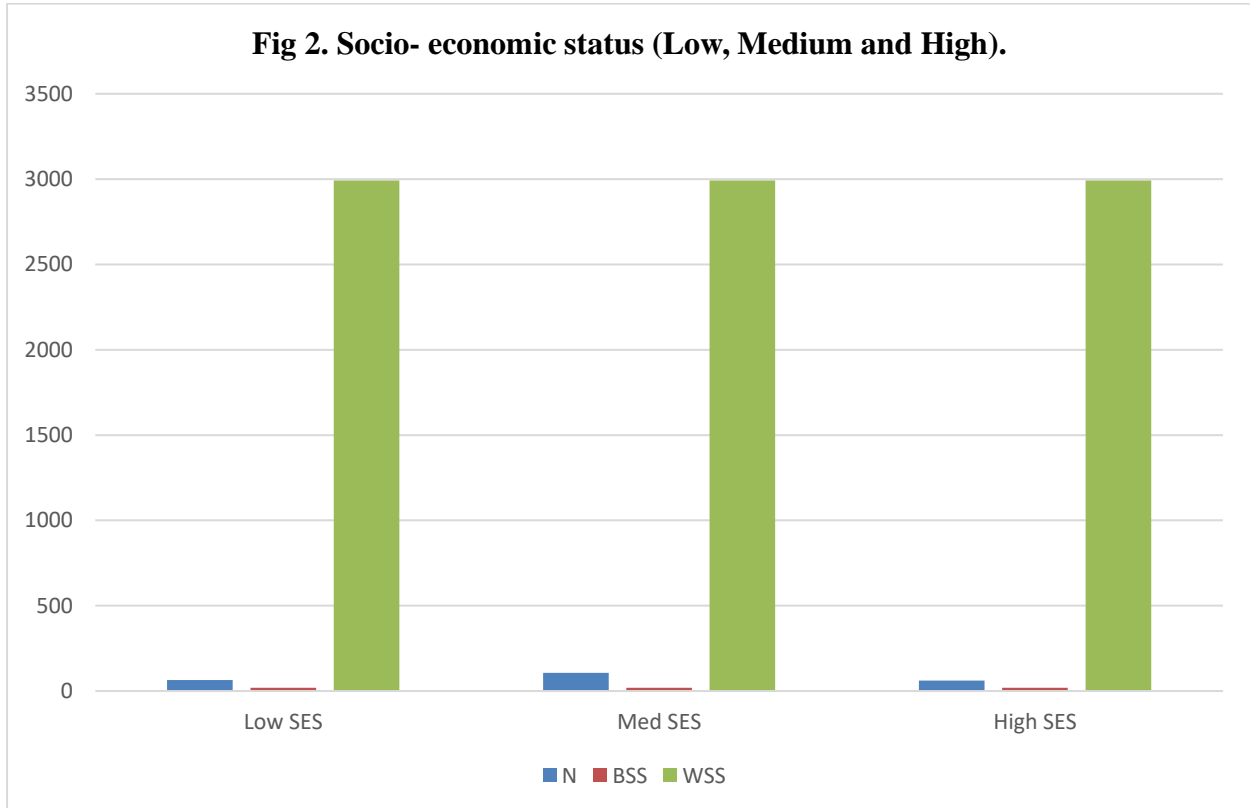


The table above illustrates that there is no noteworthy distinction between males and females regarding their COVID-19 awareness. Specifically, the average score for males is 20.58, while for females, it is 29.85. The t-value of -0.647, calculated with 231 degrees of freedom, indicates that there is no significant difference in COVID-19 awareness among the participants. Consequently, the hypothesis has not been disproven.

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**Table 2: Comparison according to socio- economic status (Low, Medium and High).**

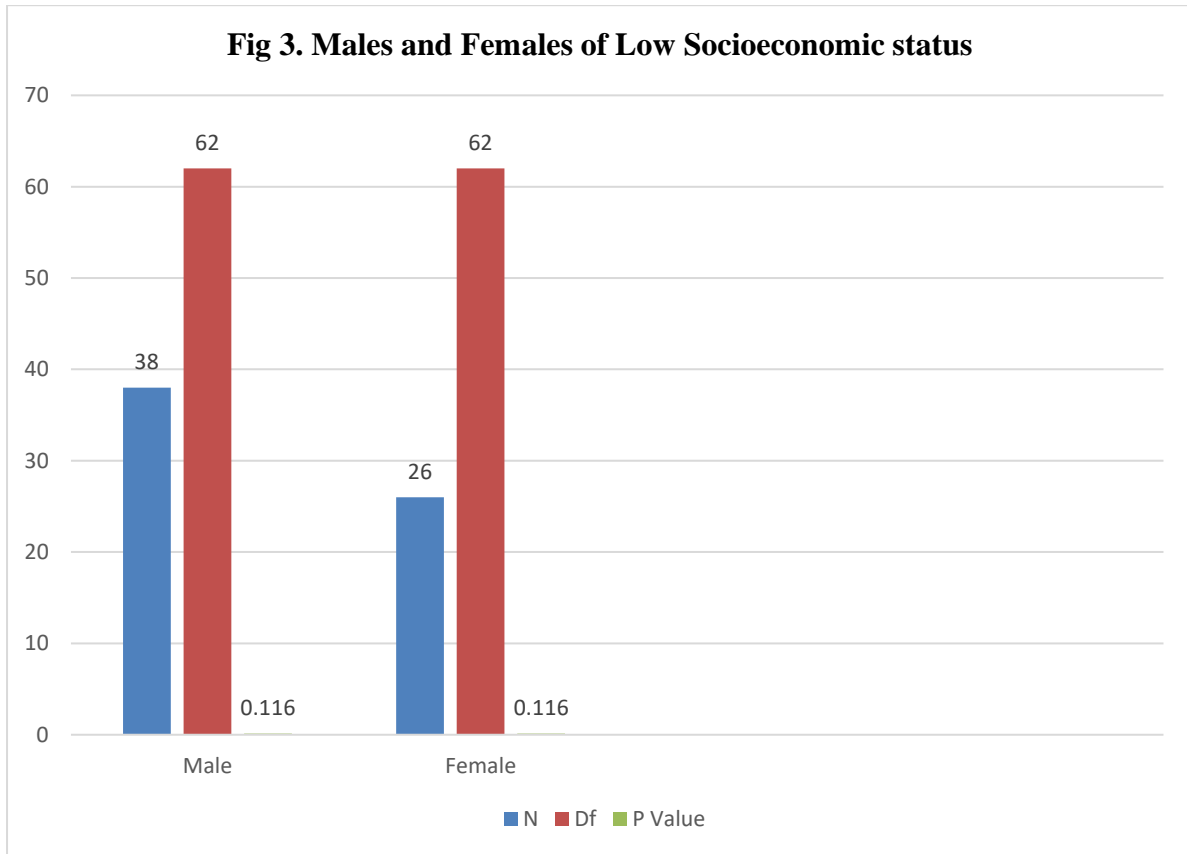
Groups	N	Between Groups SS	Within Groups SS	Total Df	F	P Value
Low SES	64	19.61762	2991.352	232	0.754183	0.471554
Med SES	107					
High SES	62					
<b>Df</b>		2	230			



