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AN INVESTIGATION ON COVID-19 CONSPIRACY THEORY BELIEFS AMONGST PAKISTANI MUSLIMS

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KEYWORDS	ABSTRACT
COVID-19, Conspiracy Theory, Beliefs, Pakistani Muslims	With the COVID-19 pandemic gripping world, there has been an alarming increase in role of conspiracy theories generated surrounding COVID-19. Thus, this research aims to understand what conspiracy beliefs Pakistani Muslims may possess about COVID-19. The research followed correlational research design. The data was collected through an online self-reported COVID-19 Conspiracies Belief Questionnaire from 110 Pakistani Muslims with a mean age of 25.40 and SD of 5.73. Descriptive statistics explained that 59%, 60%, 79% of the participants agree with the conspiracy that it accidentally escaped from the Chinese lab, planted by the American Army in China to destroy China's economy, and it is a punishment from Allah for human sins respectively. Chi-square analysis revealed that females believe more in conspiracies as compare to male research participants. Moreover, binary logistic regression explained that COVID-19 is a way to control the world by developing psychological fear. The findings may enable local and national governing bodies to develop the knowledge-based strategies to tackle conspiracy beliefs.
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INTRODUCTION

Pandemics are a continuous threat to humankind because these caused premature deaths than any other disease, for example, during 1918 influenza pandemic, more than 50 million deaths were reported (Graham & Sullivan, 2018; Morens, Daszak & Taubenberger, 2020). Historically, whenever pandemic has occurred, conspiracy theories have emerged and efforts have been made to speed progression. For instance, in 14th century during Black Death in Europe, conspiracy theories advocated that the Jewish people were the source of the plague. More recently, African Americans and gay people were considered responsible for spreading AIDS epidemic in USA (Bates, 1990; Cooper, 1990; Douglass, 1989). When COVID-19 pandemic gripped the world early in 2020, there was alarming increase conspiracy theories surrounding COVID-19. Indeed, with rise of the social media, the declining levels of trust in the official institutions and growth in anti-

establishment political movements, conspiracy theories have become more 'mainstream' than ever before.

On social media in March 2020, various posts circulated about the emergence of COVID-19, few of which stated that the virus had emerged from a laboratory in Wuhan, China, where bats were tested. It was claimed that virus accidentally escaped from there. Few posts and videos suggested that it was bio weapon developed by US or China as part of economic war. Other posts advised that Bill Gates was trying to control people by injecting bio chips into humans in guise of vaccine. Several Muslims posted videos which suggested that this virus was part of an attempt by Israel to become a Greater Israel, and a few posts by Muslims argued that the pandemic was brought upon us because of LGBT movements and that it had been imposed as a punishment by Allah for our sins. The fact that even Muslims were forbidden to enter Harram, Mecca, showed that Allah was not happy with us. Moreover, various posts circulated on social media which claimed that this virus is fake and an attempt to control people by fostering fear. Researchers claimed that social media played a pivotal role in spreading conspiracy beliefs (Avaaz, 2020; Oi-Yee Li, Bailey, Huynh & Chan, 2020; Pandey, Patni, Sing, Sood & Singh, 2020; Martínez & Jiménez, 2017).

When medical science fails to allay fear of a contagious disease it is a usual pattern that people start to believe in conspiracy theories in order to counter their fears and anxieties, to maintain control and feel secure. This can be explained by one of components, i.e. the existential social psychological motive, of system justification theory (Jost, Ledgerwood & Hardin, 2008). The literature supports this kind of motivation behind conspiracy beliefs as research has shown that people believe in them not only to gain control (Goertzel, 1994) but also to counter their anxieties (Grzesiak, 2013; Abalakina, Stephan, Craig & Gregory, 1999). Experimental studies also show that people start to believe in conspiracy theories when they feel themselves powerless to control the outcome of situation (Prooijen & Douglas, 2015). Research also reflects upon demographic characteristics of those who are prone to conspiracy theories, such as level of the education and income, gender, ethnicity, job status (Uscinski & Parent, 2014; Freeman & Bentall, 2017; Hogg, Nkala, Dietrich, Collins, Closson, Cui & Kaida, 2017). With regard to COVID-19, Pew Research Center in USA released results of a survey conducted in April 2020, according to which 43% of Americans believe that it has occurred naturally while 23% believe that it was intentionally created in lab.

