

Knowledge, Attitude, Practice and Impact of COVID-19 in Afghanistan



Khwaja Mir Islam Saeed, Khushal Nabizada and Narges Neyazi

Afghan Institute for Strategic Studies



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COVID-19 in Afghanistan**



Health Studies -1

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EXECUTIVE SUMMARY

Coronavirus disease 2019 (COVID- 19) is an emerging viral respiratory disease that is caused by a novel coronavirus named as SARS-Cov2. The disease is highly infectious, commonly with clinical symptoms of fever, dry cough, fatigue, myalgia, and difficulty in breathing. The pandemic, due to COVID-19, originated in Wuhan, Hubei province, China in December, 2019 and soon spread all over the world. On 30 January 2020 the World Health Organization (WHO) declared the outbreak as a Public Health Emergency of International Concern (PHEIC) and later in March 2020 it was announced as a pandemic. Over the last two decades the zoonotic Coronavirus has infected human populations and caused numerous outbreaks. The last two human respiratory Coronavirus diseases were the Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV) and the Middle East Respiratory Syndrome Coronavirus (MERS-CoV). History shows that pandemics, in addition to causing human loss, have also caused social and economic disruptions at high levels. As of 10 May 2021, globally, there have been 157,973,438 confirmed cases of COVID-19, including 3,288,455 deaths, though 1,206,243,409 vaccine doses have been administered. The first COVID-19 case in Afghanistan was identified on February 24, 2020 in Herat city. As of May 10, 2021 Afghanistan has had 62,403 confirmed cases with 2710 deaths due to COVID-19. In total 422,617 samples have been tested and 54,382 are recovered. The increasing number of confirmed cases in neighboring countries, particularly Iran and Pakistan, with the influx of thousands of returnees posed a huge threat to Afghanistan.

There are many studies conducted on knowledge, attitudes and practices (KAP) among adults in different parts of the world including Afghanistan. These studies try to find the gap and provide information for policy makers to tailor and implement interventions for rising awareness and ensure preventive measures are practiced by communities, and finally lead to a reduction in morbidity and mortality due to COVID-19. The aim of this KAP survey was to determine the level of knowledge, awareness, practice, attitudes, and behavioral practices of the population in Afghanistan about COVID-19 and also the impact of the disease on the health and socio-economic dimensions of their lives. Furthermore, this survey focused on following specific objectives: 1) determining the level of knowledge, practice and awareness of communities in Afghanistan about COVID19; 2) exploring the practices and attitudes around COVID-19 in Afghanistan; 3) clarifying the effect of COVID-19 on the health aspects of people in the country; 4) identifying the socio-economic impact of COVID-19 on communities in Afghanistan; 5) determining the people's perspective on the government's response on COVID-19 crises; and 6) identification of the channels through which people receive awareness and information on COVID-19. In a cross-sectional study, a total 2907 adult individuals including males and females from all over the country participated in this study. This study was carried out at the community level using face-to-face interviews, and by observation of all preventive measures to avoid COVID-19 transmission. Depending on the location, the translated version of the local questionnaire was used to collect data. The survey team used a questionnaire translated into local languages. It contained seven sections: A) General Information, B) Knowledge, C) Attitude, D) Practices, E)

Socio-economic impact of COVID-19 on people's life, F) the Channels through which people receive information on COVID-19 and 7) the people's satisfaction on the government's response to COVID-19 pandemic. The survey includes demographic variables followed by variables describing the knowledge, attitude and practices of people toward COVID-19 and the socio-economic impact of the pandemic. Data entry was conducted before analysis and it was cleaned and validated in the Kabul AISS office. Data analysis was performed using SPSS v.20. Descriptive statistics were performed to calculate the proportions, rates and ratios, graphs and tables were prepared for better visualization of the data. Frequencies of correct knowledge answers and various attitudes and practices were described. The Afghanistan National Public Health Institute (ANPHI) at the Ministry of Public Health (MoPH), and the Institutional Review Board (IRB) reviewed and approved the protocol. Informed consent was taken verbally before interviews.

As mentioned above, there were a total of 2907 respondents from 34 provinces of Afghanistan, with the maximum rate (16.6%) from Kabul province. The key findings of the study are as follows:

- Almost 82% of participants live in urban areas. Most of the respondents are in the age group of 21-30 years (46.5%). 60.15 % of the participants are married, 75.1% of females and 84 % of males are literate, and the majority of participants have a bachelor degree (34%). Almost 63% of participants speak in Dari, 29.4% speak in Pashtu, and the remaining speak in Uzbek and other languages. The majority of participants are Pashtun and Tajik (69.1%). Most of respondents in this study have their

own home (62.7%). Majority of female participants are housewives (32.8%) and the majority of male participants are salaried employees (33.3%). More than half of the females did not have an income at all and nearly half of males had less than 10,000 AFN income monthly.

- Nearly all of the participants have heard about the Coronavirus and believed that COVID-19 spreads through contact with droplets from an infected person, cough (62.8%), following with going to crowded areas (59.6%), touching surfaces that someone infected has touched/coughed on (49.5%), normal talking (49.4%), and by eating and drinking (43.4%). Fever (77.1%), cough (66.5%), headache (66.4%), sore throat (57.4%), and shortness of breath (57.7 %) were the symptoms which most of the participants were aware of as the COVID-19 symptoms. More than three fourths of the participants believed that people who don't have the signs and symptoms of the COVID-19 will spread the disease. More than 80% of participants knew they can prevent themselves from contacting COVID-19 through hand washing and wearing masks, and more than half of participants believed in the effectiveness of other measures such as avoiding close contact with those who are sneezing and coughing; avoiding handshakes, hugging, and kissing; avoiding going to crowded areas; and keeping physical distance. More than half of the respondents believed that suspected people with COVID-19 should be kept in quarantine for two weeks. Nearly 22% of participants did not know about any effective treatment and vaccine availability for COVID-19 yet.
- More than half of the participants believed that the risk and threats of COVID-19 disease are very high. Also, same level believe that they

have not contracted COVID-19 yet. More than 80% of participants said that they will go for a lab test for detection of the virus as well as COVID-19 vaccination if it becomes available. Almost 67% of participants reported that they will not go to meetings, religious activities, events and other social gathering or any crowded places if community transmission of COVID-19 exists. The majority of respondents were neutral or disagree with the idea that there is no COVID-19 virus, and it is just a story devised by profit seeking companies and individuals. But nearly half of the participants think that COVID-19 is a clear indication of the Almighty Allah's anger on wrong doers or committing sins.

- Almost 35% reported always wearing a mask to prevent COVID-19 transmission; more than half of participants always wash their hands, more than 60% of them do not touch their eyes, nose and mouth frequently. The majority kept the physical/ social distancing by remaining two meters away from each other's. Meanwhile, in the case of COVID-19 positive test, more than half of participants will stay home and self-isolate them self.
- Nearly 60% of participants indicated they had problems satisfying food needs partly during the COVID-19 pandemic. Moreover, the majority (82.5%) stated that they applied for food rations during the lockdown. Most of the participants had to seek financial assistance and loans from their friends, relatives, colleagues and communities (47.9%) during the lockdown. However, the majority also could afford to buy masks, disinfectants and medicine when they were prescribed during COVID-19 pandemic. 44.4% of participants stated that they lost part of their

source of income in the mentioned period. This study shows that 45.3% of participant's families have students who faced problems in following their education in the pandemic period, the majority also believed that COVID-19 pandemic caused an increase in the level of violence in families and/or communities.

- 90.2% of the participants have mobile phones and more than half of them have access to internet sometimes. The majority of the respondents also have radio and television in their homes (60.0% and 82.9% respectively). The participants heard about COVID-19 mainly through television (67.8%); social media (42.3%); radio (35.1%); and health facility staff (32.7%). However, they mostly trust television (62.6%) and health facility staff (48.1%).
- Approximately, half of participants believed that the government was successful in applying lockdown measures and in awareness raising during COVID-19 pandemic in Afghanistan. 44.2% of respondents believed that the government was successful in providing isolation centers in the mentioned period. However, most of them were not satisfied in terms of the provision of treatment services, referral/ambulance services, death management services, or food and essential needs to poor families by the government during the pandemic.

Conducting this study almost one year after the detection and prevalence of COVID-19 pandemic in Afghanistan, shows that the study participants had sufficient knowledge about COVID-19 all over the country. In addition, they knew adequately the modes of transmission of the virus through respiratory droplets of infected people. However, there is a gap between

knowledge and practices. Here are few recommendations based on the findings of this study:

- Using the available information on knowledge, attitude and practices at the national level will assist all stakeholders to establish and/or revise their risk communication strategies to fight against COVID-19 effectively and efficiently.
- The government and public health authorities should establish and implement appropriate policies and interventions which are tailored to the level of knowledge and understanding of communities.
- Public health officials should further enhance the knowledge of communities while taking into account the contextual factors which adversely affect the transfer of knowledge to behavior change.
- Information about modes of transmission of the virus should be communicated clearly, targeting all misconceptions and rumors. The survivors from COVID-19 and the fully vaccinated with high-risk behaviors should be encouraged to share their experiences as a point for mobilizations.
- More attention should be paid to groups with low levels of COVID-19 knowledge, because they are less likely to be compliance with observing preventive measures.
- Despite having good knowledge and attitude, the health authorities should focus more on awareness campaigns at the community level. There are a wide range of channels to be used such as face-to-face health education, posters, billboards, social channels, radio and TV advertisements to fill these practice gaps and improve the situation.

- There is a need for more relevant communication, and engagement of local and religious leaders in the promotion of adherence to preventive measures. Religious leaders should be enlightened about various aspects of the pandemic and its negative impacts, because their advice and recommendation are sufficient in a sensitive and religious communities like Afghanistan.
- Information and health education (IEC) programs and behavior change communication interventions (BCC) with respect to COVID-19 are important to maintain appropriate knowledge and improve positive practices by targeting people with low knowledge and education levels.
- A good level of coordination should be made between various parties involved in fighting COVID-19 pandemic in Afghanistan, especially those who target poor people and provide them financial and in-kind assistance. Different international and national donors, provincial governments, provincial public health directorates, and ministry of public health should be the main members of this coordination.
- As the findings of this study shows, the urban population has achieved a good level of knowledge regarding COVID-19 pandemic, so it is necessary for the government, especially the Ministry of Public Health to promote the knowledge of rural communities and focus on changing attitude and practices of communities at both rural and urban settings.
- As the majority proportion of Afghanistan's population is below the age of 18, and can be the source of transmission for the COVID-19

virus, it is recommended to conduct another KAP survey among the 7-18 age group population (especially school students) to measure their knowledge, attitude and practices toward COVID-19 pandemic.

INTRODUCTION

Coronavirus disease 2019 which is abbreviated as COVID- 19 is an emerging respiratory disease that is caused by a novel coronavirus. The disease is highly infectious, with clinical symptoms of fever, dry cough, fatigue, myalgia, and difficulty in breathing. During the past year, the world has faced the pandemic of COVID-19 which originated in Wuhan, China in December 2019(1). Like other pandemics in history, this pandemic resulted in the disruption of national and global social and economic norms. On January 30, 2020, the World Health Organization (WHO) declared the outbreak as a Public Health Emergency of International Concern (PHEIC) (2) while later on in March 2020 it was announced as a pandemic. It seems in the last two decades that the zoonotic Coronavirus has infected human populations. The last two human respiratory Coronavirus diseases were the Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV) and Middle East Respiratory Syndrome Coronavirus (MERS-CoV).

1.1 Global and Regional Context

As of May 10, 2021, globally, there have been 157,973,438 confirmed cases of COVID-19, including 3,288,455 deaths, though 1,206,243,409 vaccine doses have been administered (3). There are many studies conducted on knowledge, attitudes and practices (KAP) among adults in different parts of the world. For instance, a cross-sectional study in India assessed the knowledge, attitudes and practices among adults with diabetes mellitus type 2. The authors concluded that young adults with Type 1 Diabetes Mellitus (T1DM) have average knowledge, healthy preventive practices, and positive attitudes toward COVID-19. They recommended awareness

campaigns especially in rural areas, and the doorstep delivery of T1DM required supplies for related patients (4). In another study among 6,249 Indonesian undergraduate students, information on respondent's demographics, COVID-19- related knowledge, attitudes, and practices were asked via a researcher's self-developed questionnaire and then were analyzed using percentages and frequencies, t-test and one-way ANOVA. The authors proposed the data to be used in planning for preventive measures and curbing the spread of COVID-19 in universities (5). Furthermore, Ejeh et al investigated knowledge, attitude, and practice among 346 healthcare workers towards the COVID-19 outbreak in Nigeria using self-administered questionnaires. The authors concluded that the health care workers (HCWs) in Nigeria have high level of knowledge, positive attitude and good practice towards COVID-19. However, there were areas with poor knowledge, negative attitudes and practices for which continuous public health education for HCWs has been recommended in terms of infection prevention and control (6). In Iran, a population based KAP survey measured the level of knowledge, attitudes and practices concerning COVID-19 and explored awareness and health behaviors related to the prevention and control of the virus. They used a web-based questionnaire among the general population above the age of 15. They found that 90% of the population have moderate knowledge toward the disease, and 90% and 89% overall scores were achieved regarding attitudes towards and practices of COVID-19 by the general population. The result also showed a significant correlation between female gender, higher education, and higher age with knowledge, attitude and practice (7). Another cross-sectional survey among the general public of India was

conducted in May 2020. According to this study the main sources for COVID-19 related information were TV (74.5%) and social media (71.0%). Most of respondents had a good level of knowledge (74.75), practices (88.1%), and perceptions (57.6%) toward COVID-19. Age, education level, living area (urban or rural), and being a health professional had a positive association with knowledge, perception and practices toward COVID-19. Despite good knowledge the authors proposed education programs through media and social networks targeting misconceptions about COVID-19 (8).

