

Original Research Article

Impact and perception of COVID-19 among transgender

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ABSTRACT

Background: Global pandemic of COVID-19 has affected all society sections, including transgender people who face neglect regarding medical care. Here we intended to study the awareness and perception of COVID-19 and its impact among transgender.

Methods: A questionnaire-based cross-sectional study was conducted among transgender people and compared with age-matched controls who attended our OPD or consulted telephonically.

Results: The study included 40 transgender and 40 controls. Almost half of the transgender group (52.5%) were not graduates, and about 50% worked in a private company. There was no significant difference in the knowledge in terms of information about COVID-19, source of information, awareness of online consultation, treatment of COVID-19, and safe distancing ($p=NS$). Personal hygiene knowledge was better in controls ($p=0.002$), and hand washing habit was more in transgender ($p=0.014$), but transgender people were at par with the control group regarding the type of soap used, protective coverings for face, and availing online consultation ($p=NS$). However, transgender used hand sanitizers less frequently ($p=0.035$) and walked barefoot more often ($p=0.004$). COVID-19 and lockdown had a similar impact in both the groups in terms of healthcare support, source of groceries, and getting stuck away from home ($p=NS$).

Conclusions: Though the education level in transgender was less, the level of awareness, knowledge, practices, and attitude about COVID-19 infections was almost similar to the control group. However, regarding the frequency of handwashing and the use of hand sanitizers, transgender people lagged, which needs to be addressed.

Keywords: COVID-19, Impact, Knowledge, Practices, Transgender

INTRODUCTION

Transgender people (often called trans people) experience a degree of gender incongruence, that is, a discordance between their sense of their gender (their gender identity) and the sex assigned to them at birth.^{1,2} Transgender people may seek services from the health-care sector for reasons related to their gender incongruence and accompanying dysphoria.

Transgender people may seek medical services beyond gender-affirming healthcare. Many transgender people face neglect, discrimination, exclusion, violence, and poor health. They often experience difficulties accessing appropriate health care, whether specific to their gender

needs or more general in nature. Many countries have taken steps to address the issues related to the health of transgender people. However, some countries lag in addressing this issue.³

The novel coronavirus COVID-19 has caused worldwide disease laying down social inequalities that contribute to the increased distribution of illness and mortality among socially marginalized communities.⁴ Because of the COVID-19 and other forces like lockdown, travel restrictions, physical distancing, and job losses, transgender people who rely on petty jobs are the most affected ones. Hence we studied the awareness, knowledge, practices, and impact of COVID-19 on transgender people.

METHODS

From June 1st to December 30th 2020, a survey using a questionnaire was administered (23 questions) either telephonically or by in person consulting our Endocrinology OPD. The questionnaire included questions regarding knowledge, perception, and practices about COVID-19 infection and the impact of COVID-19 pandemic among transgender. The questionnaire was content validated. A total of 40 subjects in the transgender were included and compared with 40 controls who were age matched with other comorbidities attending our Endocrinology OPD.

Statistical analysis

All the quantitative characteristics such as age are expressed as mean and standard deviation. Categorical variables such as information regarding COVID-19,

source of information, etc. are expressed as percentages. Associations between various factors were studied for statistical significance by the chi-square test.

RESULTS

The study included 40 transgender people and 40 controls.

Demographics

Age in the transgender group was 31.22±5.42 years (mean±SD) and in the controls was 29.38±7.42 years (mean±SD) (p=0.207). Transgender group were less educated with more than 50% receiving below degree education when compared to control group. Twenty five (62.5%) of the transgender were from an urban area, while in the control group, 29 (72.5%) were from an urban area.

Table 1: Demographics of cases and controls.