LITERATURE REVIEW

The previous research explained that during Ebola and Zika outbreak Youtube videos contained misleading information regarding crises (Pandey, Patni, Sing, Sood & Singh, 2010). It was also found that American people who used Facebook their frequent exposure to fake news increased their belief in fake news (Pennycook, Cannon & Rand, 2018). About COVID-19 recent research indicated that 25% of videos related to COVID-19 on Youtube have misleading information which had 62 million views (HO et al, 2020). Similarly, the survey by Ofcom in Britain revealed that half of the adult British population had exposed to misleading online information. Moreover, Miller (2020) studied 3,019 American adults and advocated that the people who believe in the conspiracies related to COVID-19 have a monological belief system, if a person believes in one conspiracy, then he/she would believe the another conspiracy too. Similarly, Uscinski, Enders, Seelig, Funchion, Everett and Murthi (2020) researched sample of 2000 Americans and found that 29% of the research participants were agreed with the conspiracy theory that COVID-19

was spread to damage President Trump, and 31 % believed that it was man-made and spread purposefully.

In term of the demographics, research advocate that older people had higher susceptibility to misinformation than younger people (Guess, Nagler & Tucker, 2019). In the context of COVID-19, Sallam, Dababseh, Yaseen, Haidar, Ababneh, Bakri and Mahafzah (2020) studied the 1540 students with the mean age of 22 years in Jordan. They found that most of the students had a belief in conspiracy theories related to COVID-19, and females with lower socioeconomic status had a belief that COVID-19 is related to the conspiracy. Additionally, those who had believe in conspiracy theories also scored higher on the anxiety scale. In this connection, another research conducted by Duplaga (2020) on 1002 polish adults and found that 43 to 56 % of their sample was a belief in COVID-19 related conspiracy theories, and it was significantly related to the age, education, and professional status. Aside, some studies indicated that belief in the conspiracy theories affects the public health behavior in different contexts and situations. For example, Kalichman (2009) found that those people who believe in a conspiracy that HIV is a man-made virus and had a purpose to commit genocide of African's were less likely to do testing for early detection.

Similarly, those who believe in the conspiracy theories related to Zika Virus tended to show less intentions to get vaccination (Dredze et al., 2016). Similarly, regarding COVID-19, Uscinski, Enders, Seelig, Funchion, Everett and Murthi (2020) reported that belief in the conspiracies during COVID-19 associated with reduced willingness to adhere to public health guidelines and belief in conspiracy theories people had less trust in WHO approach to handling the situation of COVID-19. Similarly, Plohl and Musil (2020) also explained that conspiracy ideation did not directly predict compliance to preventive measures for COVID-19 in 525 international research participants. Moreover, those who had believe in conspiracy theories also scored higher on the anxiety scale. In this connection, the above-cited literature indicated that the people's belief in conspiracy theories relates to COVID-19 and their belief in the conspiracy affects their mental health as well as their practices to follow public health safety measures related to COVID-19. Therefore, it is essential to study whether Pakistani Muslims believed in conspiracy theories related to COVID-19 or not and which demographics were associated with belief in conspiracy theories.

Young adults between the ages of 18 and 29 years were more likely to be of opinion that it was created in lab while those who had at least high-school qualifications were more likely to believe that it was created in lab. However, there has been no published information about prevalence of belief in conspiracy theories among Pakistani Muslims regarding COVID-19. Nor has there been any attempt to find out that which demographic variables are associated with the belief in conspiracies related to COVID-19. Therefore, aim of this research is to understand what type of conspiracy beliefs Muslims have tended to hold during COVID-19 pandemic in Pakistan. This study was designed to find out that how many respondents believe in which conspiracy, and to observe gender differences in belief in conspiracy theories. In addition, the association between demographic characteristics (age, gender, education, occupation, monthly income & ethnicity) and the belief in conspiracy theories was investigated. Therefore, an attempt was also made to determine whether there was a generalised tendency to believe in conspiracy theories among Muslims.