1.2 National Context

The first COVID-19 case in Afghanistan was identified in Herat and confirmed on February 24, 2020 in Kabul. As of May 10, 2021 Afghanistan has had 62,403 confirmed cases with 2710 deaths (9) due to COVID-19. In total 422,617 samples have been tested and 54,382 are recovered. At the onset of the pandemic, the increasing number of confirmed cases in neighboring countries, particularly Iran and Pakistan, with the influx of thousands of returnees posed a huge threat to Afghanistan. After the COVID-19 pandemic hit Afghanistan in February 2020, a series of studies including KAP surveys were planned and implemented to provide information for strategic decision making in the country. In April 2020, APEX consulting agency conducted a Knowledge, Attitudes, and Practice (KAP) survey on COVID-19 among 238 randomly selected citizens in seven regions of Afghanistan (Central, Northeast, West, South, East, Southeast and North regions). In addition, they investigated about citizens' satisfaction about the performance and actions of the government to control and fight COVID-19, and the impact of the lockdown on food availability,

livelihood and citizens' needs. The study found that 33% of people will stay at home quarantine and observe medical conditions in case they have some doubt about COVID-19 infection, 39% will go to a nearby doctor for consultation, 15% to a nearby govt. quarantine, 3% will do nothing, and 11% don't know what to do. In addition, 35% of respondents believed that the lockdown for COVID-19 considerably decreased their household's earnings while 31% believed that the lockdown had no effect on their income; 59% have experienced food shortages during the last 7 days, however, 81% had no additional food and other necessary items at home due to lockdown. Furthermore, 31% of respondents were dissatisfied with the government's performance to fight COVID-19 and 19% were satisfied; 89% of respondents stated that they will need financial support (33% cash and 67% in kind) in case of a prolonged lockdown. The participants stated that 98% of their children were going to school before lockdown and now only 32% are studying at home. Almost 96% of participants did not witness or hear about philanthropic activities during lockdown and 92% have not observe any support from any agencies. Inflation of the basic food commodities during the lockdown period were observed in 98% of the cases (10). Another survey was conducted in Afghanistan with a random selection of 401 Afghan households on KAP as well as food security, education and psycho-social well-being. The findings of this survey indicated that women are slightly more concerned about the impact of COVID-19 than men and reported more frequent negative psychological symptoms and misconceptions. Most households (74%) reported their food insecurity to be on the rise and 9 out of 10 respondents reported experiencing negative economic impact caused by COVID-19. Psycho-

social symptoms were found to be common among people; only 12% had not experienced negative psycho-social symptoms (11). A cross-sectional online survey conducted in October 2020 among medical students in Afghanistan reported that more students had acceptable KAP regarding COVID-19, except for a few undesirable responses with regard to the risks of close contact with COVID-19 patients, incubation periods, and groups vulnerable to COVID-19 (12).

Afghanistan, with a fragile health system, low economy, complex emergencies including continuing conflicts, have been in grave situation while the pandemic was hitting it. There has been insufficient lab capacity and technical expertise to test, isolate and trace the COVID-19 case. Health authorities in Afghanistan confirms that the actual number of positive cases in the country could be higher than the numbers reported officially (13). In early April 2020 partial movement restrictions were announced followed by closing schools and bans on mass gatherings (14). These measures have negatively affected the economic situation and worsened the poverty level in the country. In order to manage the pandemic, the Ministry of Public Health in the country has developed and issued a set of guidelines and preventive measures to fight COVID-19 (15).

Risk communication is the main strategy to address the issues related to the COVID-19 pandemic in the country. The level of knowledge, attitudes and practices (KAP) towards the disease affect the community practices and compliance with preventive measures. Having information on community perspectives regarding COVID-19 is crucial and there is further need to provide information on knowledge, attitudes and practices of the

community about COVID-19 which will contribute in informed decisions and policy development by health authorities. Provision of information regarding community knowledge and perception with respect to COVID-19, particularly at the national level, will contribute in development and/or revision of risk communication and community engagement strategy to fight against current and future pandemics.

1.3 Aim and Objectives

The aim of this KAP survey was to determine the level of knowledge, awareness, practice, attitudes, and behavioral practices of the population in Afghanistan about COVID-19 and also the impact of the disease on the health and socio-economic dimensions of their lives. Furthermore, this survey focuses on the following specific objectives: 1) determining the level of knowledge, practice and awareness of communities in Afghanistan about COVID19; 2) exploring the practices and attitudes around COVID-19 in Afghanistan; 3) clarifying the effect of COVID-19 on the health aspects of people in the country; 4) identifying the socio-economic impact of COVID-19 on communities in Afghanistan; 5) determining the people's perspective on the government's response to the COVID-19 crises; and 6) identification of the channels through which people receive awareness and information on COVID-19.

METHODOLOGY

A total of 2907 adult individuals including men and women from all over the country participated in this study. This study was carried out at the community level using face-to face interviews, and by the observation of all preventive measures used to avoid COVID-19 transmission. Depending on location the translated version of local questionnaires was used to collect data.

2.1 Study Design, Setting and Population

A cross-sectional study using a two-stage sampling design was conducted to provide information for addressing the overall purpose and specific objectives of the survey. The survey focused on adults (over the age of 18) including men and women all over the country to represent the country, including the urban and rural areas. The data was collected at community level by randomly approaching the households and interviewing the head of the family. All 34 provinces were included in the survey and data collection was completed within three months from February to April, 2021 in the field. Trained surveyors from the Afghanistan Institute of Strategic Studies (AISS) were given an orientation on how to collect data using a face-to-face questionnaire.

2.2 Sample Size and Sampling Strategy

For sample size calculations, key factors such as desired level of confidence of the survey results, acceptable margin of error, design effect of the sampling methodology, estimated baseline levels of the indicators, and anticipated non-response rate, were taken into consideration. The sample

size of the KAP survey was calculated by considering a 95% confidence level, 5% margin of error, and 35% of the reference indicator. Due to cluster sampling, the design effect was considered to 1.5. So, if we multiply 350 by 1.5, it will be 525. A response rate of 90% was assumed to participate. For the anticipated response rate of 90%, the current sample come to $(525 * 1.11)$ 583 in each region. As the survey was planned to represent regional and national data, the sample was multiplied by 5 and finally the total sample size came to 2915 households. The sample size for each province was calculated based on its proportion to size. There was a two-stage cluster design; in the first stage, five districts were selected randomly by simple random sampling methods; in the second stage two areas were selected within each district.

2.3 Variables and Data Collection

The survey team used a questionnaire translated into local languages. It contained seven sections: A) General Information, B) Knowledge, C) Attitude, D) Practices, E) Socio-economic impact of COVID-19 on people's lives, F) the Channels through which people receive information on COVID-19 and 7) the people's satisfaction on the government's response to COVID-19 pandemic. It consists of demographic variables followed by variables describing the knowledge, attitudes and practices of people towards COVID-19 and the socio-economic impact of the pandemic.

Data was collected using a face-to-face structured questionnaire by trained interviewers who visited the target areas. The teams were consisting of two interviewers including males and females. The team were monitored and

supervised by other groups of staff in Kabul as well as in the provinces. The provincial team, including data collectors and supervisors were staff of the Afghan Institute of Strategic Studies (AISS) who are trained in such research projects. The collected questionnaires were cleaned and edited and later on entered into an excel database. The interviewers and their supervisors were oriented/trained on focus of training as well as the objectives, requirements, and the survey questionnaire. The pilot testing was conducted in the field and the tool was tested and improved. The survey population consisted of an adult population including men and women in age groups of 18 years and older who agreed to be interviewed in the study. However, severely ill and pregnant women who are not able to be interviewed were excluded. The AISS team regularly supervised the processes of the survey including recruitment of staff, training, and fieldwork to avoid any deviation. The AISS team was responsible for timely execution of all activities including monitoring and quality assurance of field work.

2.4 Data Management and Analysis

A Data Entry Clerk conducted data entry before analysis and it was cleaned and validated in the Kabul AISS office. Data analysis was performed using SPSS v.20. Descriptive statistics were performed to calculate the proportions, rates and ratios, which were used to prepare graphs and tables for better visualization of data. Frequencies of correct knowledge answers and various attitudes and practices were described.

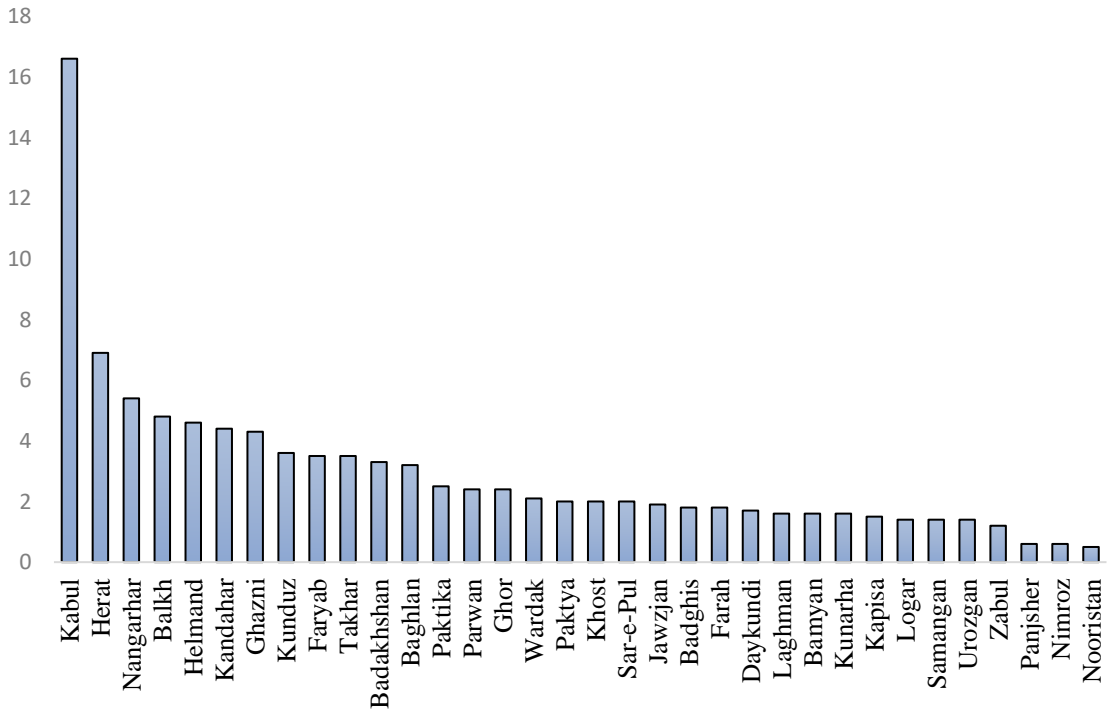
2.5 Ethical Consideration

The protocol was submitted to the Afghanistan National Public Health Institute (ANPHI) at the Ministry of Public Health (MoPH) Institutional Review Board (IRB) for review and was approved prior to conducting the study. The purpose of the survey was explained to all participants and informed consent from the interviewees was obtained. Each participant was informed that participation in the study is voluntary and that they are free to withdraw any time without consequences and without responsibilities. Participant confidentiality was maintained throughout the study. Data were entered into the database anonymously using the assigned identification numbers.

RESULTS

A total of 2907 respondents from 34 provinces of Afghanistan, with a maximum rate (16.6%) from Kabul province and the minimum rate (0.6%) from Nimroz province, completed the survey. This difference is due to the proportion of population living in these provinces. Almost 82% of participants in this study live in urban areas and the remaining (18%) live in rural areas. However, it should be noted that the study was mostly implemented in urban settings.

Figure 1: Proportion of respondents per province in KAP survey



As shown in Figure 1, the majority of participants were from regional provinces such as Kabul, Balkh, Nangarhar, Herat and Kandahar. The lowest participation was from Nimroz, Nooristan and Panjshir provinces. The exact number and percentage of participants for each province can be seen in Table 1.