The table above indicates that there is no notable disparity in COVID-19 awareness among groups with varying socio-economic statuses (p-value = .471554). Specifically, the mean scores for COVID-19 awareness among individuals with low, medium, and high socio-economic statuses are 20.28, 20.73, and 21.06, respectively. The calculated f-value of 0.754, based on 2 degrees of freedom, reveals that there is no substantial difference in COVID-19 awareness among these groups. As a result, the hypothesis remains unchallenged and is not rejected.

**Table 3: Comparison between males and females of low socio-economic status.**

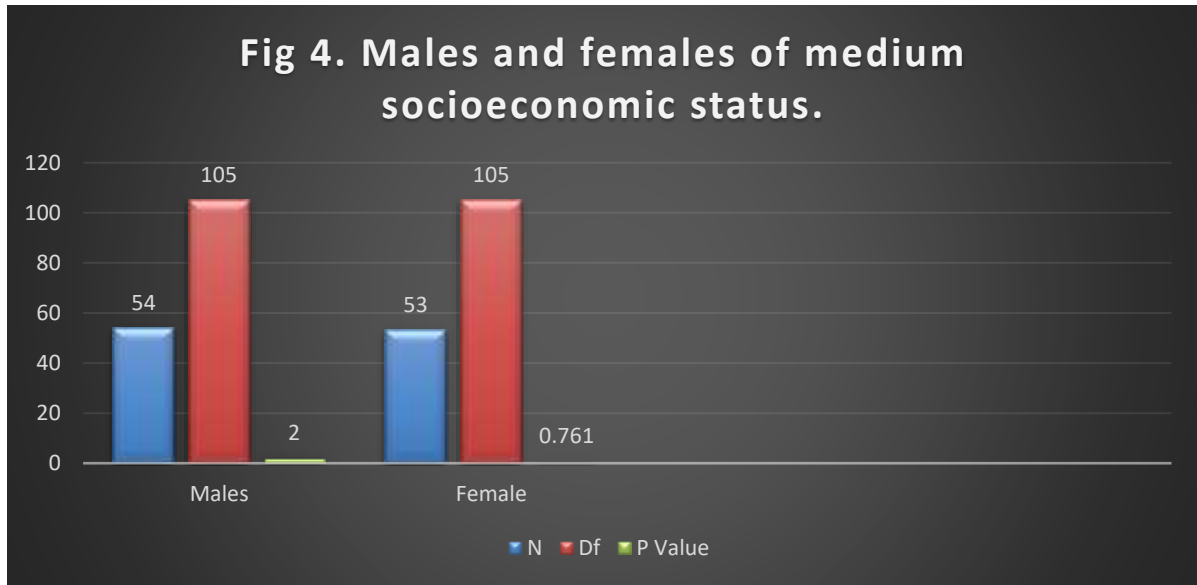
Subjects (Low Socio-economic Status)	N	M±SD	SeM	t Value	Df	P Value
Male	38	19.65±4.068	0.660	-1.594	62	0.116
Female	26	21.19±3.310	0.649			



The table above demonstrates that within the Low Socio-economic Status group, both males and females exhibit a similar level of COVID-19 awareness, and this difference is not statistically significant (p-value = 0.116). Specifically, the mean COVID-19 awareness scores for males and females are 19.65 and 21.19, respectively. The calculated t-value of -1.594, with 62 degrees of freedom, indicates that there is no significant disparity in COVID-19 awareness between these two groups. Consequently, the hypothesis remains unchallenged and is not rejected.