Demographics	Cases Number (%)	Controls Number (%)	P value
Number	40 (100)	40 (100)	
Age (Mean±SD)	31.22±5.42	29.38±7.42	0.207
Education	<7 th standard	13 (32.5)	0
	10 th standard	1 (2.5)	1 (2.5)
	12 th standard	7 (17.5)	5 (12.5)
	Graduate	19 (47.5)	27 (67.5)
	Post graduate	0 (0)	7 (17.5)
Residence	Urban	25 (62.5)	29 (72.5)
	Rural	15 (37.5)	11 (27.5)
Profession	Private employee	20 (50)	14 (35)
	Government employee	0 (0)	6 (15)
	Unemployed	6 (15)	10 (25)
	Student	0 (0)	6 (15)
	Begging	8 (20)	0 (0)
	Social work	1 (2.5)	0 (0)
	Priest	1 (2.5)	0 (0)
	Business	2 (5)	4 (10)
Habits	NGO worker	2 (5)	0 (0)
	Smoking	11 (27.5)	2 (5)
	Alcohol	13 (32.5)	5 (12.5)
	Tobacco chewing	3 (7.5)	0 (0)
	Gutka chewing	1 (2.5)	0 (0)
Information of COVID-19	Teetotaler	12 (30)	33 (82.5)
	Yes	37 (92.5)	37 (92.5)
	No	1 (2.5)	2 (5)
Source of information	May be	2 (5)	1 (2.5)
	Television	26 (65)	28 (70)
	Newspaper	2 (5)	6 (15)
	Friends and family	5 (12.5)	3 (7.5)
	Government website	1 (2.5)	3 (7.5)
	Whatsapp	3 (7.5)	0 (0)
	Doctors	2 (5)	0 (0)
Information duration	Youtube	1 (2.5)	0 (0)
	<3 months	24 (60)	12 (30)
	>3 months	16 (40)	28 (70)

Table 2: Responses of cases and controls in terms of knowledge, practices and impact.

		Cases Number (%)	Controls Number (%)	P value
Awareness of online consultation	Yes	20 (50)	18 (45)	0.654
	No	20 (50)	22 (55)	
Type of soap used	Alcohol based	11 (27.5)	14 (35)	0.606
	Non-alcohol based	28 (70)	24 (60)	
	Not using soap	1 (2.5)	2 (5)	
Protected self by using	Facemask	33 (82.5)	40 (100)	0.053
	Any clothes	1 (2.5)	0 (0)	
	Handkerchief	5 (12.5)	0 (0)	
	No covering	1 (2.5)	0 (0)	
Safe distancing	3 feet	14 (35)	8 (20)	0.133
	6 feet	26 (65)	32 (80)	
Treatment available for COVID-19	Yes	6 (15)	5 (12.5)	0.082
	No	24 (60)	32 (80)	
	Not sure	10 (25)	3 (7.5)	
Availed online consultation	Yes	2 (5)	5 (12.5)	0.235
	No	38 (95)	35 (87.5)	
Health care support	Nearest clinic	21 (52.5)	23 (57.5)	0.282
	Private hospital	9 (22.5)	9 (22.5)	
	Government hospital	9 (22.5)	4 (10)	
	Not attended clinic	1 (2.5)	4 (10)	
Source of groceries	Government organized kits	1 (2.5)	1 (2.5)	0.995
	Privately organized kits	12 (30)	13 (32.5)	
	Previous savings	8 (20)	8 (20)	
	Working profession/work from home	19 (47.5)	18 (45)	
Stuck away from home	Yes	13 (32.5)	9 (22.5)	0.317
	No	27 (67.5)	31 (77.5)	
Satisfaction with country's health department response	Satisfactory	19 (47.5)	17 (42.5)	0.009
	Non-satisfactory	5 (12.5)	16 (40)	
	Somewhat	16 (40)	7 (17.5)	

Table 3: Responses of cases and controls in rating country's work in various aspects.