Table 1: Number of proportion of respondents per province

NO	Provinces	Frequency	Valid Percent
1	Kabul	483	16.6
2	Kapisa	45	1.5
3	Parwan	69	2.4
4	Wardak	61	2.1
5	Logar	40	1.4
6	Nangarhar	158	5.4
7	Laghman	46	1.6
8	Panjshir	16	.6
9	Baghlan	94	3.2
10	Bamyan	46	1.6
11	Ghazni	126	4.3
12	Paktika	72	2.5
13	Paktia	57	2.0
14	Khost	58	2.0
15	Kunarha	46	1.6
16	Nooristan	15	.5
17	Badakhshan	97	3.3
18	Takhar	102	3.5
19	Kunduz	106	3.6
20	Samangan	40	1.4
21	Balkh	139	4.8
22	Sar-e-Pul	58	2.0
23	Ghor	71	2.4
24	Daikundi	48	1.7
25	Urozgan	40	1.4
26	Zabul	36	1.2
27	Kandahar	127	4.4
28	Jawzjan	56	1.9
29	Faryab	101	3.5
30	Helmand	134	4.6

31	Badghis	51	1.8
32	Herat	200	6.9
33	Farah	52	1.8
34	Nimroz	17	.6
Total		2907	100.0

The socioeconomic and background characteristics of respondents are reflected in Table 2. As seen, most of the respondents are in the age group of 21-30 years (46.5%); 60.15% of the participants are married. Almost 75% of females and 84% of males were literate and the majority of participants have a bachelor degree (34%) (Figure 2). Nearly 63% of participants speak in Dari, 29.4% speak in Pashto and the remaining speak in Uzbek, Nooristani and other languages. The majority of participants were Pashtun and Tajik (69.1%). Most of respondents owned their home (62.7%). Most of the female participants were housewives (32.8%); and the majority of the male participants were salaried employees (33.3%). More than half of the females did not have an income at all and nearly half of males had an income of less than 10,000 AFN (Afghani) monthly. It should be noted that the proportion of males (50.8%) and females (49.2%) were almost equal in this study. The highest number of family members were less than 5 people living under one ceiling. For detailed information about the socioeconomic and demographic variables of participants, please have a look of graph 1- 11 (Figures 3 to 6).

Figure 2: Age categories and sex distribution of respondents, KAP Survey

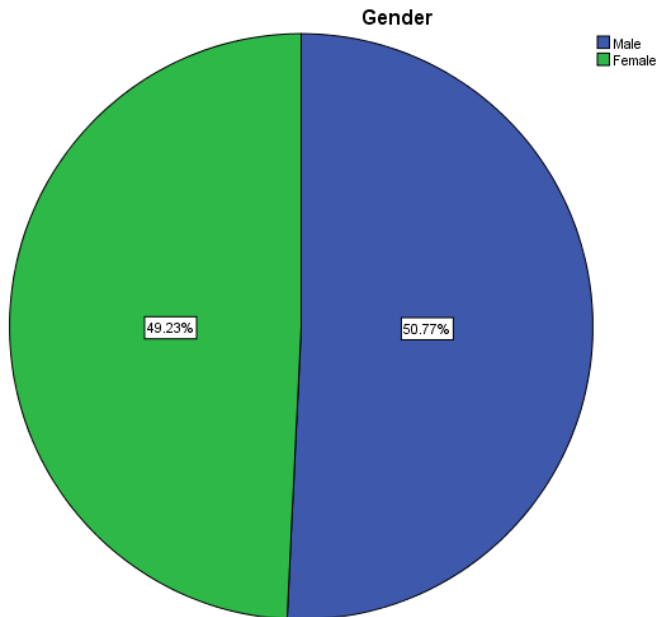
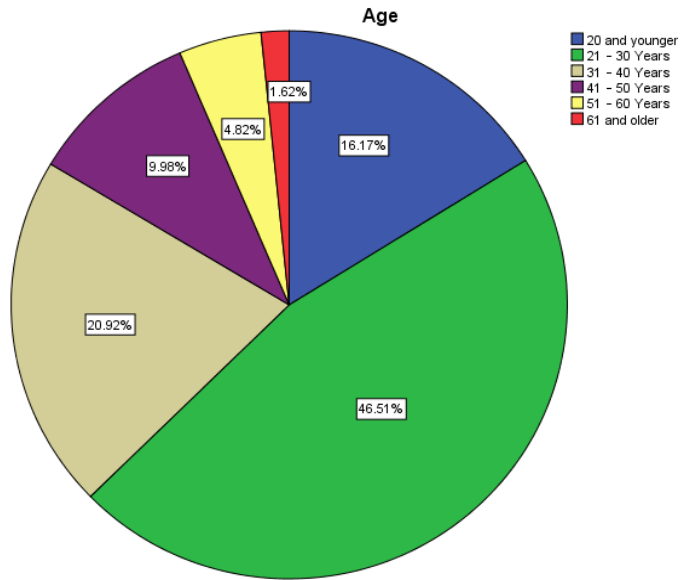


Figure 3 Marital status of participants, KAP survey

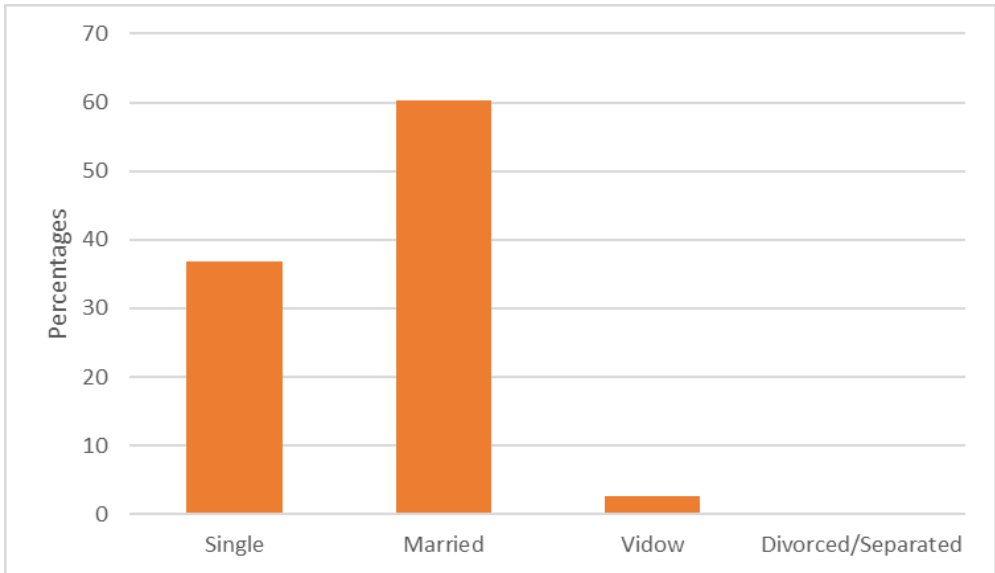
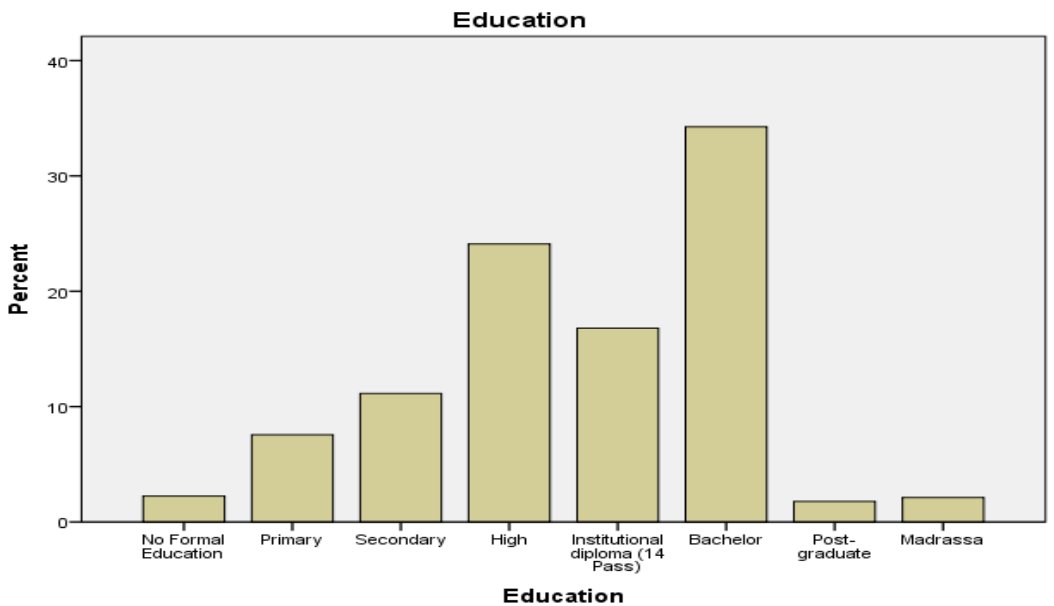


Figure 4: Education and speaking language of study participants, KAP survey



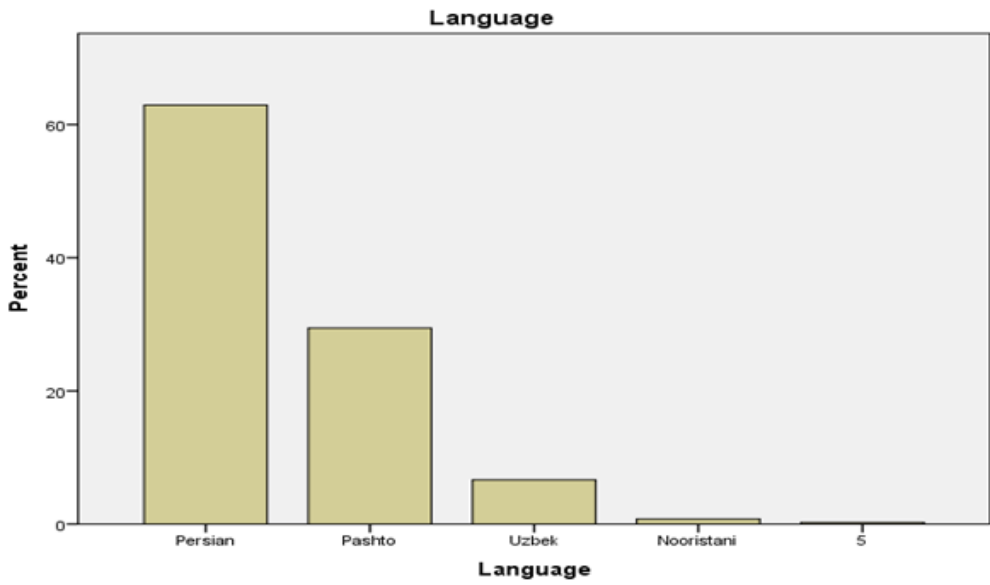
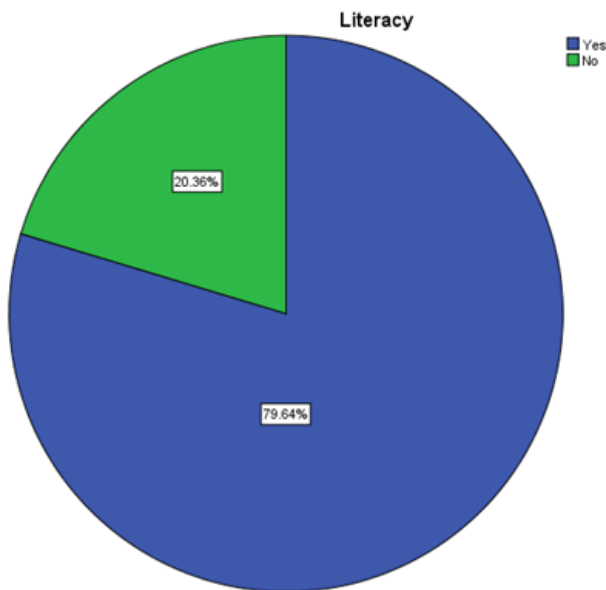