**Table 4 Comparison between males and females of medium socio-economic status.**

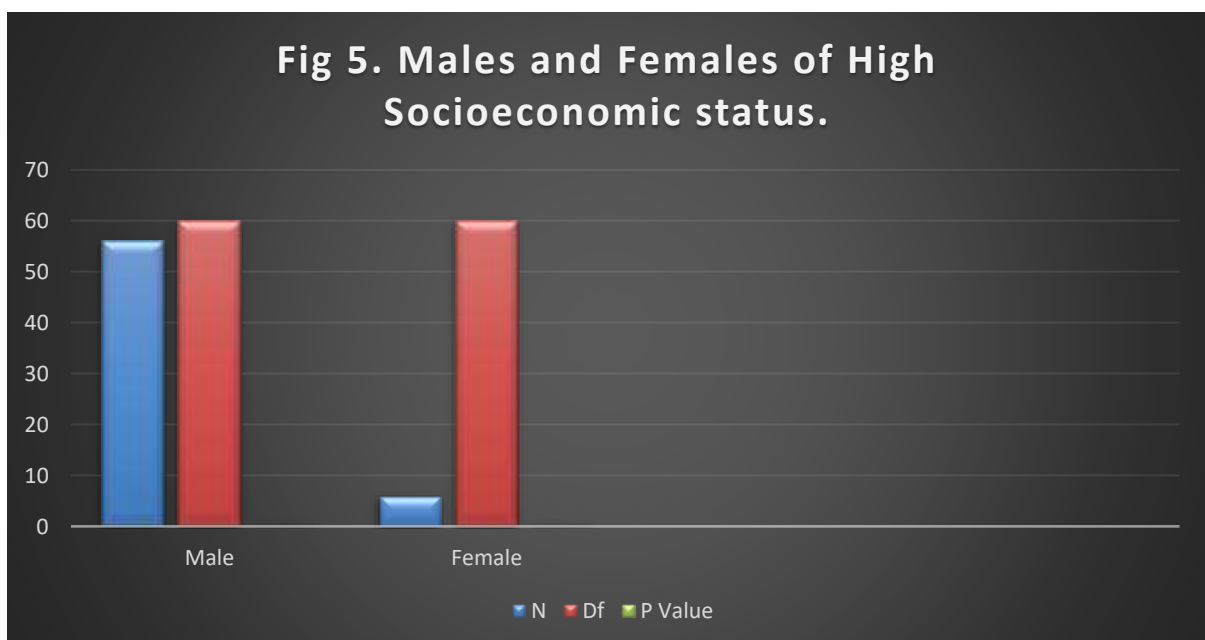
Subjects (Med Socio-economic Status)	N	Mean	Standard Deviation	Standard Error of Mean	t Value	Df	P value
Male	54	20.62	4.217	0.573	-0.305	105	0.761
Female	53	20.84	3.146	0.432			



The table presented above indicates that within the Medium Socio-economic Status group, there is no substantial difference in COVID-19 awareness between males and females, as the p-value is 0.761. Specifically, the mean COVID-19 awareness scores for males and females are 20.62 and 20.84, respectively. The calculated t-value of -0.305, based on 105 degrees of freedom, suggests that there is no significant variation in COVID-19 awareness between these two gender groups within the medium socio-economic status category. Thus, the hypothesis remains unchallenged and is not rejected.

*Table 5: Comparison between males and females of high socio-economic status.*

Subjects (High Socio-economic Status)	N	Mean	Standard Deviation	Standard Error of Mean	t Value	Df	P Value
Male	56	21.16	3.285	0.438	0.729	60	0.469
Female	6	20.16	1.471	0.600			

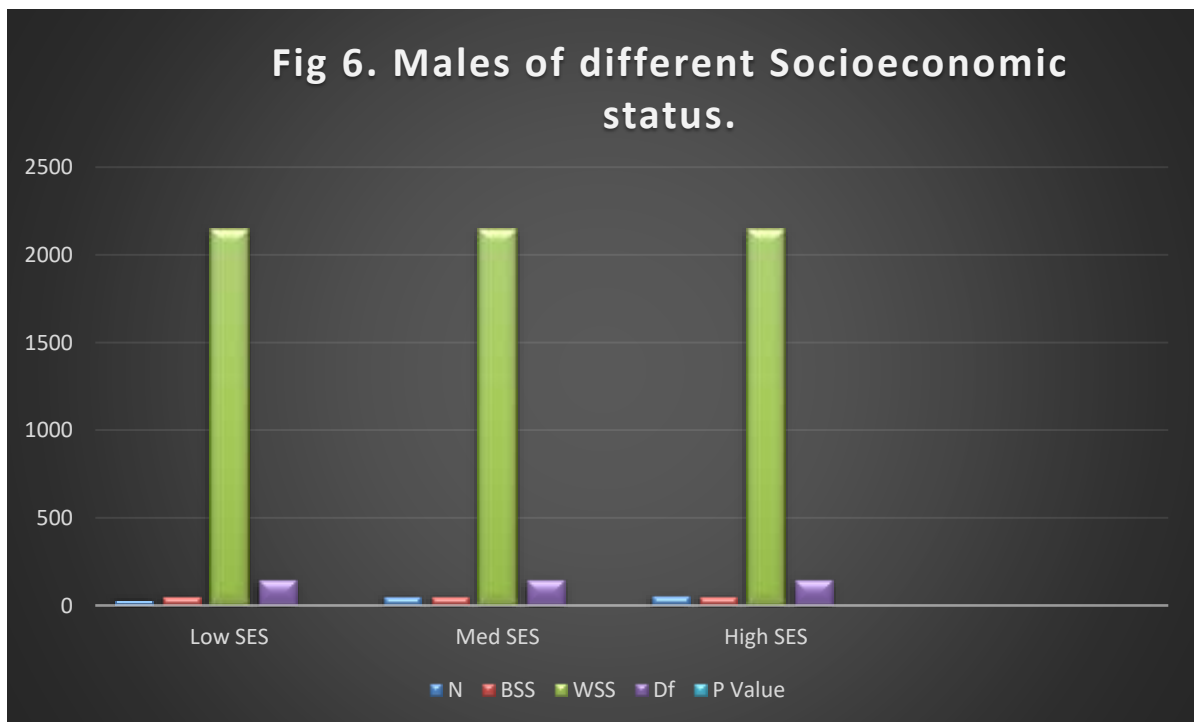


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The table provided above shows that among individuals within the High Socio-economic Status category, there is no noteworthy distinction in COVID-19 awareness between males and females, as evidenced by a p-value of 0.469. Specifically, the mean COVID-19 awareness scores for males and females are 21.16 and 20.16, respectively. The calculated t-value of 0.729, based on 60 degrees of freedom, indicates that there is no significant divergence in COVID-19 awareness between these two gender groups within the high socio-economic status bracket. Consequently, the hypothesis remains unchallenged and is not rejected.