RESEARCH METHODOLOGY

The methods and procedures for conducting research are offered in this section. The research followed correlational research design. Data were collected from 110 adults Pakistani Muslims between May and June 2020. The data were collected through an online self-reported survey that was promoted over social media such as Facebook, Twitter and Instagram. The generated survey questionnaire was in English; therefore, only bilingual individuals were included in the study.

Participants & Procedure

The participants' demographic information was also obtained likewise (age, gender, education, occupation, monthly income & ethnicity). The mean age of participants was 25.40 years with SD 5.73 and a mean monthly income of PKR 72,226 (US\$ 450). In this connection, most of the participants were female (84, 76%) and 26 (23%) were male. Among the participants 56 (50.9) were skilled workers, 51(46.4) were students and 3 (2.7%) were unskilled. Likewise, in reference to educational attainment, most of participants (81, 73.6%) were postgraduates and 29 (26.4%) had a bachelor's degree. In this connection, sixty-three of the participants (57%) reported that they did not believe in conspiracy theories related to COVID-19 while 47 (42%) said that they did. In reference to the ethnicity, most of the participants (82, 74.5%) identified themselves as Punjabi.

Measures

A total of 22 items were used to construct the survey questionnaire of COVID-19 Conspiracies Belief Questionnaire. The initial item pool (in English) was done through a deductive approach by consulting the relevant literature (Burisch, 1984). The researcher generated items, and the content validity of each item was assessed on a 10-point scale by three other psychologists who held a PhD degree in Psychology (Field, 2013). After this, pilot testing was carried out with a sample of 20 individuals with a mean age of 21 years to determine the item clarity. I asked the participants whether they disagreed or agreed with 21 prevailing conspiracy theories related to COVID-19 on a five-point Likert scale where 1 = strongly disagree and 5= strongly agree. The following are examples of some of the questions asked: I believe 5G is responsible for Covid-19; I believe COVID-19 accidentally escaped from the Chinese lab where bat viruses were under research; I believe COVID-19 was planted by American Army in China to destroy China economy; I believe that e-marketing companies spread COVID-19; I believe, COVID-19 is one step toward constitution of the greater Israel. One additional item was asked, combined with the Muslim conspiracy theories, about Muslims' belief that COVID-19 is punishment from Allah for human sins.

Later on, pilot study data was also included in the final data analysis. After collecting the data from 110 participants, Cronbach's alpha reliability for the questionnaire was calculated, and it was strong. i.e. 0.95. The inter-item correlation ranged between (0.5-.86). This confirmed that items had enough variance in common to justify treating them as a scale for this population. Subsequently, KMO and Bartlett's test was administered to check the sample adequacy for factor analysis. KMO=.895 and Bartlett's Test of Sphericity, Chi-square=2205.658, $p < .000$, $df = 253$ shows the adequacy of the sample for the further analysis (Kaiser, 1960). The data was explored through exploratory factor analysis using varimax rotation with eigenvalue above 0.1 considered a rule for factor construction (Kaiser, 1960). Principle component analysis and varimax rotation with absolute suppression below 0.3 were used (Norman & Streiner, 1994). All

items were retained, and varimax rotation came up with a four-factor solution, and item factor loading ranged between (.31 - .82) (See Table 1). After examination of the items, factors were relabeled.

Table 1
Factor Loading for Items

Relabeling	Items	I	II	III	IV
Political & economic conspiracy	Bioweapon developed by Israel	.824			
	Bioweapon developed by America	.822			
	Israel control mobility globally via ID microchips	.794			
	By America to create hatred towards the Chinese	.785			
	By American Army to destroy China's economy	.773			
	One step towards constitution of a greater Israel	.773			
	By WHO to gain control by developing psychological fear	.730			
	Control people's emotions globally via ID microchips	.705			
	Bill Gates is responsible	.694			
	Spread to give a boost to the use of debit/credit card	.663			
	Reduce the elderly to cut down the burden on public funds	.636			
	Spread by digital companies to increase online businesses	.629			
	To control the global birth rate	.540			
Global modernization conspiracy	Spread because of LGBTs		.714		
	Spread through genetically modified crops		.695		
	Spread by e-marketing companies		.694		
	5G is responsible		.683		
	By developing countries to get relief from debt from IMF		.669		
China conspiracy	Bioweapon developed by China			.828	
	China to sell their medical equipment to the world			.812	
	Chinese lab where bat viruses were being researched			.657	
Faith	It is a form of punishment by God				.741