Figure 5: Literacy and ownership of home of study participants, KAP survey



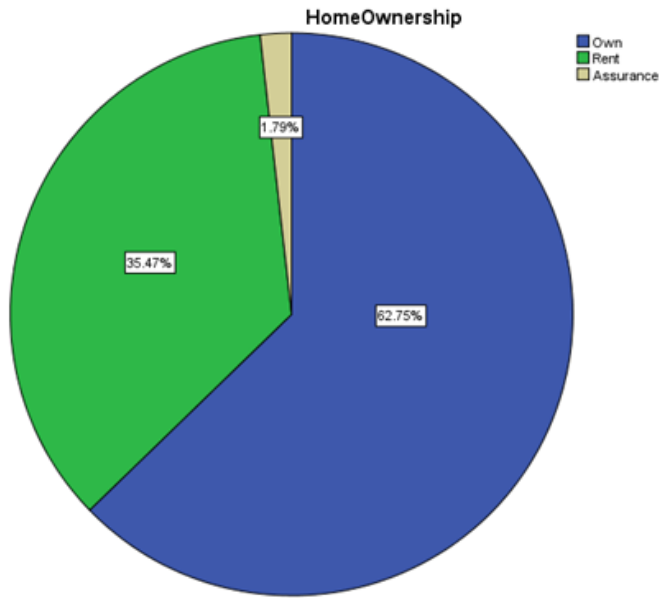
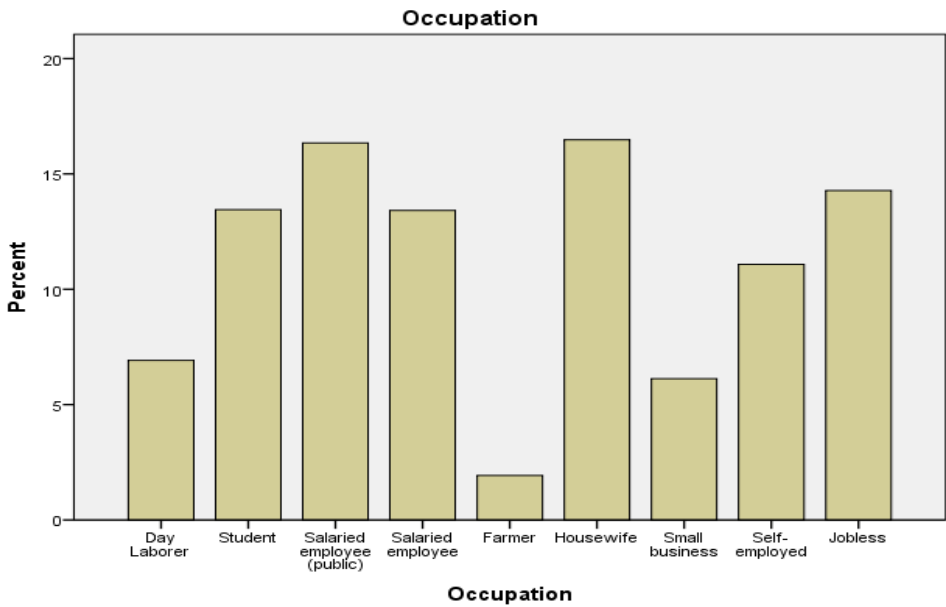


Figure 6: Occupation and level of income of study participants, KAP survey



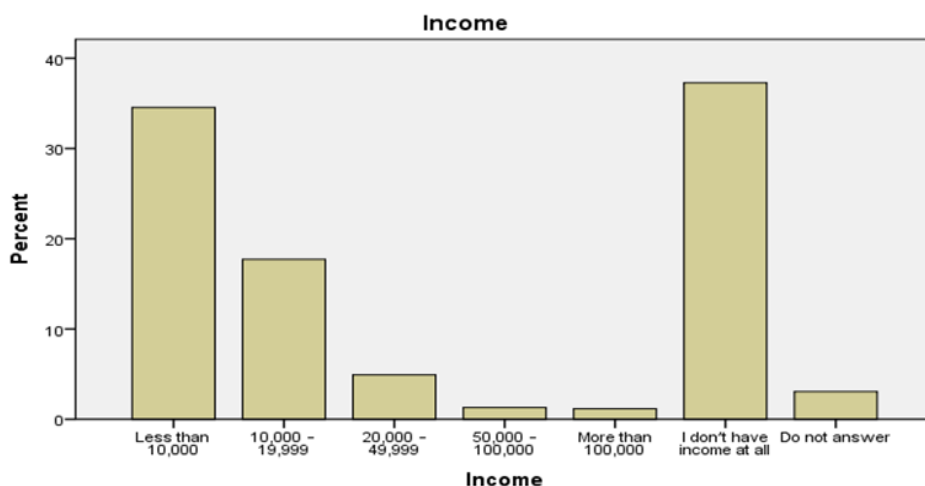


Table 2: Frequency distribution of the background characteristics of study participants (N= 2907)

	Categories	Male (%)	Female (%)	Total (%)
Age in years				
	20 and younger	167 (11.3)	303 (21.2)	470 (17.6)
	21 – 30 Years	704 (47.7)	648 (45.3)	1352 (46.5)
	31 – 40 Years	345 (23.4)	263 (18.4)	608 (20.9)
	41 – 50 Years	148 (10.0)	142 (9.9)	290 (9.95)
	51 – 60 Years	81 (5.5)	59 (4.1)	140 (4.8)
	61 and older	31 (2.1)	16 (1.1)	47 (1.6)
Marital Status				
	Single	485 (32.9)	588 (41.1)	1073 (37.0)
	Married	986 (66.8)	766 (53.5)	1752 (60.15)
	Widowed	4 (0.3)	73 (5.1)	77 (2.7)
	Divorced/ separated	1 (0.1)	4 (0.3)	5 (0.2)
Literacy				
	Literate	1240 (84.0)	1075 (75.1)	2315 (79.55)
	Illiterate	236 (16.0)	356 (24.9)	592 (20.45)
Education (system missing= 592)				

	No formal education	28 (2.3)	24 (2.2)	52 (2.25)
	Primary	98 (7.9)	77 (7.2)	175 (7.55)
	Secondary	129 (10.4)	129 (12.0)	258 (11.2)
	High	316 (25.5)	242 (22.5)	558 (24)
	Institutional diploma (14 pass)	158 (12.8)	231 (21.5)	389 (17.15)
	Bachelor	459 (37.0)	334 (31.0)	793 (34)
	Post-graduate	25 (2.0)	16 (1.5)	41 (1.75)
	Madrassa	26 (2.1)	23 (2.1)	49 (2.1)
Language (missing = 7)				
	Persian	878 (59.5)	951 (66.5)	1829 (63.0)
	Pashto	488 (33.1)	368 (25.7)	856 (29.4)
	Uzbek	94 (6.4)	99 (6.9)	193 (6.65)
	Nooristani	12 (0.3)	10 (0.7)	22 (1.0)
Ethnicity				
	Pashtun	511 (34.6)	416 (29.1)	927 (31.9)
	Tajik	526 (35.6)	554 (38.7)	1080 (37.2)
	Hazara	248 (16.8)	279 (19.5)	527 (18.1)
	Uzbek	89 (6)	98 (6.8)	187 (6.4)
	Aimaq	6 (0.4)	8 (0.6)	14 (0.5)
	Baluch	13 (0.9)	11 (0.8)	24 (0.8)
	Nooristani	7 (0.5)	8 (0.6)	15 (0.5)
	Turkmen	13 (0.9)	12 (0.8)	25 (0.9)
	Arab	21 (1.4)	10 (0.7)	31 (1.1)
	Qezilbash	18 (1.2)	10 (0.7)	28 (1.0)
	Sadat	24 (1.6)	25 (1.7)	49 (1.7)
Number of Family Member				
	1-5	286 (19.4)	362 (25.3)	648 (22.3)
	5-10	789 (53.5)	844 (59.0)	1633 (56.2)
	10-15	280 (19.0)	176 (12.3)	456 (15.7)
	15-20	69 (4.7)	34 (2.4)	103 (3.5)
	20-25	24 (1.6)	8 (0.6)	32 (1.1)
	25-30	14 (0.9)	2 (0.1)	16 (0.6)
	Over 30	14 (0.9)	5 (0.3)	19 (0.7)
Home ownership				
	Own	1032 (69.9)	792 (55.3)	1824 (62.7)
	Rent	424 (28.7)	607 (42.4)	1031 (35.5)
	Assurance	20 (1.4)	32 (2.2)	20 (1.4)

Occupation				
	Day laborer	174 (11.8)	27 (1.9)	201 (6.9)
	Student	136 (9.2)	255 (17.8)	391 (13.5)
	Salaried employee (public)	281 (19.0)	194 (13.6)	475 (16.3)
	Salaried employee	211 (14.3)	179 (12.5)	390 (13.4)
	Farmer	47 (3.2)	9 (0.6)	56 (1.9)
	Housewife	9 (0.6)	470 (32.8)	479 (16.5)
	Small business	155 (10.5)	23 (1.6)	178 (6.1)
	Self-employed	273 (18.5)	49 (3.4)	322 (11.1)
	Jobless	190 (12.9)	225 (15.7)	415 (14.3)
Income (missing= 1) in AFN				
	Less than 10,000	643 (43.6)	361 (25.2)	1004 (34.5)
	10,000 – 19,999	378 (25.6)	137 (9.6)	515 (17.7)
	20,000 – 49,999	89 (6.0)	54 (3.8)	143 (4.9)
	50,000 – 100,000	24 (1.6)	14 (1.0)	38 (1.3)
	More than 100,000	22 (1.5)	12 (0.8)	34 (1.2)
	I don't have income at all	282 (19.1)	801 (56.0)	1083 (37.3)
	Do not answer	37 (2.5)	52 (3.6)	89 (3.1)

3.1 Knowledge about COVID-19

As reflected in figures 7-14 and table 3, almost all of the participants have heard about the Coronavirus. They believe that COVID-19 spreads via contact with droplets from an infected person, including cough (62.8%), going to crowded areas (59.6%), touching surfaces that someone infected has touched/cough on (49.5%), normal talking (43.3%), and by eating and drinking (38.4%) respectively). The subjects responded that fever (77.1%), cough (66.5%), headache (66.4%), sore throat (57.4%), and shortness of breath (57.7%) were the symptoms of COVID-19. More than three fourths of the participants believed that people who don't have the signs and

symptoms of the COVID-19 can spread the disease. More than 80% of participants knew they can prevent themselves from contacting COVID-19 through hand washing frequently with soap and water and wearing a mask, and more than half of participants believed in the effectiveness of other measures such as avoiding close contact with those who are sneezing and coughing; avoiding handshakes, hugging, and kissing; avoiding going to crowded areas; and keeping physical distance. More than half of the respondents believed that suspected people with COVID-19 should be kept in quarantine for two weeks. Almost 41% of people who participated in this study believe that there is an effective treatment available for COVID-19, and more than half (59.7%) believe that there is an effective vaccine available for this disease. Nearly 22% of participants did not know about any effective treatment and vaccine availability for COVID-19 yet. The participants responded that the elderly, people with hypertension, cardiovascular diseases, and suppressed immunity are the major populations who are at most risk for developing severe illness from COVID-19.

Figure 7: Perception on mechanism of transmission of COVID-19 by participants, KAP survey

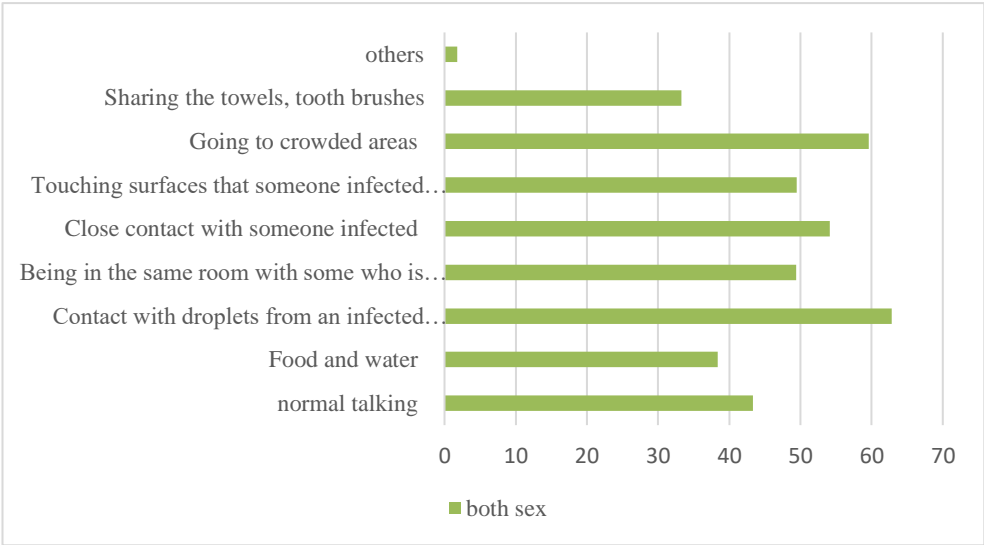


Figure 8: Symptoms of COVID-19 expressed by participants, KAP survey

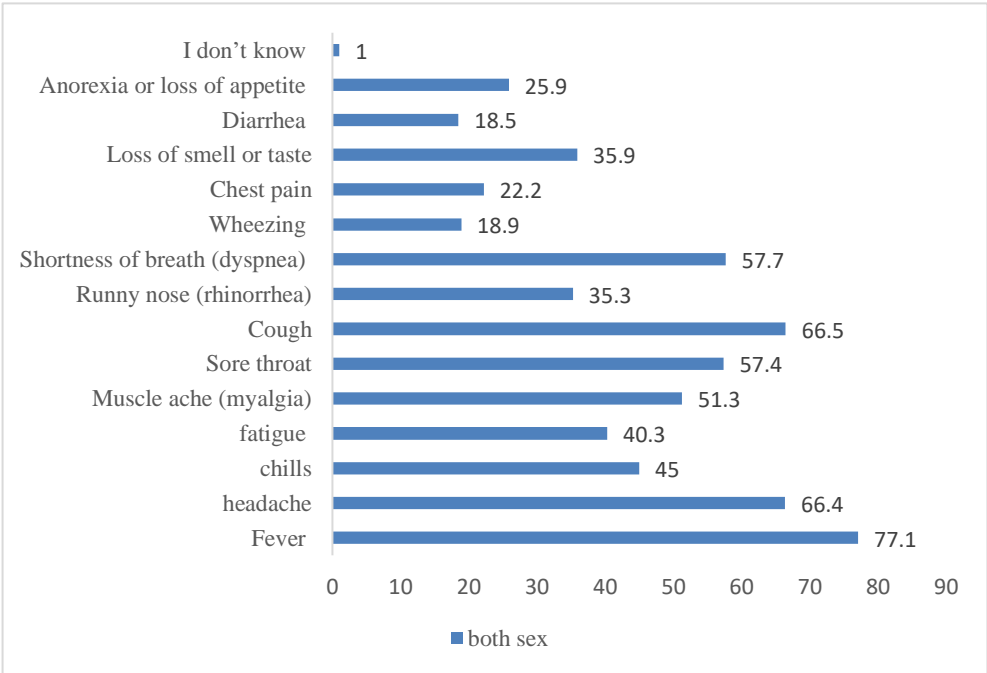


Figure 9: Transmission of COVID-19 by asymptomatic infected, expressed by survey respondents