**Table 6: Comparison between males of different socio-economic status.**

Groups (Males)	N	Between Groups SS	Within Groups SS	Total Df	F	P Value
Low SES	38	51.32823	2148.699	147	1.731884	0.180591
Med SES	54					
High SES	56					
<b>Df</b>		2	145			

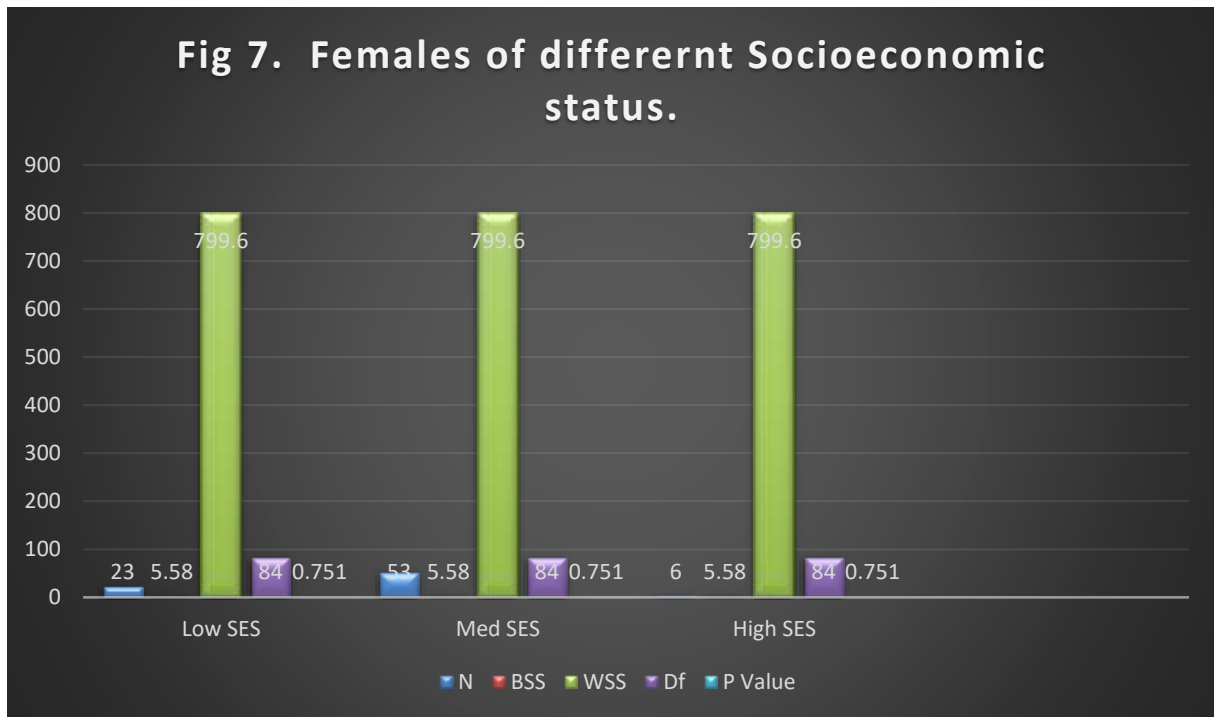


The table displayed above demonstrates that among male individuals belonging to various socio-economic status groups, there is no substantial difference in their awareness of COVID-19, as indicated by a p-value of 0.180591. Specifically, the mean COVID-19 awareness scores for males in the low, medium, and high socio-economic status categories are 19.65, 20.62, and 21.16, respectively. The calculated f-value of 1.731, based on 2 degrees of freedom, reveals that there is no significant variation in COVID-19 awareness among these male groups across different socio-economic statuses. Therefore, the hypothesis remains unchallenged and is not rejected.

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**Table 7: Comparison between females of different socio-economic status.**

Groups (Females)	N	Between Groups SS	Within Groups SS	Total Df	F	P Value
Low SES	23	5.582811	799.6642	84	0.286239	0.75183
Med SES	53					
High SES	6					
<b>Df</b>		2	82			

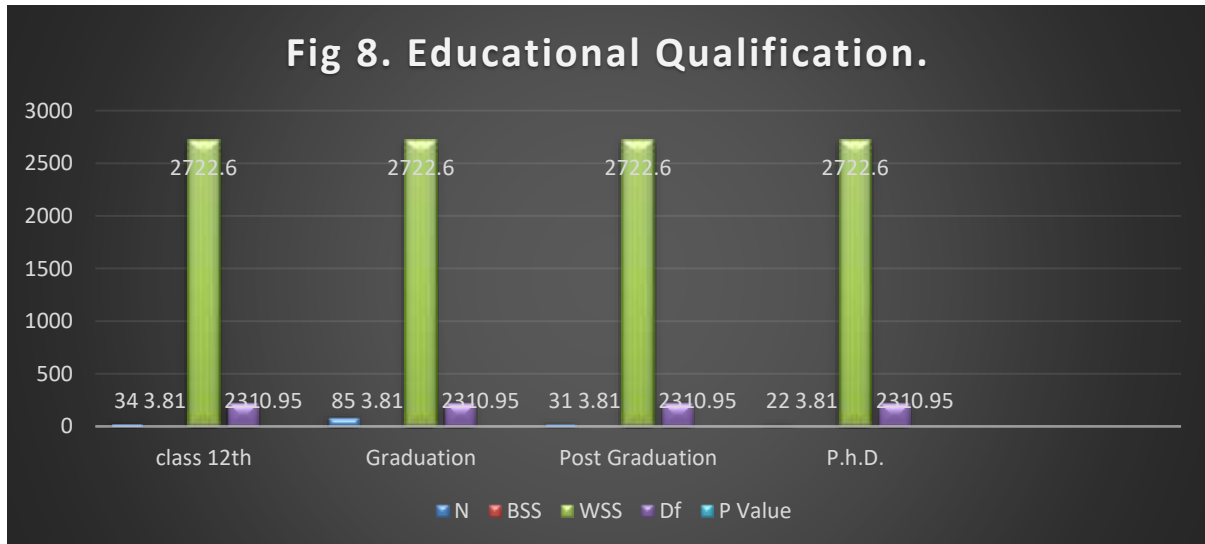


The table above illustrates that among female individuals from various socio-economic status categories, there is no substantial difference in their awareness of COVID-19, as indicated by a p-value of 0.75183. Specifically, the mean COVID-19 awareness scores for females in the low, medium, and high socio-economic status groups are 21.19, 20.84, and 20.16, respectively. The calculated f-value of 0.286, based on 2 degrees of freedom, indicates that there is no significant variation in COVID-19 awareness among these female groups across different socio-economic statuses. Therefore, the hypothesis remains unchallenged and is not rejected.