Rating country's work on various aspects										
Rating	Hygiene awareness		Travel limitations		Screening for COVID-19		Availability of healthcare facility		Quality of treatment	
	Cases n (%)	Controls n (%)	Cases n (%)	Controls n (%)	Cases n (%)	Controls n (%)	Cases n (%)	Controls n (%)	Cases n (%)	Controls n (%)
Very poor	4 (10)	2 (5)	4 (10)	2 (5)	3 (7.5)	5 (12.5)	6 (15)	1 (2.5)	2 (5)	1 (2.5)
Poor	3 (7.5)	9 (22.5)	7 (17.5)	7 (17.5)	4 (10)	9 (22.5)	5 (12.5)	9 (22.5)	6 (15)	8 (20)
Average	12 (30)	12 (30)	7 (17.5)	13 (32.5)	19 (47.5)	7 (17.5)	11 (27.5)	12 (30)	12 (30)	13 (32.5)
Good	12 (30)	12 (30)	8 (20)	11 (27.5)	13 (32.5)	15 (37.5)	9 (22.5)	14 (35)	8 (20)	12 (30)
Very good	9 (22.5)	5 (12.5)	14 (35)	7 (17.5)	1 (2.5)	4 (10)	9 (22.5)	4 (10)	12 (30)	6 (15)
P value	0.307		0.260		0.042		0.100		0.484	

Regarding their profession, most of the transgender people were working in a private company, i.e., 20 (50%) similar to the control group, 14 (35%). Thirteen (32.5%) of the transgender group had the habit of consuming alcohol, 11 (27.5%) had a history of smoking, while in the control group, 32 (82.5%) were teetotalers, and only 12.5% had a history of smoking and alcohol consumption.

Knowledge

Most of them (92.5%) in both the group had information regarding COVID-19 infection. The primary source of information of COVID 19 in the transgender group was television 26 (65%) similar to the control group (70%). Half (50%) of the transgender group knew about online consultation, and 18 (45%) of them in the control group knew about online consultation. Most transgender group

people (60%) felt there is no treatment for COVID-19 infections. Similarly, most of the control group (80%) felt there is no treatment for COVID-19 infections. In terms of preventing COVID-19 infections, most of the transgender people felt social distancing 38 (95%), handwashing 39 (97.5%), personal hygiene 31 (77.5%), and drinking clean water 24 (60%) as the preventive measures whereas in controls most of them felt personal hygiene 40 (100%), safe distancing 38 (95%), hand washing 31 (77.5%) and drinking clean water 25 (62.5%) as the measures to prevent getting infected.

Attitude

When asked to rate the country's regulations and facilities, most of the transgender group people rated hygiene awareness as average 12 (30%) and good 12 (30%). Whereas in the control group, most of them also rated hygiene awareness as average 12 (30%) and good 12 (30%). Regarding screening for COVID-19 infection,

most transgender groups rated average 19 (47.5%) and good 13 (42.5%). In contrast, the control group mostly rated as good 15 (37.5%) and poor 9 (22.5%). Most transgender people rated travel limitations as very good 14 (35%) and good 8 (20%). While in the control group, most rated as average 13 (32.5%) and good 11 (27.5%). In terms of availability of healthcare facilities, most transgender people rated as average 11 (27.5%), good 9 (22.5%) and very good 9 (22.5%). The control mostly rated as good 14 (35%) and average 12 (30%). Regarding the quality of treatment, transgender people mostly rated as average 12 (30%) and very good 12 (30%). In contrast, most of the control group rated as average 13 (32.5%) and good 12 (30%).

Most of them in the transgender group were satisfied (47.5%) with the country's health department response to this pandemic whereas there was a mixed response to satisfaction (42.5%) and dissatisfaction (40%) in the control group.

Table 4: Responses of cases and controls in rating frequency of involvement in various aspects.