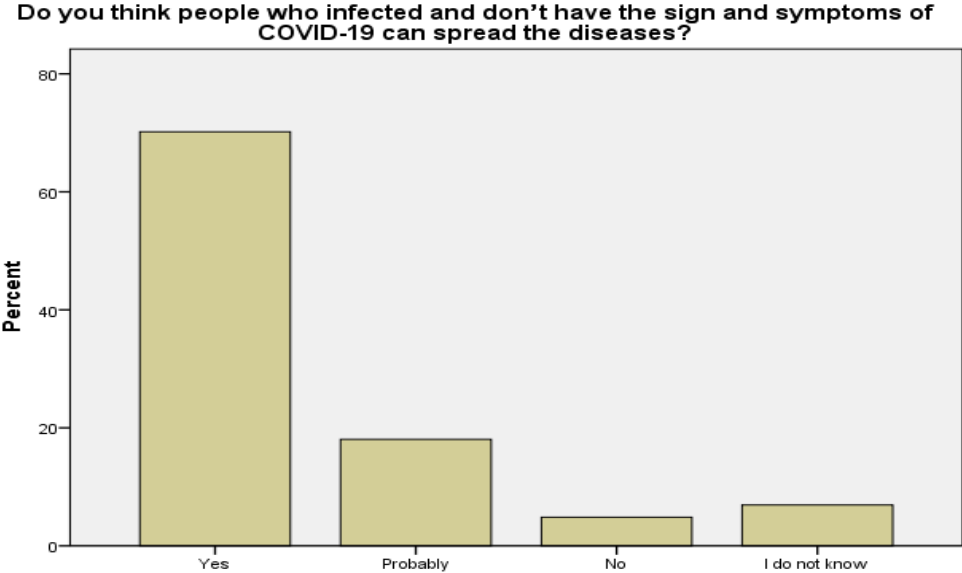


Figure 10: Preventive measures of COVID-19 by participants, KAP survey

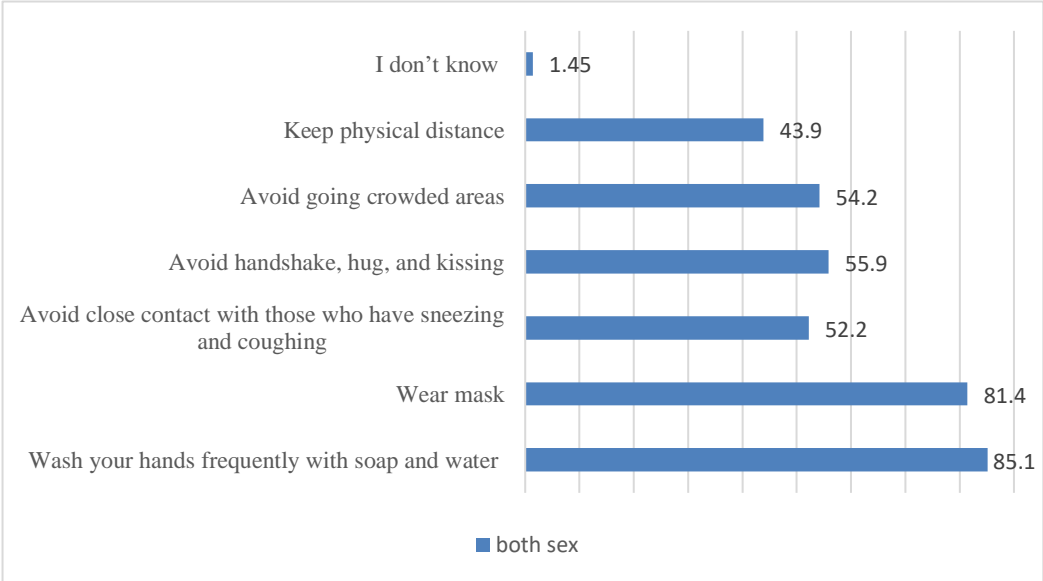


Figure 11: Duration of quarantine due to COVID-19 perception by participants, KAP survey

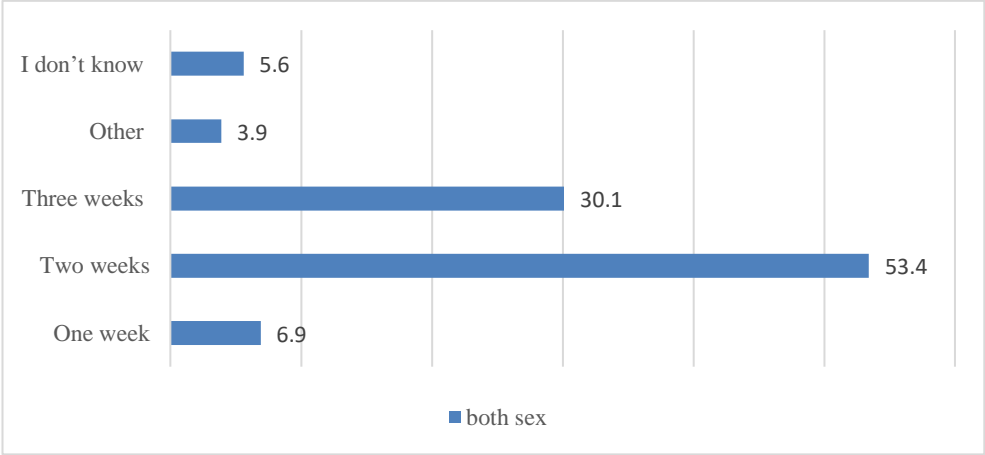


Figure 12: Treatment availability of COVID-19 by participants, KAP survey

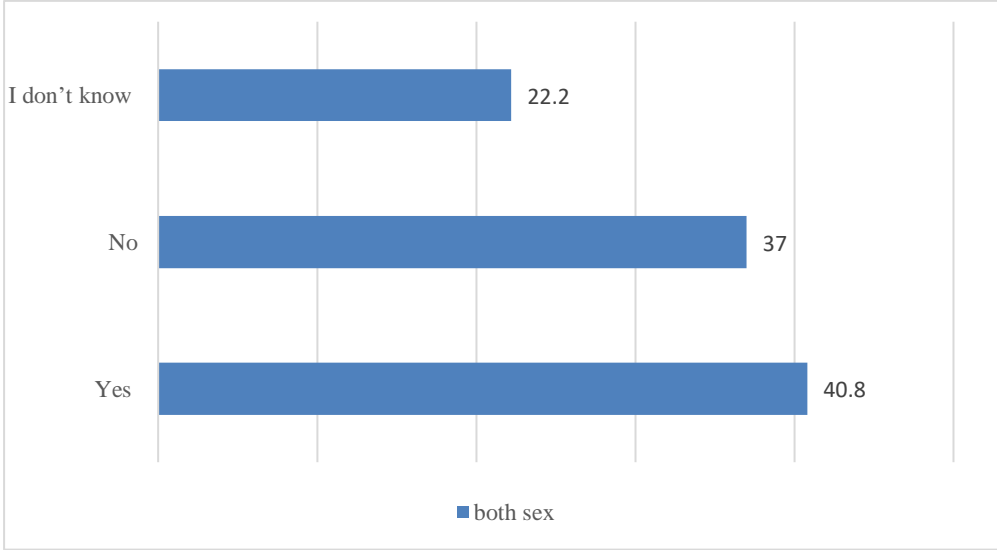


Figure 13: Vaccine availability for COVID-19 by participants, KAP survey

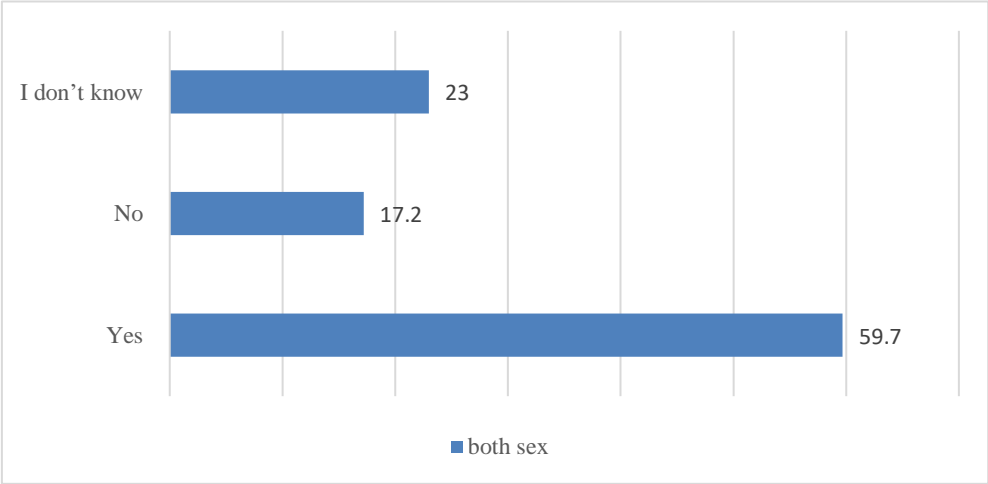


Figure 14: High risk people of COVID-19 by participants, KAP survey

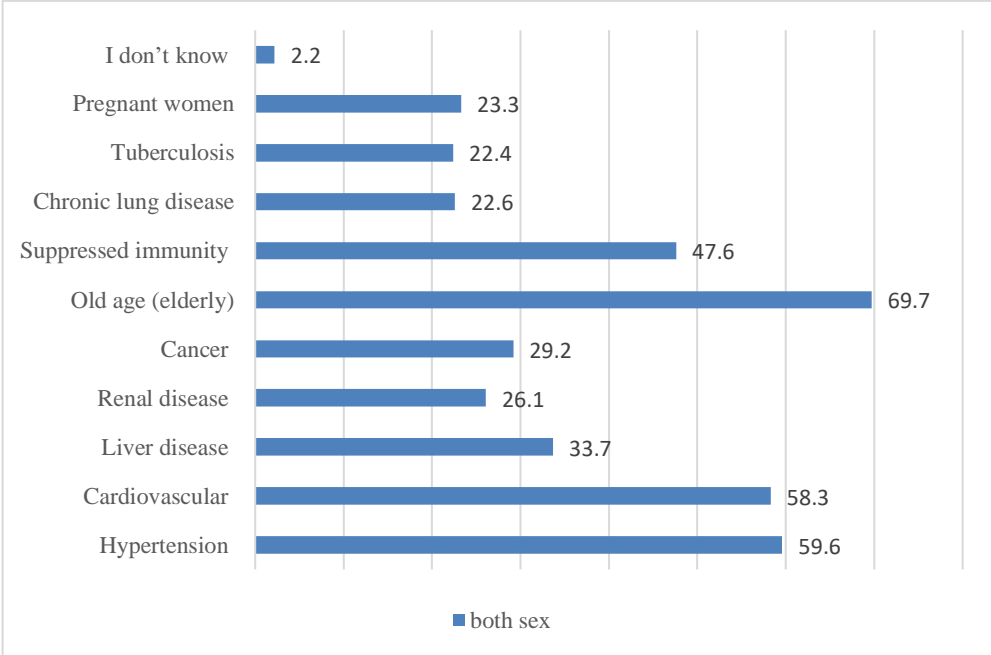


Table 3: Frequency distribution on knowledge of participant (n=2907)

Variable	Categories	Male (%)	Female (%)	Total (%)
Have you heard about COVID-19 / Coronavirus?				
	Yes	1466 (99.3)	1406(98.3)	2872 (98.8)
	No	10 (0.7)	25 (1.7)	35 (1.2)
How COVID-19 spreads?				
	Normal talking	660 (44.7)	599 (41.9)	1259 (43.3)
	Food and water	566 (38.3)	910 (61.7)	1115 (38.4)
	Contact with droplets from an infected person, cough	949 (64.3)	877 (61.3)	1826 (62.8)
	Being in the same room with some who is infected	728 (49.3)	708 (49.5)	1436 (49.4)
	Close contact with someone infected	799 (54.1)	773 (54.0)	1572 (54.1)
	Touching surfaces that someone infected has touched/cough on	756 (51.2)	684 (47.8)	1440 (49.5)
	Going to crowded areas	893 (60.5)	841 (58.8)	1734 (59.6)
	Sharing the towels, tooth brushes	508 (34.4)	460 (32.1)	968 (33.3)
	others	21 (1.4)	31 (2.2)	52 (1.8)
What are the symptoms of someone infected with COVID-19:				
	Fever	1170 (79.3)	1072 (74.9)	2242 (77.1)
	Headache	966 (65.4)	963 (67.3)	1929 (66.4)
	Chills	643 (43.6)	666 (46.5)	1309 (45.0)
	Fatigue	594 (40.2)	578 (40.4)	1172 (40.3)
	Muscle ache (myalgia)	808 (54.7)	682 (47.7)	1490 (51.3)