**Table 8: Comparison between individuals of different educational qualification.**

Groups (Educational Qualification)	N	Between Groups SS	Within Groups SS	Total Df	F	P Value
Class 12 <sup>th</sup>	34	3.816387	2722.662	231	0.10653	0.956212
Graduation	85					
Post-Graduation	31					
Ph.D.	22					
<b>Df</b>		3	228			

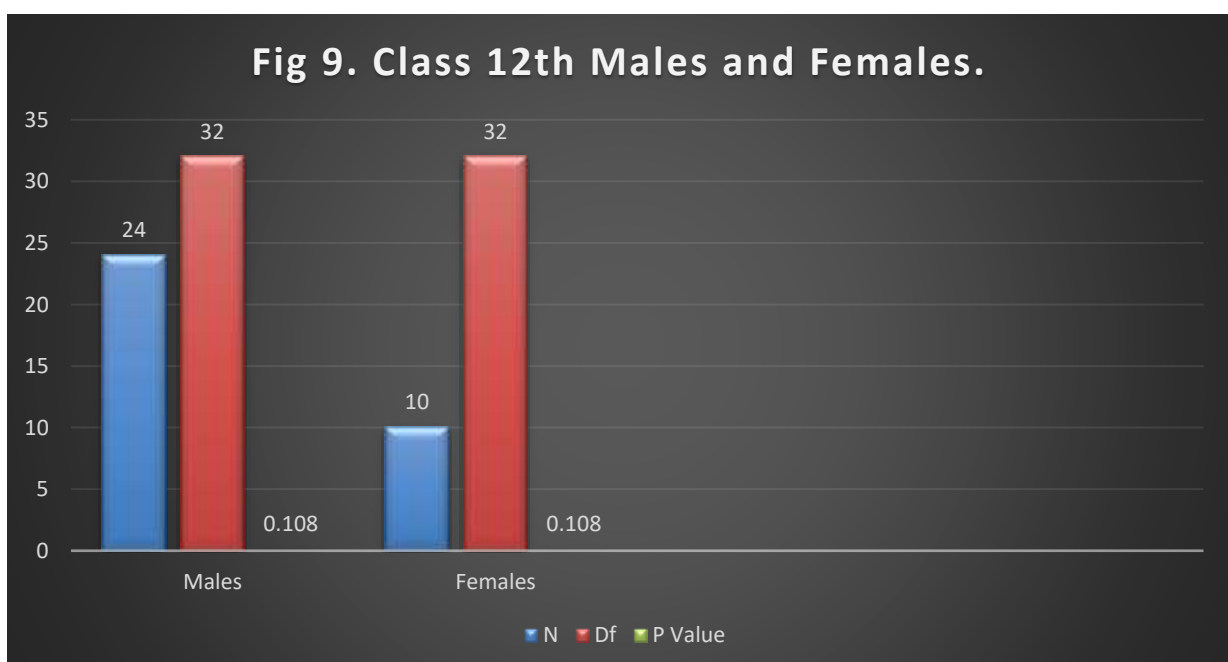




The table provided above shows that among individuals with varying levels of educational qualifications, there is no notable difference in their awareness of COVID-19, as evidenced by a p-value of 0.956212. Specifically, the mean COVID-19 awareness scores for individuals with qualifications ranging from class 12th to Ph.D. are 20.82, 20.89, 20.96, and 21.31, respectively. The calculated f-value of 0.10653, based on 3 degrees of freedom, indicates that there is no significant variation in COVID-19 awareness among individuals with different educational backgrounds. Thus, the hypothesis remains unchallenged and is not rejected.

**Table 9: Comparison between class 12<sup>th</sup> males and females.**

Subjects (Class 12th)	N	Mean	Standard Deviation	Standard Error of Mean	t Value	Df	P value
Male	24	21.66	4.878	0.995	1.656	32	0.108
Female	10	18.8	3.794	1.2			