Rating of the frequency of involvement in various aspects										
Rating	Washing hands after using the toilet		Using hand sanitizer		Using washed clothes		Walking barefoot		Using clean drinking water	
	Cases N (%)	Controls N (%)	Cases N (%)	Controls N (%)	Cases N (%)	Controls N (%)	Cases N (%)	Controls N (%)	Cases N (%)	Controls N (%)
Never	2 (5)	0 (0)	3 (7.5)	0 (0)	2 (5)	1 (2.5)	12 (30)	23 (57.5)	3 (7.5)	0 (0)
Occasional	3 (7.5)	0 (0)	5 (12.5)	2 (5)	4 (10)	0 (0)	16 (40)	2 (5)	1 (2.5)	0 (0)
Regular	5 (12.5)	6 (15)	13 (32.5)	6 (15)	6 (15)	6 (15)	2 (5)	3 (7.5)	6 (15)	5 (12.5)
Frequently	16 (40)	20 (50)	10 (25)	15 (37.5)	10 (25)	16 (40)	7 (17.5)	6 (15)	13 (32.5)	20 (50)
Very frequently	14 (35)	14 (35)	9 (22.5)	17 (42.5)	18 (45)	17 (42.5)	3 (7.5)	6 (15)	17 (42.5)	15 (37.5)
P value	0.237		0.035		0.219		0.004		0.223	

Regarding the frequency of various aspects, hand washing after using the toilet was frequently 16 (40%) and very frequently 14 (35%), while in the control group it was frequently 20 (50%) and very frequently 14 (35%). Regarding using hand sanitizer, transgender people used it regularly 17 (42.5%) and frequently 10 (25%). While the control group used very frequently 17 (42.5%), and frequently 15 (37.5%). Regarding drinking clean water, transgender people drank clean water very frequently, 17 (42.5%).

Practices

In the transgender group, 28 (70%) were using non-alcohol based soap, whereas in the control group, 24 (60%) of them were using alcohol based soap. Regarding protecting themselves from acquiring infection, 33 (82.5%) were using facemasks to protect, while in the control group, all were using facemask 40 (100%) to protect themselves. Regarding maintaining social distancing, 26 (65%) said that 6 feet as the safe distance,

while in the control group, 32 (80%) said 6 feet as a safe distance. Among the transgender group, 38 (95%) had not availed online consultation similarly to the control group, 35 (87.5%). Regarding washing hands in various aspects, most of the transgender group washed their hands before preparing food 30 (75%), before eating 40 (100%), after using toilet 39 (97.5%), and after touching garbage 37 (92.5%). Similarly, the control group washed their hands before preparing food 24 (60%), before eating 35 (87.5%), after using toilet 36 (90%), after touching garbage 33 (82.5%), and after coughing/sneezing 25 (62.5%).

Impact of COVID-19

With lockdown and travel restrictions, there was an impact on availing health care support. The transgender group could get support to health care by visiting the nearest clinic 21 (52.5%), private hospital 9 (22.5%), government hospital 9 (22.5%), while in the control group, 23 (57.5%) of them visited the nearest clinic, 9

(22.5%) to a private hospital, 4 (10%) to a government hospital. COVID-19 pandemic had an impact on the procurement of groceries by the people. In the transgender group, groceries were procured easily as 19 (47.5%) were working profession/working from home, while 12 (30%) obtained from privately organized kits and 8 (20%) from previous savings. In the control group also, groceries were procured easily as 18 (45%) were working profession/working from home, 13 (32.5%) from privately organized kits and 8 (20%) from previous savings. Due to the lockdown and travel restrictions, many people were stuck outside their hometown or working place. In the transgender group, 13 (32.5%) were away from home, while in the control group, 9 (22.5%) were away from home.

Table 5: Responses regarding knowledge and practices in various aspects.