	Sore throat	870 (58.9)	800 (55.9)	1670 (57.4)
	Cough	1056 (71.5)	876 (61.2)	1932 (66.5)
	Runny nose (rhinorrhea)	553 (37.5)	474 (33.1)	1027 (35.3)
	Shortness of breath (dyspnea)	839 (56.8)	838 (58.6)	1677 (57.7)
	Wheezing	280 (19.0)	269 (18.8)	549 (18.9)
	Chest pain	305 (20.7)	341 (23.8)	646 (22.2)
	Loss of smell or taste	502 (34.0)	541 (37.8)	1043 (35.9)
	Diarrhea	223 (15.1)	316 (22.1)	539 (18.5)
	Anorexia or loss of appetite	387 (26.2)	366 (25.6)	753 (25.9)
	I don't know	10 (1.3)	18 (1.3)	28 (1.0)
Do you think people who don't have the sign and symptoms of COVID-19 will spread the disease?				
	Yes	1045 (70.8)	995 (69.5)	2040 (70.2)
	Probably	264 (17.9)	261 (18.2)	525 (18.1)
	No	89 (6.0)	52 (3.6)	141 (4.9)
	I don't know	78 (5.3)	123 (8.6)	201 (6.9)
How can you prevent yourself from contacting COVID-19?				
	Wash your hands frequently with soap and water	1264 (84.4)	1227 (85.7)	2473 (85.1)
	Wear mask	1208 (81.8)	1157 (80.9)	2365 (81.4)
	Avoid close contact with those who have sneezing and coughing	780 (52.8)	738 (51.6)	1518 (52.2)
	Avoid handshake, hug, and kissing	859 (58.2)	765 (53.5)	1624 (55.9)

	Avoid going crowded areas	831 (56.3)	745 (52.1)	1576 (54.2)
	Keep physical distance	684 (46.3)	592 (41.4)	1276 (43.9)
	I don't know	14 (0.9)	23 (1.6)	
How long the people suspected with COVID-19 should be kept in Quarantine? (missing=2)				
	One week	94 (6.4)	107 (7.5)	201 (6.9)
	Two weeks	770 (52.2)	783 (54.7)	1553 (53.4)
	Three weeks	468 (31.7)	407 (28.4)	875 (30.1)
	Other	57 (3.9)	57 (4.0)	114 (3.9)
	I don't know	85 (5.8)	77 (5.4)	162 (5.6)
Is there an effective treatment available for COVID-19 yet?				
	Yes	623 (42.2)	562 (39.3)	1185 (40.8)
	No	533 (36.1)	544 (38.0)	1077 (37.0)
	I don't know	320 (21.7)	325 (22.7)	645 (22.2)
Is there an effective vaccine available for COVID-19 yet?				
	Yes	898 (60.8)	838 (58.6)	1736 (59.7)
	No	251 (17.0)	250 (17.5)	501 (17.2)
	I don't know	327 (22.2)	343 (24.0)	670 (23.0)
Do you know which group of people with which problems are at most risk for developing severe illness of COVID-19?				
	Hypertension	818 (55.4)	811 (54.9)	1734 (59.6)
	Cardiovascular	811 (54.9)	884 (61.80)	1695 (58.3)
	Liver disease	479 (32.5)	501 (35.0)	980 (33.7)
	Renal disease	364 (24.7)	396 (27.7)	760 (26.1)
	Cancer	402 (27.2)	447 (31.2)	849 (29.2)

	Old age (elderly)	1109 (75.1)	916 (64.0)	2025 (69.7)
	Suppressed immunity	796 (53.9)	587 (41.0)	1383 (47.6)
	Chronic lung disease	355 (24.1)	301(21.0)	656 (22.6)
	Tuberculosis	312 (21.1)	340 (23.8)	652 (22.4)
	Pregnant women	271 (18.4)	403 (28.2)	674 (23.3)
	I don't know	32 (2.2)	32 (2.2)	64 (2.2)

3.2 Attitudes about COVID-19

The attitude related responses of participants are summarized in graph 15-18 (Table 4). As reflected in this table more than half of the participants believe that the risk and threat of COVID-19 disease is very high. Also, nearly half of the participants believe that they have not contracted COVID-19 yet. More than 80% of participants responded that they will go for a lab test for detection of the virus as well as COVID-19 vaccination if it is available. Almost 67% of participants reported that they will not go to meetings, religious activities, big events, other social gathering or any crowded places if a community transmission of COVID-19 exists. The majority of respondents were neutral or disagreed with this idea that there is no COVID-19 virus, and it is just a story devised by profit seeking companies and individuals. But nearly half of the participants believe that COVID-19 is a clear indication of the Almighty Allah's anger on wrong doers or committing sins. Figures 15 to 18 can be seen for more illustration.

Figure 15: Seriousness of COVID-19 by participants, KAP survey

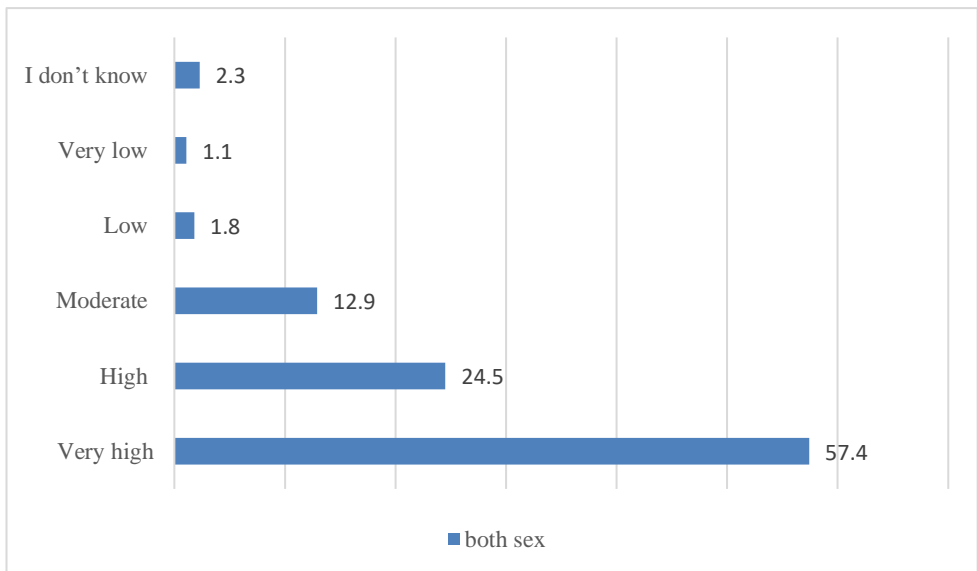
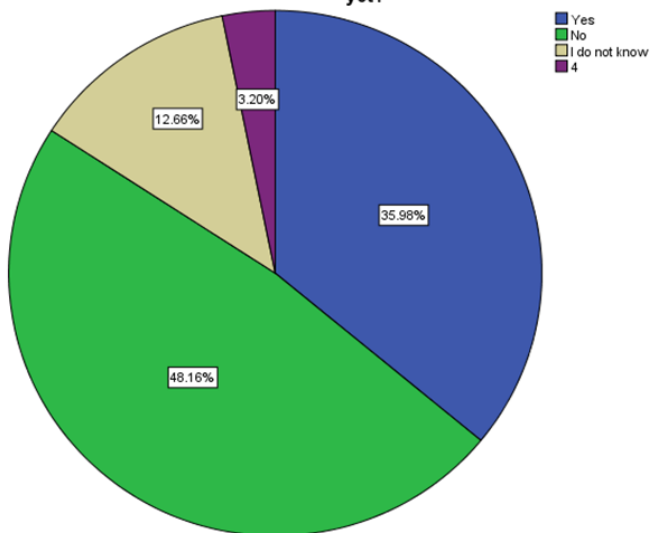


Figure 16: Having COVID-19 with respect to signs and symptoms and doing lab testing by participants, KAP survey

Taking into account the signs and symptoms, have you contracted COVID-19 yet?



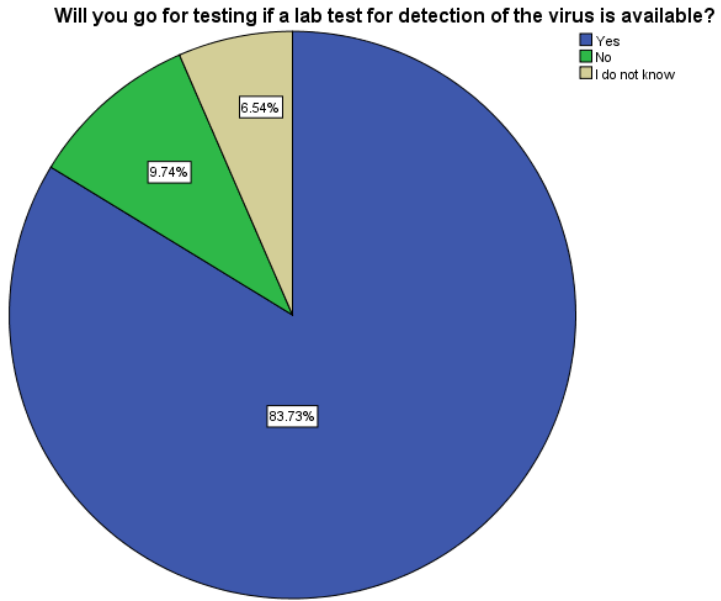
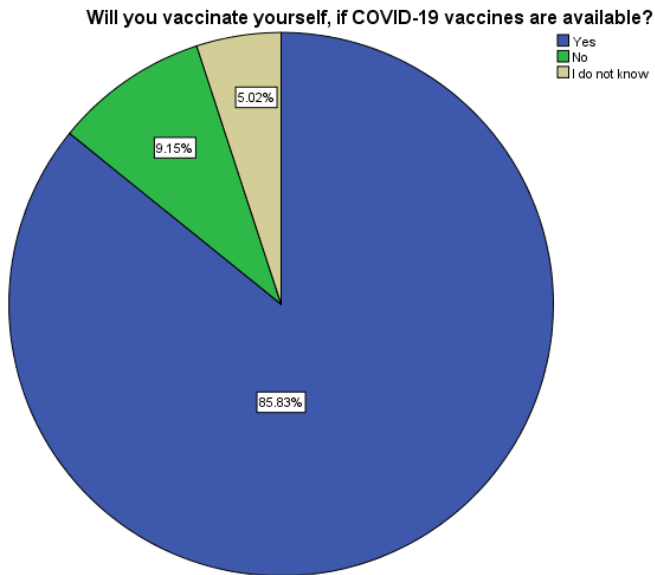


Figure 17: Vaccine acceptance and attending social distancing by participants, KAP survey



Someone says, there is no COVID-19 virus. It is a story devised by profit seeking companies and individuals, what is your opinion?

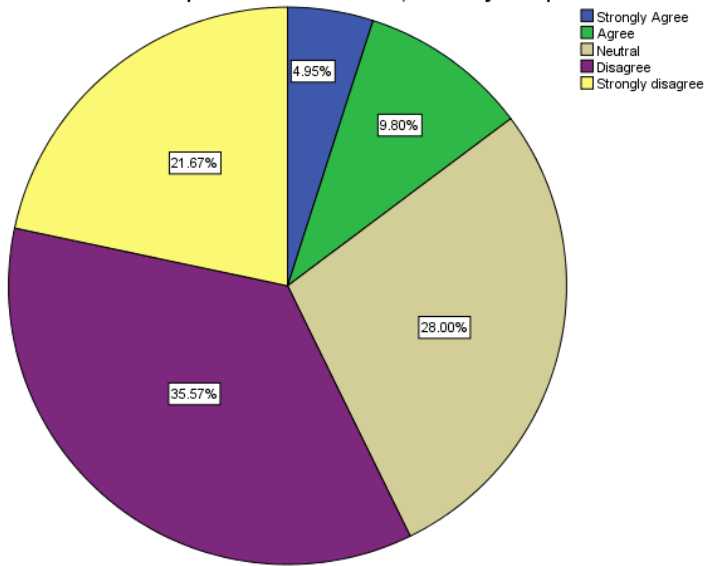
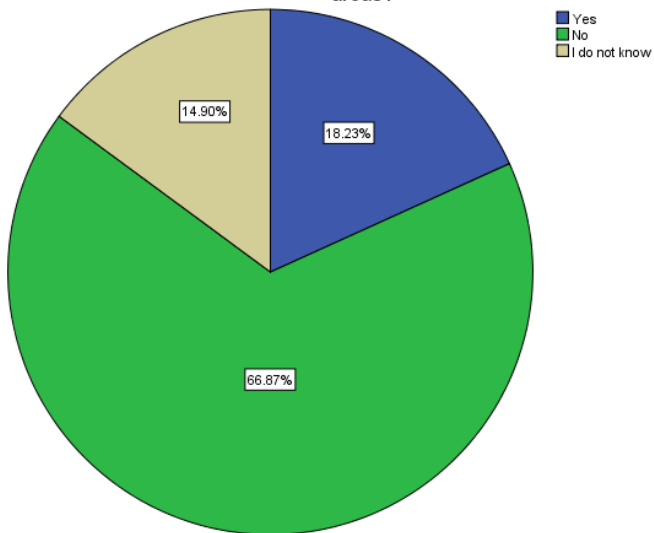


Figure 18: Infodemic by participants, KAP survey

If there is community transmission of COVID-19, will you participate in meetings, religious activities, events, and other social gatherings or any crowded place in areas?