Data Analysis

Preliminary analysis was conducted in order to understand descriptive analysis for demographics and belief in conspiracy theories. In addition to find out the gender difference, a chi-square test of independence was carried out. Binary logistics were used to determine association between demographic characteristics and a generalized tendency to believe in conspiracy theories. The dependent variable of study, belief in conspiracy theories, had a categorical response coded 1 for yes and 0 for no; so, the odds ratio (OR) with a 95% confidence interval (CI) and P-value are reported.

RESULTS OF STUDY

In this section, the procedures and methods for conducting research have been presented. This study used the correlational research design that suggested for the development of scientific knowledge for current study by using different tools and techniques to reach the conclusion systematically.

Table 2
Frequencies & Percentages for Conspiracy beliefs in Pakistani Muslims during COVID-19

Variables	Frequency f (%)				
	SD	D	SA	A	SAG
Political and economic conspiracy					
Bill Gates is responsible	49 (44.5)	31 (28.2)	19 (17.3)	6 (5.5)	5 (4.5)
By American Army to destroy China's economy	18 (16.4)	26(23.6)	40 (36.4)	22(20)	4(3.6)
By America to create hatred towards the Chinese	25(22.7)	24(21.8)	40 (36.4)	17 (15.5)	4 (3.6)
Bioweapon developed by America	20(18.2)	26(23.6)	29(26.4)	28(25.5)	7(6.4)
Bioweapon developed by Israel	20(18.2)	32(29.1)	30(27.3)	20(18.2)	8(7.3)
Israel control mobility globally via ID microchips	30(27.3)	29(26.4)	29(26.4)	16(14.5)	6(5.5)
Control people's emotions globally via ID microchips	28(25.5)	26 (23.6)	35(31.8)	15(13.6)	6(5.5)
To control the global birth rate	26(23.6)	30(27.3)	35(31.8)	15(13.6)	4(3.6)
Spread by digital companies to increase online businesses	34(30.9)	44(40.0)	21(19.1)	7(6.4)	4 (3.6)
Spread to give a boost to the use of debit/credit card	34 (30.9)	36 (32.7)	25 (22.7)	9 (8.2)	6 (5.5)
Reduce the elderly to cut down the burden on public funds	27 (24.5)	36 (32.7)	28 (25.5)	14 (12.7)	5 (4.5)
By WHO to gain control by developing psychological fear	36 (32.7)	32(29.1)	26 (23.6)	12(10.9)	4 (3.6)
One step towards the constitution of a greater Israel	28(25.5)	34 (30.9)	30 (27.3)	12 (10.9)	6 (5.5)
Global modernization conspiracy					
5G is responsible	46 (41.8)	35 (31.8)	19 (17.3)	8 (7.3)	2 (1.8)
Spread by e-marketing companies	37(33.6)	43(39.1)	18(16.4)	9(8.2)	3(2.7)
By developing countries to get relief from debt from IMF	37 (33.6)	27 (24.5)	31(28.2)	10(9.1)	5 (4.5)
Spread through genetically modified crops	26 (23.6)	50(45.5)	27(24.5)	5 (4.5)	2 (1.8)
Spread because of LGBTs	50(45.5)	41(37.3)	15(13.6)	3 (2.7)	1 (0.9)
China conspiracy					
Chinese lab where bat viruses were being researched	19 (17.3)	26(23.6)	39 (35.5)	24 (21.8)	2 (1.8)
China to sell their medical equipment to the world	28 (25.5)	39 (35.5)	30 (27.3)	10 (9.1)	3 (2.7)
Bioweapon developed by China	22(20)	32 (29.1)	31(28.2)	19 (17.3)	6 (5.5)
Faith					
It is a form of punishment by God	14 (12.7)	09 (8.2)	28 (25.5)	38 (34.5)	21 (19.1)