Knowledge of preventing COVID-19 infection			
	Cases N (%)	Controls N (%)	P value
Social distancing	38 (95)	38 (95)	1.000
Hand washing	39 (97.5)	31 (77.5)	0.014
Personal hygiene	31 (77.5)	40 (100)	0.002
Drinking clean water	24 (60)	25 (62.5)	1.000
Eating processed food	10 (25)	7 (17.5)	0.586
Taking deep breaths	5 (12.5)	7 (17.5)	0.755
Practices of handwashing during various activities			
Before preparing food	30 (75)	24 (60)	0.232
Before eating	40 (100)	35 (87.5)	0.055
After caring the sick	11 (27.5)	15 (37.5)	0.474
After treating wounds	12 (30)	19 (47.5)	0.168
After using the toilet	39 (97.5)	36 (90)	0.359
After coughing/ sneezing	17 (42.5)	25 (62.5)	0.117
After handling animals	16 (40)	18 (45)	0.821
After touching garbage	37 (92.5)	33 (82.5)	0.311

DISCUSSION

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and the consequent coronavirus disease 2019 (COVID-19) have resulted in a pandemic, requiring people all over the world to attend to rapidly changing measures about the public health and to take immediate actions to reduce the risk of infection and containment of the virus.⁵ There are several places (like the Caribbean and much of Africa and the Middle East), where very little or no information is available regarding the health needs of transgender people.⁶ Globally, transgender people experience stigma daily, often experiencing a “minority stress”, leading to poor health and wellbeing.⁷ With this new pandemic, transgender people are much more affected.

In this study, we tried to study the awareness, knowledge, and attitude of transgender people regarding COVID-19

infections and the impact and practices of transgender people regarding the COVID-19 infection.

Forty transgender people were included in the study and compared with 40 controls who consulted our OPD for some other comorbidities.

In our study, age in the transgender group ranged between 18-50 years and was matched with the control group ($p=0.207$). A higher age group was taken in a study by Wolf et al, where age ranged between 23 and 88.⁸ Similarly, a higher age group were taken in a study by Khader et al, where age ranged between 22-73 years.⁹ Our study group's lower age group is because most transgender people seeking medical health facilities in our region are in a younger age group of 20-45 years.

Most of them in both groups were from urban areas (62.5% and 72.5%) ($p=0.340$) which is almost similar to a study by Roy et al, where more than 80% of participants were from urban areas.¹⁰

The education status of transgender people was less compared to the control group ($p<0.01$). However, a study done by Madhavan et al included people where around 33.5% received a college education, and one third was educated up to higher secondary.¹¹ Similarly, in a study by Roy et al, the highest qualification of more than 90% of the population was graduation and above.¹⁰ Our study population's lower education status was because of a lack of good education policies and social stigma in educational institutions in our region.

Most transgender people worked in a private company (50%) compared to the control group (35%). Whereas in a study by Madhavan et al, the main occupation of transgender people was begging (35.5%).¹¹ In our study, begging was the occupation of only 20% of the people. The reason is probably plenty of job opportunities in our city and plenty of private companies hiring transgender people.

Transgender group people had a higher number of addictive habits like alcohol (32.5%) and smoking (27.5%) compared to the control group ($p<0.001$). A higher number of people with addictive habits were seen in a study by Madhavan et al Most of them were transgender females; about 43.5% of the participants used tobacco and alcohol users were 64.5% ($n=129$).¹¹ The differences noticed here could be because our study contains equal transgender male and transgender females, and also, we have noticed that transgender males have higher addiction in our population.

Almost all (92.5%) transgender people had information about COVID-19 infections, comparable to the control group (92.5%) ($p=0.717$). Television was the main source of information in the transgender group (65%), which was comparable with the control group (70%) ($p=0.144$). In a study by Pandey et al, 48.1% received information

regarding COVID-19 through social media and 26.9% through the newspaper.¹² Since our population was younger and more accessible to social media, the most common information source was television.

Half (50%) of the transgender people were aware of the online consultation, comparable to the control group (45%) ($p=0.654$). Most of them from both groups feel there is no treatment for COVID-19 infections ($p=0.082$). This is almost similar to a study by Pandey et al, where 68.7% of people felt that treatment of COVID-19 is supportive, 17.1% thought there is a vaccine available for COVID-19, and 14.2% people had no idea regarding the treatment.