Someone says, the COVID-19 is a clear indication of the Almighty Allah's anger on wrong doers or doing sins, what is your opinion?

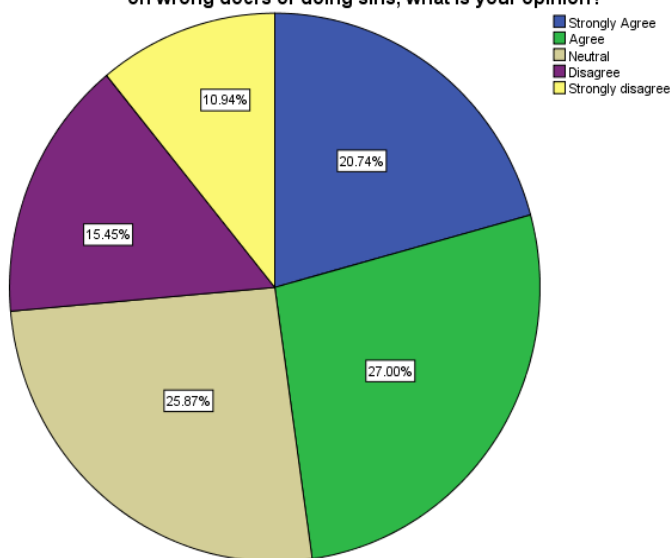


Table 4: Frequency distribution on Attitudes of participants toward COVID-19 disease (N=2907)

Variable	Categories	Male (%)	Female (%)	Total (%)
In your opinion, how serious is the risk and threat of COVID-19?				
	Very high	798 (54.1)	871 (60.9)	1669 (57.4)
	High	380 (25.7)	331 (23.1)	711 (24.5)
	Moderate	212 (14.4)	163 (11.4)	375 (12.9)
	Low	33 (2.2)	20 (1.4)	53 (1.8)
	Very low	23 (1.6)	10 (0.7)	33 (1.1)
	I don't know	30 (2.0)	36 (2.5)	66 (2.3)
Taking into account the signs and symptoms, have you contracted COVID-19 yet? (missing= 93)				
	Yes	533 (36.1)	513 (35.8)	1046 (36.0)
	No	722 (48.9)	678 (47.4)	1400 (48.2)
	I don't know	176 (11.9)	192 (13.4)	368 (12.7)
Will you go for testing if a lab test for detection of the virus is available?				
	Yes	1237 (83.8)	1197 (83.6)	2434 (83.7)
	No	151 (10.2)	132 (9.2)	283 (9.7)
	I don't know	88 (6.0)	102 (7.1)	190 (6.5)

Will you vaccinate yourself, if COVID-19 vaccines are available?				
	Yes	1260(85.4)	1235 (86.3)	2495 (85.8)
	No	145 (9.8)	121 (8.5)	266 (9.2)
	I don't know	71 (4.8)	75 (5.2)	146 (5.0)
If there is community transmission of COVID-19, will you participate in meetings, religious activities, events, and other social gatherings or any crowded place in areas?				
	Yes	314 (21.3)	216 (15.1)	530 (18.2)
	No	938 (63.6)	1006 (70.3)	1944 (66.9)
	I don't know	224 (15.2)	209 (14.6)	433 (14.9)
Someone says, there is no COVID-19 virus, it is a story devised by profit seeking companies and individuals, what is your opinion?				
	Strongly agree	84 (5.7)	60 (4.2)	144 (5.0)
	Agree	165 (11.2)	120 (8.4)	285 (9.8)
	Neutral	360 (24.4)	454 (31.7)	814 (28.0)
	Disagree	546 (37.0)	488 (34.1)	1034 (35.6)
	Strongly disagree	321 (21.7)	309 (21.6)	630 (21.7)
Someone says, the COVID-19 is a clear indication of the Almighty Allah's anger on wrong doers or doing sins, what is your opinion?				
	Strongly agree	377 (25.5)	226 (15.8)	603 (20.7)
	Agree	432 (29.3)	353 (24.7)	785 (27.0)
	Neutral	309 (20.9)	443 (31.0)	752 (25.9)
	Disagree	214 (14.5)	235 (16.4)	449 (15.4)
	Strongly disagree	144 (9.8)	174 (12.2)	318 (10.9)

3.3 Practices about COVID-19

According to the results of this study almost 35% reported always wearing a mask to prevent COVID-19 transmission; more than half of participants always wash their hands, more than 60% of them do not touch their eyes, nose and mouth frequently. The majority kept the physical/social distancing by remaining two meters away from each other's, nearly half of participants

cover their nose and mouth during coughing or sneezing with the elbow or a tissue and then throw the tissue away, and the majority often listen to and follow the directions of their health authorities. The majority of the participants said that they or their family will call a doctor or go to a doctor's office or a hospital if they have been infected or if they have some of the common COVID-19's symptoms (84.6%), but most of the respondents prefer and trust governmental health facilities (60.5%). Meanwhile, in the case of a COVID-19 positive test, more than half of participants will stay home and self-isolate. In addition, nearly 40% of participants said that they will rarely or never participate in communal prayers, funerals, and celebrations such as Eid, or go to friend's houses or to work during the COVID-19 pandemic. For more detail you are referred to graph 27-36 (Table 5 and Figures 19 to 27).

Figure 19: Frequency of wearing masks by participants, KAP survey

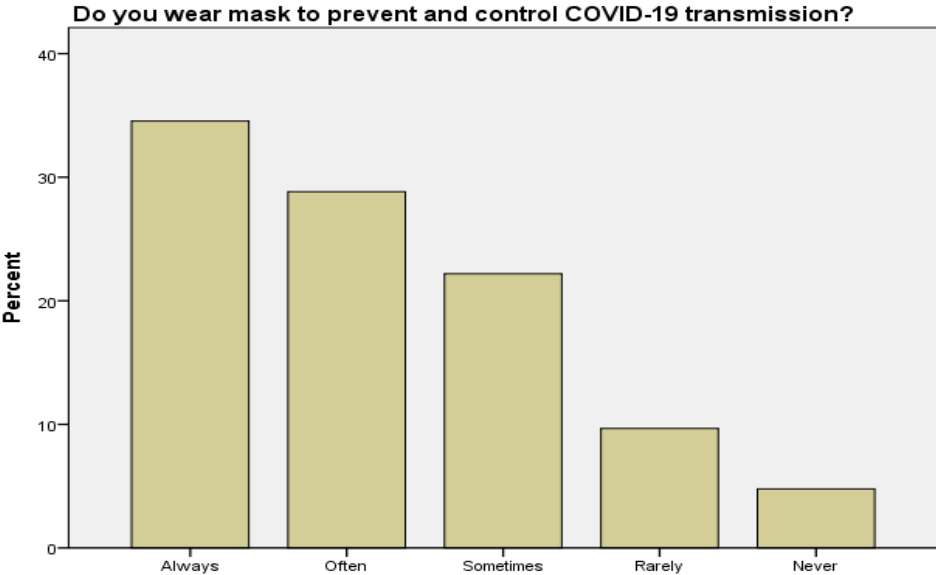


Figure 20: Frequency of hand washing by participants, KAP survey

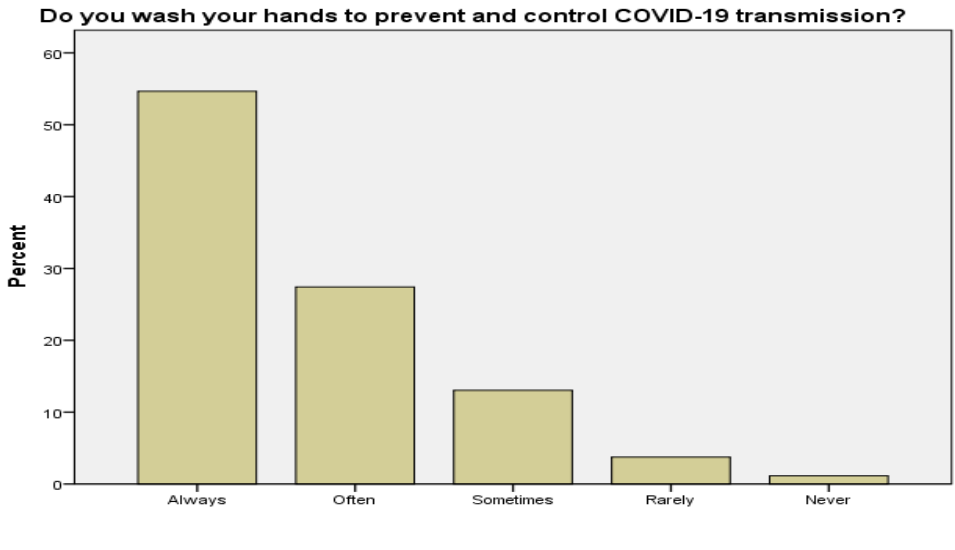


Figure 21: Frequency of habitual touching of eyes, nose and mouth by participants, KAP survey

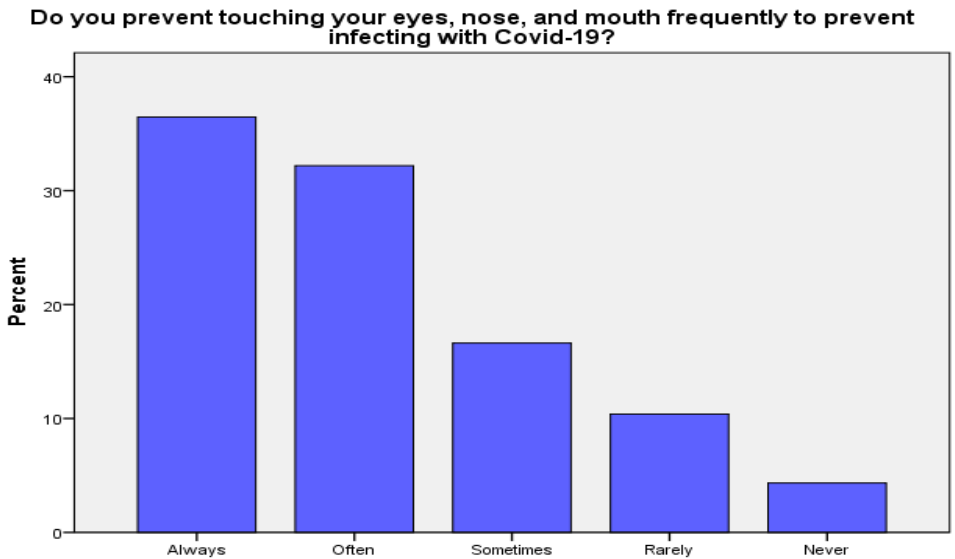


Figure 22: Frequency of keeping physical distancing by participants, KAP survey

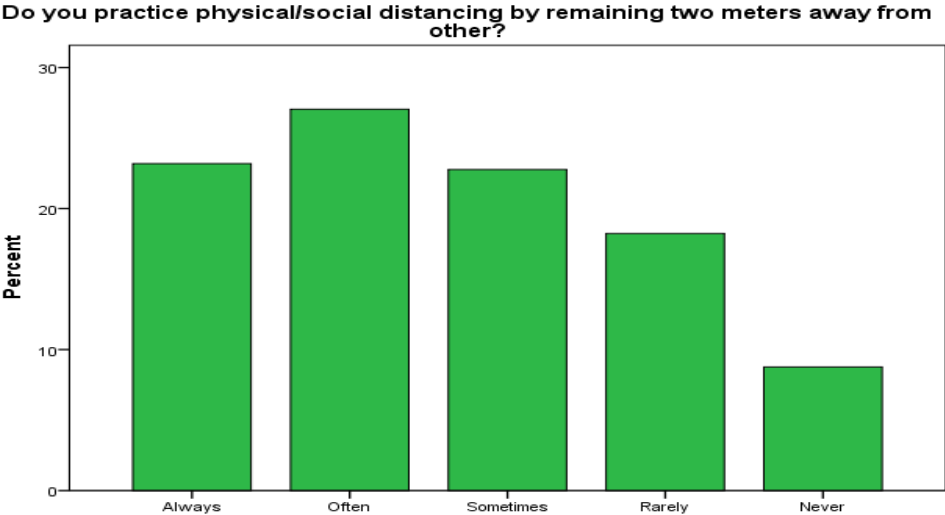


Figure 23: Frequency of covering mouth during coughing and sneezing by participants, KAP survey