Strongly Disagree: SD, Disagree: D, Somewhat Agree: SA, Agree: A, Strongly Agree: SAG

Table 1 shows that around 59%, 60%, 55%, 51%, 58%, 52% and 51% of the participants gave responses between 'somewhat agree' and 'strongly agree' for following beliefs about COVID-19: accidentally escaped from the Chinese lab where bat viruses were being researched; planted by American Army in China to destroy China's economy; planted by America in China to create hatred towards Chinese; a bioweapon developed by China; a bioweapon developed by America; the bioweapon developed by Israel; and the vaccination for COVID-19 will be used to control people's emotions globally by injecting ID microchips, respectively. In this connection, most of the participants (79%) believed that the COVID-19 is the punishment from Allah for human sins.

Table 2 shows the gender difference for the following conspiracy beliefs: COVID-19 is spread through genetically modified crops; COVID-19 is spread because of the LGBTs (lesbian, gay, bisexual, and transgender); Bill Gates is responsible; the vaccination for COVID-19 will control people's mobility globally through injected ID microchips made by Israel; the vaccination for COVID-19 will be used to control people's emotions globally through injected ID microchips; and the WHO manages COVID-19 spread for Bill Gates in order to gain control over the world by developing psychological fear. Consequently, the results showed that male participants were more likely to disagree with the above-mentioned/stated conspiracy beliefs than the female participants.

Table 3
Result of Chi-square test on Gender Differences for Belief in Conspiracy

Variables	Males	Females	Chi-square	p-values
Global modernization conspiracy				
Spread through genetically modified crops				
Strongly Disagree	26.5%	15.4%		
Disagree	49.4%	34.6%		
Somewhat Agree	21.7%	34.6%	9.18	.03
Agree	2.4%	11.5%		
Strongly Agree	0.9%	3.8%		
Spread because of LGBTs				
Strongly Disagree	50.6%	30.8%		
Disagree	37.3%	34.6%		
Somewhat Agree	9.6%	26.9%	8.8	.04
Agree	2.8%	3.8%		
Strongly Agree	0.9%	3.8%		
Political and economic conspiracy				
Bill Gates is responsible				
Strongly Disagree	51.8%	23.1%		
Disagree	32.5%	15.4%		
Somewhat Agree	8.4%	46.5%	22.51	.000
Agree	4.8%	3.8%		
Strongly Agree	2.4%	11.5%		
Israel controls mobility globally via ID microchips				
Strongly Disagree	31.3%	15.4%		
Disagree	31.3%	11.5%		
Somewhat Agree	20.5%	46.2%	10.83	.021
Agree	13.3%	19.2%		
Strongly Agree	3.6%	7.7%		
Control people's emotions globally via ID microchips				
Strongly Disagree	28.9%	15.4%		
Disagree	28.9%	7.7%		
Somewhat Agree	26.5%	50%	10.36	.03
Agree	12%	19.2%		
Strongly Agree	3.6%	7.7%		
WHO to gain control by developing psychological fear				
Strongly Disagree	38.5%	15.4%		
Disagree	32.5%	19.2%		
Somewhat Agree	18.1%	42.3%	11.55	.01
Agree	8.4%	19.2%		
Strongly Agree	2.4%	3.8%		

Table 4
Binary Logistic Regression for Demographic Characteristics of Participants

Variable	Category	OR	95% CI	p-value
Age (years)	Young Adult	1.000	-	-
	Adults	1.52	.57-4.07	0.403
Gender	Male	1.000	-	-
	Female	3.16*	1.15-8.72	.02

Education	Below Graduation	1.000	-	-
	Above Graduation	1.09	.44-2.73	0.84
Occupation	Skilled	1.000	-	-
	Unskilled	.99	0.59-1.64	0.96
Monthly Income	Less than one Lac	1.000	-	-
	More than one Lac	0.91	0.33-2.48	0.87
Ethnicity	Punjabi	1.000	-	-
	Others	1.24	0.48-3.18	0.66

Note: *p<0.05,

The binary logistic regression in Table 3 examined the relationship between the demographic characteristics of research participants and belief in conspiracy theories. The results revealed that the female participants were more likely to believe in conspiracy theories than the male participants.