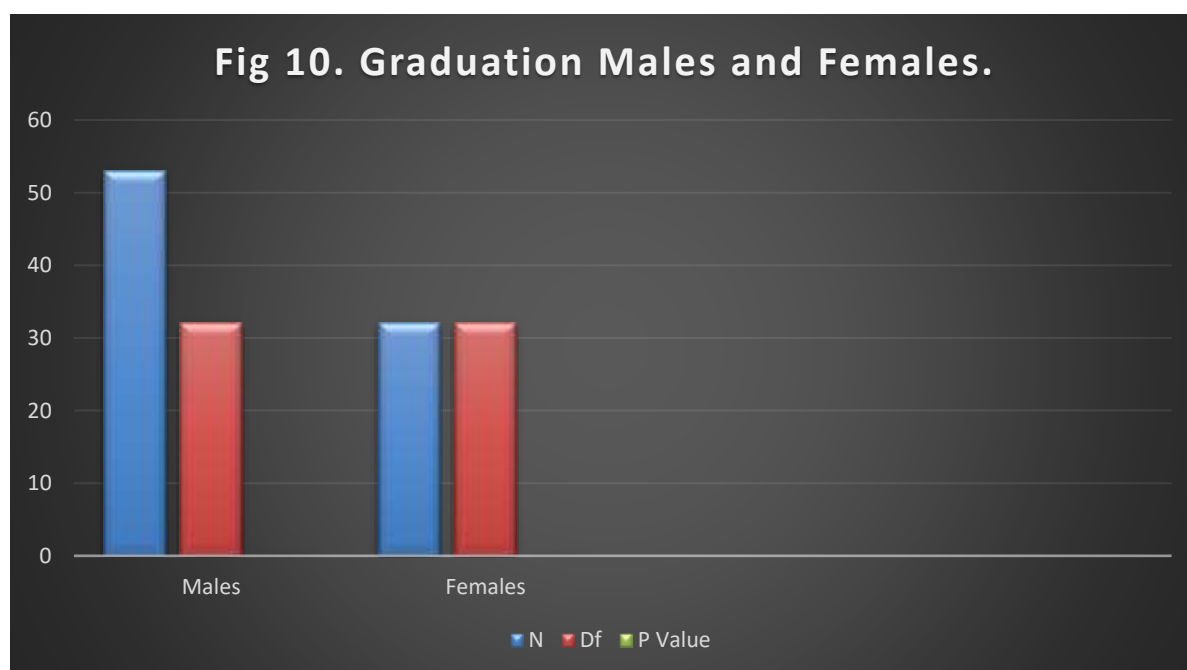


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The table above illustrates that within the Class 12th category, there is no significant distinction in COVID-19 awareness between males and females, as indicated by a p-value of 0.108. Specifically, the mean COVID-19 awareness scores for males and females are 21.66 and 18.8, respectively. The calculated t-value of 1.656, with 32 degrees of freedom, suggests that there is no significant difference in COVID-19 awareness between these two gender groups within the Class 12th category. Therefore, the hypothesis remains unchallenged and is not rejected.

**Table 10: Comparison between graduated males and females.**

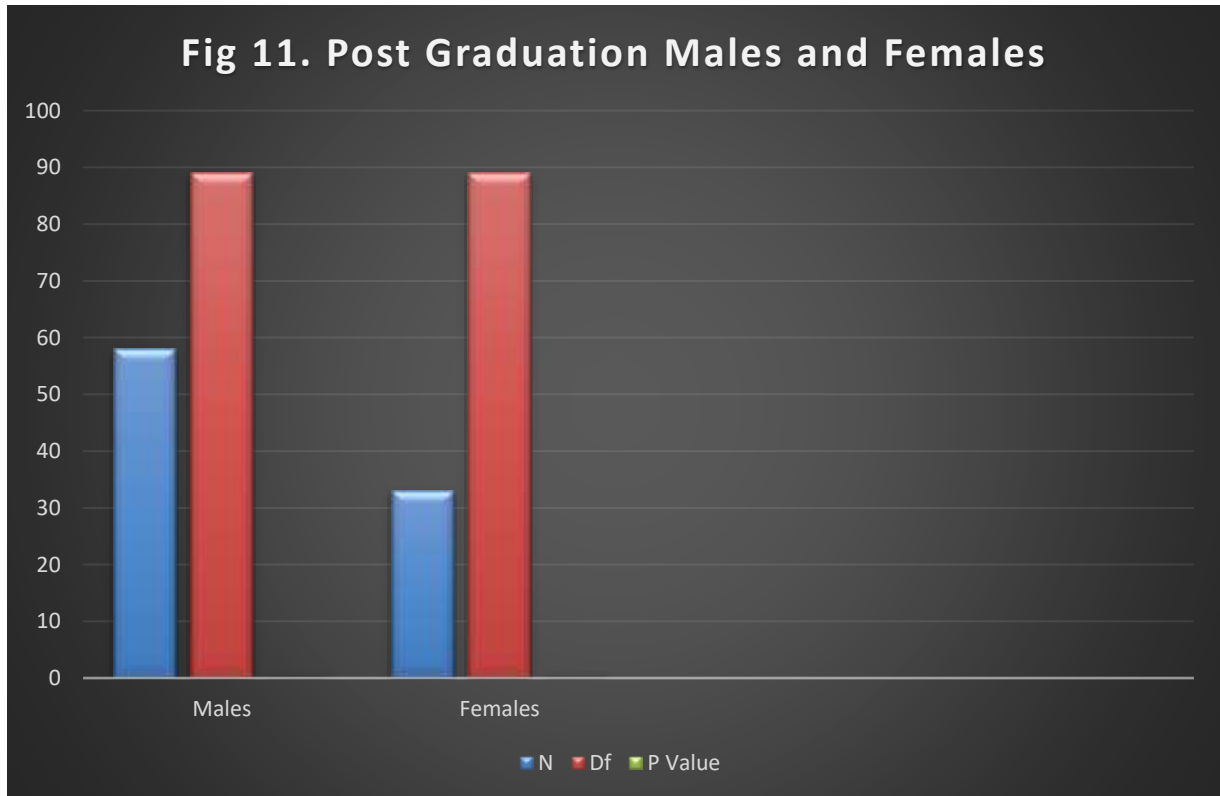
Subjects (Graduated)	N	Mean	Standard Deviation	Standard Error of Mean	t Value	Df	P value
Male	53	20.716	2.741	0.376	-0.736	32	0.108
Female	32	21.18	3.042	0.537			



The table provided above indicates that within the Graduation category, there is no noteworthy distinction in COVID-19 awareness between males and females, as demonstrated by a p-value of 0.464. Specifically, the mean COVID-19 awareness scores for males and females are 20.71 and 21.18, respectively. The calculated t-value of -0.736, based on 83 degrees of freedom, suggests that there is no significant difference in COVID-19 awareness between these two gender groups among Graduates. Therefore, the hypothesis remains unchallenged and is not rejected.