The attitude of transgender people towards the country's health department response in various aspects like hygiene awareness, travel limitations, availability of healthcare facility and quality of treatment was comparable to the control group ($p=NS$) except for screening for COVID-19 infections where most transgender people rated as average (47.5%) and control group rated as useful (37.5%) ($p=0.042$). In a study by Roy et al, 88.7% considered traveling within the country to be safe during the pandemic.¹⁰ Regarding the frequency of usage in various aspects like washing hands after using the toilet, using washed clothes, and using clean drinking water, transgender people were comparable to the control group ($p=NS$). However, there were many more people who used hand sanitizers in the control group than the transgender group ($p=0.035$) and fewer people walking barefoot in the control group ($p=0.004$). In a study by Roy et al, most participants (97%) acknowledged that washing hands frequently could stop the spread of infection.¹⁰ More than 75% felt the need to use sanitizers and gloves. Almost 85% agreed that they frequently washed their hands. In our study, transgender people were less educated regarding the use of hand sanitizer.

In terms of knowledge of preventing COVID-19 infections, both groups had similar knowledge except for personal hygiene, which was more in control ($p=0.002$) and handwashing, more in transgender ($p=0.014$).

Most of the transgender group (70%) used non-alcohol based soaps similar to the control group (60%) ($p=0.606$). Although the education status of our population was low, the use of alcohol based soap was similar to a study by Pandey et al, where 23.3% believed that prevention for COVID-19 was only by washing hands with alcohol-based sanitizer, 19.6% believed that by only covering their nose, mouth with tissue or mask while coughing and disposing of it immediately is the mode of prevention for spread, 16.9% believed in only social distancing, and 40.2% believed all the above steps should be followed for prevention of the spread of COVID-19.¹² There was no significant difference in protecting themselves, where both the group used facemask for preventive infection ($p=0.053$). In a study by Roy et al, 37% of participants

admitted using a mask without the apparent signs and symptoms of the infection, and more than 75% felt the need to use sanitizers and gloves.¹⁰ In a study by Khader et al done among dentists, the majority of the 368 dentists reported that cleaning hands frequently by using alcohol-based hand rub or soap and water, cleaning and disinfecting surfaces in contact with known or suspected patients, and wearing personal protective equipment can help in preventing transmission from patients with known or suspected COVID-19.⁹ The type of protective equipment used by our population was similar to other studies.

The transgender group (65%) felt 6 feet as the safe distance for preventing COVID-19 infection with no significant difference in the control group (80%) ($p=0.133$). Neither the transgender group (95%) nor the control group (87.5%) availed online consultation with the doctor during this pandemic ($p=0.235$). Although there was more access to social media and the internet, transgender people and controls were not availing online consultation ($p=0.235$). Our study population was aware of handwashing usage in various aspects, comparable to the study by Roy et al, where almost 85% agreed that they frequently washed their hands.¹⁰

The COVID-19 pandemic and lockdown had an impact on both groups. The transgender group met their health care needs by visiting their nearest clinic (52.5%), similarly to the control group (57.5%) ($p=0.282$). Both groups could get their groceries from the privately organized kits or by themselves working from home ($p=0.995$). Few of them had stuck away from their home during the lockdown in both the group ($p=0.317$).

Although our population faced several difficulties due to lockdown and travel limitations, they could access the daily grocery needs and health care facilities.

CONCLUSION

The COVID-19 pandemic has impacted both the transgender group and the control group. Although education status was low in the transgender group, their knowledge, practices, and attitude were similar to the control group. The reason is probably the fear of not being treated with healthcare facilities as the general population, hence being cautious and acquiring knowledge to prevent them from getting infected. However, regarding the frequency of hand washing and the use of hand sanitizers, transgender people lagged, which needs to be addressed. With increased awareness done by the country's healthcare department, all the society sections are getting the benefit.

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