Table 5
Binary Logistic Regression for Generalised Ideological Dimension

No. Variable	Category	OR	95% CI	P-value
Political and economic conspiracy				
1 Bill Gates is responsible	No	1.000	-	-
	Yes	3.237	.38-27.80	.28
2 By American Army to destroy China's economy	No	1.000	-	-
	Yes	1.455	.23-9.43	.69
3 By America to create hatred towards the Chinese	No	1.000	-	-
	Yes	.499	.08-3.13	.46
4 Bioweapon developed by America	No	1.000	-	-
	Yes	.483	.062-3.785	.49
5 Bioweapon developed by Israel	No	1.000	-	-
	Yes	3.871	.573-26.157	.17
6 Israel control mobility globally via ID microchips	No	1.000	-	-
	Yes	.067*	.005-.838	.04
7 Control people's emotions globally via ID microchips	No	1.000	-	-
	Yes	1.473	.123-17.606	.76
8 To control the global birth rate	No	1.000	-	-
	Yes	20.576*	1.639-258.33	.02
9 Spread by digital companies to increase online businesses	No	1.000	-	-
	Yes	.199	.004-10.740	.43
10 Spread to give a boost to the use of debit/credit card	No	1.000	-	-
	Yes	6.995	.707-69.209	.09
11 Reduce the elderly to cut down the burden on public funds	No	1.000	-	-
	Yes	.504	.071-3.561	.49
12 By WHO to gain control by developing psychological fear	No	1.000	-	-
	Yes	.080*	.008-.820	.03
13 One step towards the constitution of a greater Israel	No	1.000	-	-
	Yes	1.140	.196-6.625	.88
Global modernization conspiracy				
14 5G is responsible	No	1.000	-	-
	Yes	.723	.15-3.39	.68
15 Spread by e-marketing companies	No	1.000	-	-

	Yes	.201	.004-10.463	.43
16 By developing countries to get relief from debt from IMF	No	1.000	-	-
	Yes	1.686	.405-7.025	.47
17 Spread through genetically modified crops	No	1.000	-	-
	Yes	.026***	.002-.311	.004
18 Spread because of LGBTs	No	1.000	-	-
	Yes	82.073***	4.563-1476.08	.003
Role of China				
19 Chinese lab where bat viruses were being researched	No	1.000	-	-
	Yes	1.744	.44-6.87	.43
20 China to sell their medical equipment to the world	No	1.000	-	-
	Yes	.499	.08-3.13	.46
21 Bioweapon developed by China	No	1.000	-	-
	Yes	.680	.105-4.398	.69
Faith				
22 It is a form of punishment from God	No	1.000	-	-
	Yes	.646	.132-3.163	.59

Note: *p<0.05, **p<0.01, ***p<0.001.

The binary logistic regression in Table 4 shows that participants largely believed in following conspiracy theories related to COVID-19: vaccination of COVID-19 will control people mobility globally through injected ID microchips made by Israel; vaccination for COVID-19 will contain elements that control global birth rate; WHO manages COVID-19 spread for Bill Gates so as to gain control over world by developing psychological fear; COVID-19 is spread over genetically modified crops and COVID-19 is spread because of LGBTs (lesbian, gay, bisexual & transgender people).