**Table 11: Comparison between post graduated males and females.**

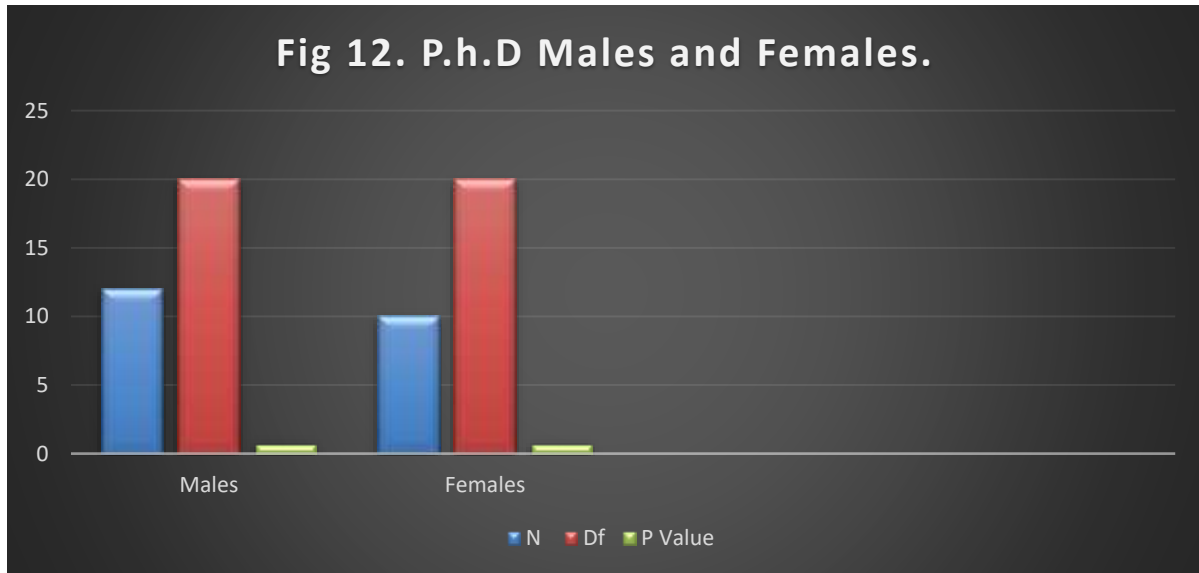
Subjects (Post-Graduated)	N	Mean	Standard Deviation	Standard Error of Mean	t Value	Df	P value
Male	58	20.75	3.943	0.517	-0.720	89	0.474
Female	33	21.33	3.099	0.539			



The table presented above indicates that within the post-Graduation category, there is no significant disparity in COVID-19 awareness between males and females, as reflected by a p-value of 0.474. Specifically, the mean COVID-19 awareness scores for males and females are 20.75 and 21.33, respectively. The calculated t-value of -0.720, based on 89 degrees of freedom, suggests that there is no significant difference in COVID-19 awareness between these two gender groups among post-Graduates. Consequently, the hypothesis remains unchallenged and is not rejected.

**Table 12: Comparison between Ph.D. males and females.**

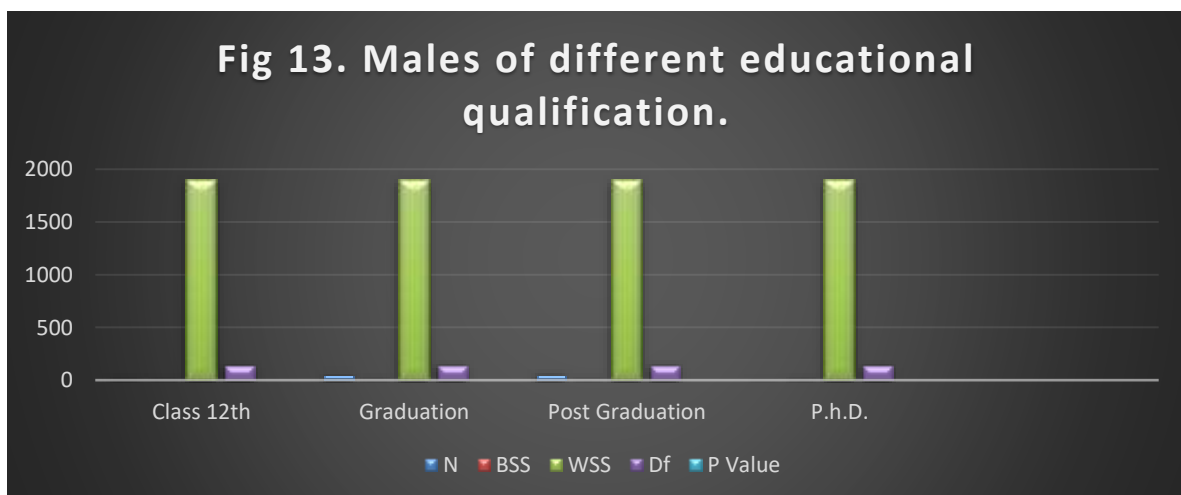
Subjects (Ph.D.)	N	Mean	Standard Deviation	Standard Error of Mean	t Value	Df	P value
Male	12	21.5	2.611	0.753	0.410	20	0.686
Female	10	21.1	1.791	0.566			



The table above indicates that among individuals with Ph.D. qualifications, there is no significant disparity in COVID-19 awareness between males and females, as evidenced by a p-value of 0.686. Specifically, the mean COVID-19 awareness scores for males and females are 21.5 and 21.1, respectively. The calculated t-value of 0.410, based on 20 degrees of freedom, suggests that there is no significant difference in COVID-19 awareness between these two gender groups within the Ph.D. category. As a result, the hypothesis remains unchallenged and is not rejected.

**Table 13: Comparison between males of different educational qualification.**

Groups	N	Between Groups SS	Within Groups SS	Total Df	F	P Value
<b>Males (Educational Qualification)</b>						
Class 12 <sup>th</sup>	24	20.95793	1899.709	146	0.525867	0.665202
Graduation	53					
Post-Graduation	58					
Ph.D.	12					
<b>Df</b>		3	143			