DISCUSSION

Conspiracy beliefs are an unconfirmed and doubtful explanation of the role of malicious forces in plotting any major event (Prooijen & Van Vuget, 2018). Literature indicates that people hold conspiracy beliefs at times of societal crises (Prooijen & Douglas, 2017). During a pandemic, people usually try to get answers through conspiracy beliefs about why it has happened, who is involved in it and who can benefit from all this (Wood, 2018). However, such beliefs can affect negatively the adherence to preventive health measures during pandemics (Swami et al 2014). Therefore, in this study attempt has been made to find out whether Pakistani Muslims believe in conspiracies related to COVID-19 or not. Surprisingly, 47% of research participants believed in conspiracy theories related to COVID-19, though findings are consistent with research on the prevalence of conspiracy theories among polish adults (Duplaga, 2020). And in contracts to Pew research on American adults in which 23 % of research participants believe in conspiracy theories.

The data confirmed that Pakistani Muslims believe in some conspiracy theories about COVID-19. From the list of conspiracies asked about in the survey, most of the respondents responded that they strongly agreed or somewhat agreed with them. Like other studies, almost 59% of the participants believed that COVID-19 was escaped from Chinese elaborates (Allington et al, 2020). In contrast to Allington and Dhavan (2020), only 10% of the participants of this study reported that COVID-19 seemed to be related to 5G. It can also be seen that most of participants believed that powerful groups planted COVID-19 to advance the malicious agenda, for example, to gain

control over the world through vaccination, or to rule the world through the strong economy. Most of the respondents agreed that America planted this to destroy the China's economy. Like other published research, data revealed that women believed more in conspiracy theories than men (Sallam et al, 2020). Thus, in line with the findings of Uscinski et al (2020), there was no significant association was found between education and belief in the conspiracy theories. In contrast to Duplaga (2020), no significant association was found between age, education, and occupation.

Despite believing in different conspiracy theories, most research participants agreed that COVID-19 is a punishment from God for human sins. This can be considered the novel finding about Muslims who believe that they are accountable for their sins in this world and life after death. And they believe in Quranic verses which Said "He [Allah] has the power to send punishment on you from above or from under your feet (Quran, 6:65). Muslims also believe Allah sent that plague in the past to unspecified groups. So this finding can explain that more than conspiracy theories Muslims of Pakistan had belief in that this disease is Divine and a result of mankind sins. Based on the results, it can be concluded that people may respond less to cooperate with public health safety measures such as the strict quarantine and social distancing due to holding conspiracy beliefs. Previous literature suggested that government faces fatal effects on public health during HIV epidemic in South Africa (Simelela et al. 2015). Therefore, this research will help health policymakers to counter conspiracy beliefs hold by Pakistani Muslims. Moreover, COVID-19 Conspiracies Belief Questionnaire is expected to contribute to future research and clinical events to investigate and ultimately improve safety health measures against spread of COVID-19.

CONCLUSION

This is the first study to research Pakistani Muslims' beliefs in the conspiracy theories related to COVID-19. The author believes that conspiracy theories about COVID-19 can put public health at risk by discouraging people from following the preventive measures advocated by the WHO. In this connection, this dangerous lack of adherence to the standard operational procedures (SOPs) related to precautions against COVID-19 ultimately affects the political, social, and the financial strategies that the countries are employing. Therefore, the findings of this research can enable local and national governing bodies to develop knowledge-based strategies to tackle conspiracy beliefs. Otherwise, public health efforts will fail to control the viral spread and the world may ready to witness another fatal global pandemic (Morens et al., 2020). Therefore, it can also be concluded that due to belief in conspiracy theories, people may be less likely to vaccinate themselves as results of the study indicated the research participants' belief that the vaccination of COVID-19 is an attempt to control people's mobility globally through injected ID microchips.

Consequently, it can be supported through Jolley and Douglas (2014) argument that those who mistrust government policies were likely to have anti-vaccination conspiracy beliefs. This study has several limitations, and future research may address the following limitations. First data was gathered between May and June 2020, two months after the pandemic was announced; therefore, studies conducted after this time reflect different findings and contain some other conspiracies. Second, this research explains association so it cannot infer any causality; thus, experimental or longitudinal research may introduce different results. Third, the sample was collected online based on convenience sampling; consequently, the absence of the probability

sampling of the target population may indicate caution to generalize results. Furthermore, it is suggested that the future research should use more operationalized constructs and study the association between anxiety, adherence to the public health safety measures, and conspiracy theories.

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