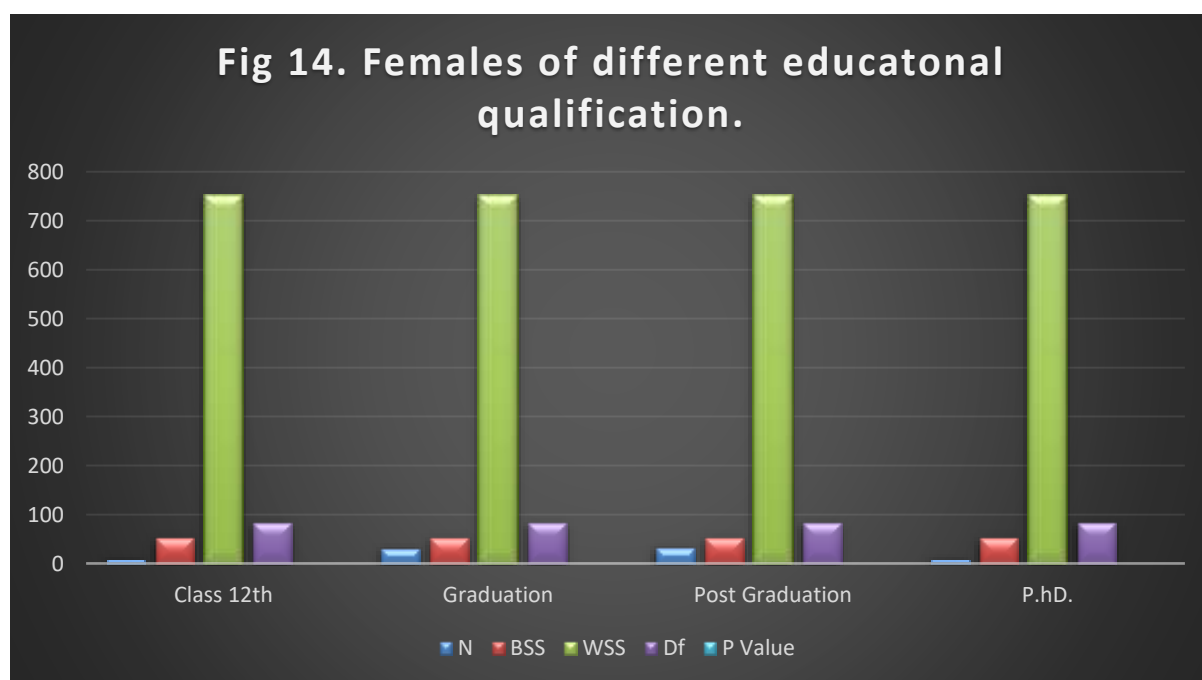


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Above table represent that in groups of males of different educational qualification there is no significant difference in their awareness of Covid-19 (p value= 0.665202). The mean value for the awareness of Covid-19 of class 12<sup>th</sup>, graduation, post-graduation and Ph.D. subjects are 21.66, 20.71, 20.75 and 21.5 respectively and f-value is 0.525867 with 3 degrees of freedom, shows no significant difference in the awareness of Covid-19 of individuals, so the hypothesis has not been rejected.

**Table 14: Comparison between females of different educational qualification.**

Groups Females (Educational Qualification)	N	Between Groups SS	Within Groups SS	Total Df	F	P Value
Class 12 <sup>th</sup>	10	53.10343	752.7083	84	1.904845	0.135346
Graduation	32					
Post-Graduation	33					
Ph.D.	10					
<b>Df</b>		3	81			



Above table represent that in groups of females of different educational qualification there is no significant difference in their awareness of Covid-19 (p value= 0.665202). The mean value for the awareness of Covid-19 of class 12<sup>th</sup>, graduation, post-graduation and Ph.D. subjects are 18.8, 21.18, 21.33 and 21.1 respectively and f-value is 1.904845 with 3 degrees of freedom, shows no significant difference in the awareness of Covid-19 of individuals, so the hypothesis has not been rejected.

### DISCUSSION

The study was performed for assessing the awareness regarding COVID-19 among individuals. And also comparing them based on their gender, socio-economic status and education.

## CONCLUSION

The results of this study depicted that there is no significant difference in the awareness of COVID-19, only on the basis of gender, socioeconomic status and education of the individuals. The following research proposed that there is requirement of programs for spreading awareness regarding COVID-19 among individuals of different educational qualification. **Chang, J. et al. (2020)**; This study is related by Covid 19 awareness related college students; health education; mental health TO investigate the mental health status of college students during the epidemic of COVID-19 and identify the factors influencing the mental health of the students. Another research based on education of individuals proposed that, **Zhao, J, et al. (2019)**: Mental health problems and correlates among 746 217 college students during the coronavirus disease 2019 outbreak in China. Look nation-wide COVID-19; College students; mental health problems; survey. Coronavirus disease 2019 (COVID-19) pandemic is a major public health concern all over the world. Little is known about the impact of COVID-19 pandemic on mental health in the general population. The findings showed that the majority of respondents have high level of awareness, attitudes and practices towards coronavirus. And the study base on gender, **Pinchoff, J. et al. (2020)** examined gender differences in knowledge of COVID-19 symptoms and preventive behaviours, as well as the adverse effects of the lockdown among adolescents and young adults. A mobile phone-based survey was implemented from April 3-22, 2020 in Uttar Pradesh and Bihar. Respondents answered questions related to demographics, COVID-19 knowledge, attitudes and preventive behaviours practiced and impacts on social, economic and health outcomes. A total of 1666 adolescents and young adults (18-24 years old) were surveyed. The findings showed that COVID-19 is disproportionately impacting adolescent girls and young women.

### *Suggestion for further studies*

1. Mental health should be the major domain of research during and after Covid 19 pandemic.
2. The study can be done on other psychological variables like addiction, sleep, motivation, aptitude, psychological disorders, and self-confidence) which are affected by the Covid-19 pandemic.
3. Further study should be based on psychological intervention like sahad yoga, guided meditations which can be helpful in coping up during pandemic.

### *Limitations*

Since it was an online survey, the urban population was higher than the rural population. Most of the rural people did not have better internet access and knowledge to fill the online forms.

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### ***Acknowledgment***

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

### ***Conflict of Interest***

The author(s) declared no conflict of interest.

***How to cite this article:*** Dewli, N. & Pandey, M.K. (2024). A Study on COVID-19 Awareness Among the Indian Community. *International Journal of Indian Psychology*, 12(1), 2517-2531. DIP:18.01.231.20241201, DOI:10.25215/1201.231