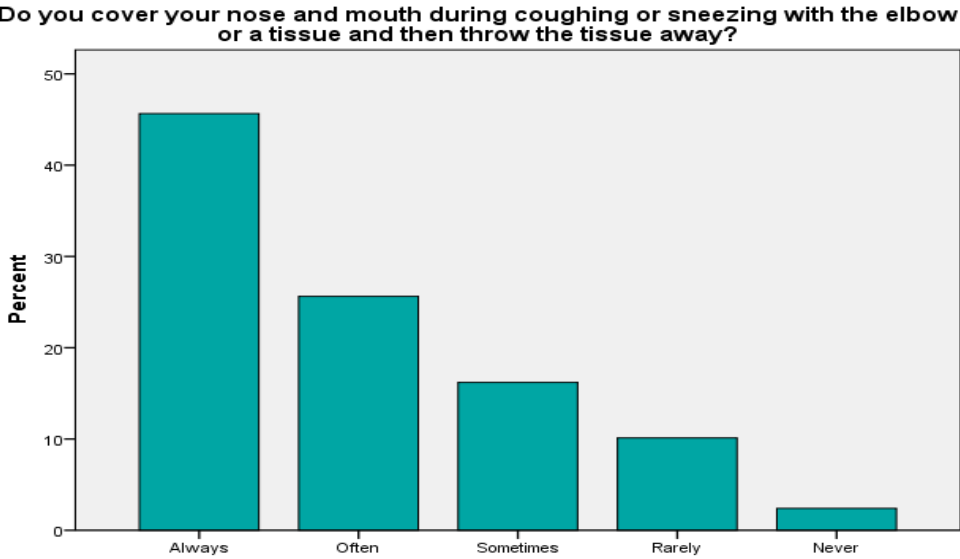


Figure 24: Frequency of listening and following instruction of health authorities by participants, KAP survey

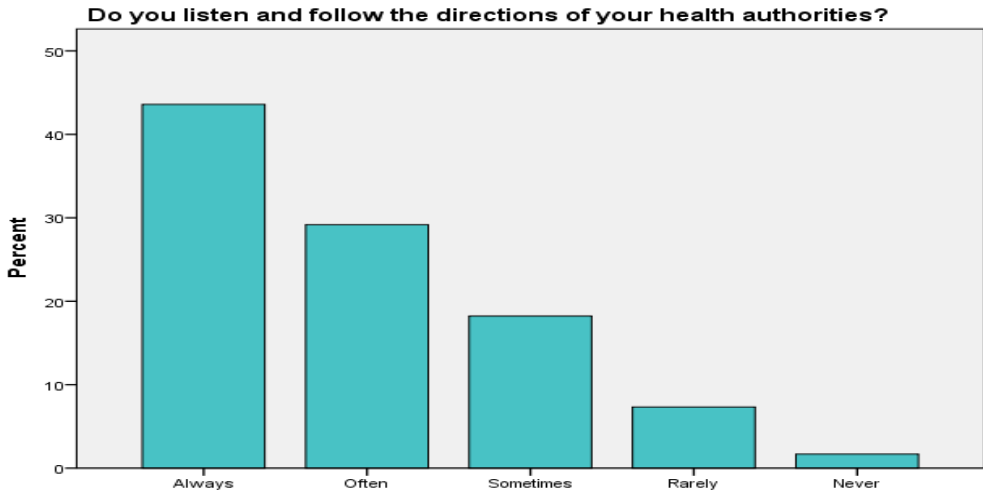


Figure 25: Action taken when family member is infected to COVID-19 by participants, KAP survey

What will you do if you and/or your family have been infected with Covid-19 or would have some of the common symptoms of COVID19 such as dry cough, fever, and shortness of breath?

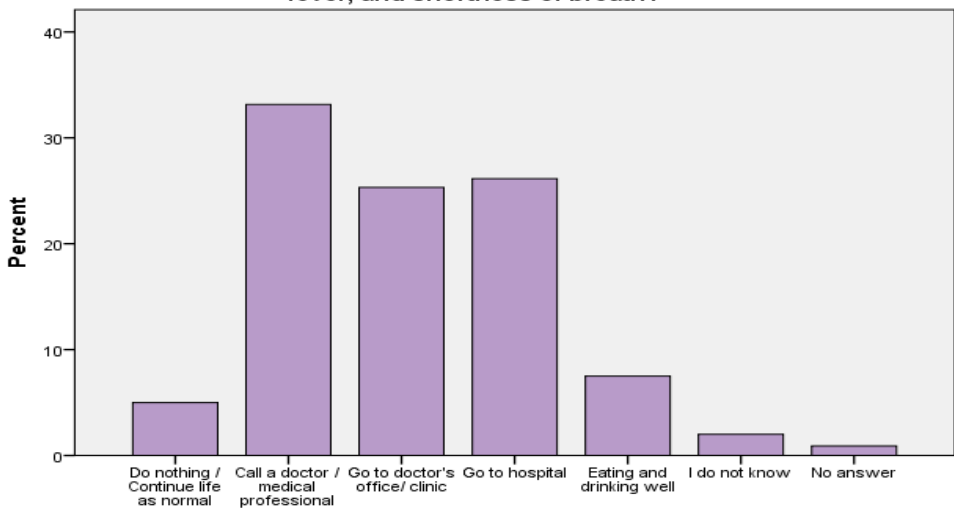


Figure 26: Trustable source of information perceived of by participants a practice when positively infected with COVID-19, KAP survey

Have you participated in communal prayers, funerals including celebrating EID and going to friends and family’s houses and did not stop going to work during Covid-19 pandemic?

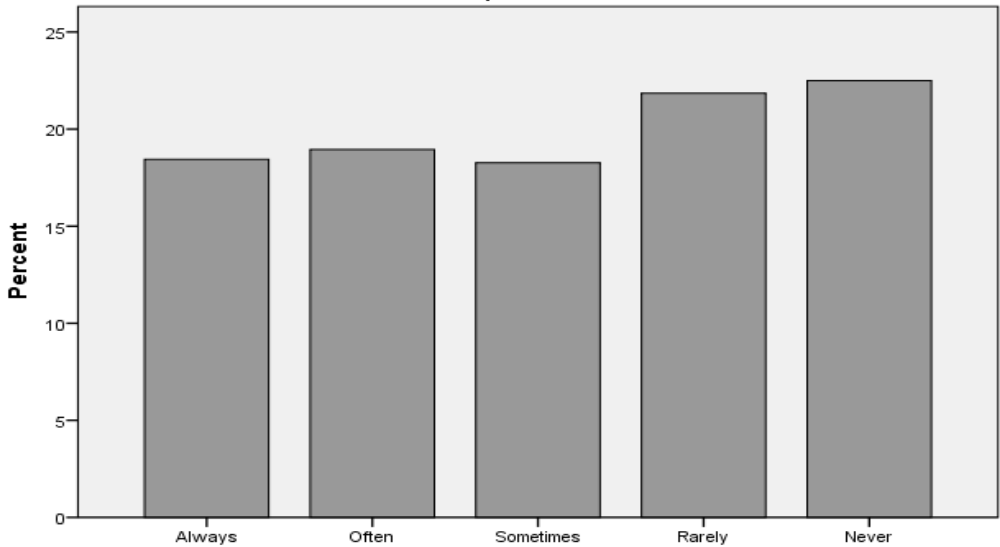


Figure 27: Attending in community activities during pandemic of COVID-19 by participants, KAP survey

Do you stay home and self-isolate when you tested positive or experience common Covid-19 symptoms?

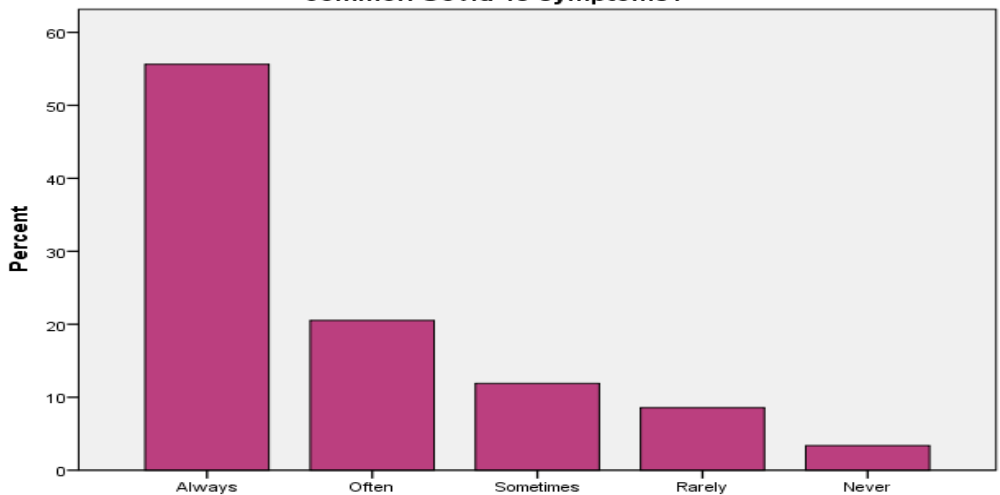


Table 5: Frequency distribution on practices of participants toward COVID-19 disease (N= 2907)

Variable	Categories	Male (%)	Female (%)	Total (%)
Do you wear mask to prevent and control COVID-19 transmission?				
	Always	388 (26.3)	616 (43.0)	1004 (34.5)
	Often	450 (30.5)	388 (27.1)	838 (28.8)
	Sometimes	401 (27.2)	244 (17.1)	645 (22.2)
	Rarely	155 (10.5)	126 (8.8)	281 (9.7)
	Never	82 (5.6)	57 (4.0)	139 (4.8)
Do you wash your hands to prevent and control COVID-19 transmission?				
	Always	656 (44.4)	933 (65.2)	1589 (54.7)
	Often	465 (31.5)	332 (23.2)	797 (27.4)
	Sometimes	260 (17.6)	119 (8.3)	379 (13.0)
	Rarely	74 (5.0)	35 (2.4)	109 (3.7)
	Never	21 (1.4)	12 (0.8)	33 (1.1)
Do you prevent touching your eyes, nose, and mouth frequently to prevent infecting with COVID-19?				
	Always	415 (28.1)	645 (45.1)	1060 (36.5)
	Often	508 (34.4)	428 (29.9)	936 (32.2)
	Sometimes	268 (18.2)	215 (15.0)	483 (16.6)
	Rarely	198 (13.4)	104 (7.3)	302 (10.4)
	Never	87 (5.9)	39 (2.7)	126 (4.3)
Do you practice physical/ social distancing by remaining two meters away from others?				
	Always	256 (17.3)	418 (29.2)	674 (23.2)
	Often	423 (28.7)	363 (25.4)	786 (27.0)
	Sometimes	340 (23.0)	322 (22.5)	662 (22.8)
	Rarely	302 (20.5)	228 (15.9)	530 (18.2)
	Never	155 (10.5)	100 (7.0)	255 (8.8)
Do you cover your nose and mouth during coughing or sneezing with the elbow or a tissue and then throw the tissue away?				
	Always	551 (37.3)	776 (54.2)	1327 (45.6)
	Often	422 (28.6)	323 (22.6)	745 (25.6)
	Sometimes	273 (18.5)	198 (13.8)	471 (16.2)
	Rarely	185 (12.5)	109 (7.6)	294 (10.1)
	Never	45 (3.0)	25 (1.7)	70 (2.4)
Do you listen and follow the directions of your health authorities?				
	Always	569 (38.6)	698 (48.8)	1267 (43.6)
	Often	450 (30.5)	398 (27.8)	848 (29.2)

	Sometimes	300 (20.3)	230 (16.1)	530 (18.2)
	Rarely	119 (8.1)	94 (6.6)	213 (7.3)
	Never	38 (2.6)	11 (0.8)	49 (1.7)
What will you do if you and/or your family have been infected with COVID-19 or would have some of the common symptoms of COVID-19 such as dry cough, fever, and shortness of breath?				
	Do nothing/continue life as normal	63 (4.3)	82 (5.7)	145 (5.0)
	Call a doctor/ medical professional	462 (31.3)	502 (35.1)	964 (33.2)
	Go to doctor's office /clinic	413 (28.0)	323 (22.6)	736 (25.3)
	Go to hospital	408 (27.6)	352 (24.6)	760 (26.1)
	Eating and drinking well	87 (5.9)	131 (9.2)	218 (7.5)
	I don't know	26 (1.8)	32 (2.2)	58 (2.0)
	No answer	17 (1.2)	9 (0.6)	26 (0.9)
What option would you prefer or trust if you and/or your family have been infected with COVID-19 and require medical treatment?				
	Going to governmental health facilities	929 (62.9)	829 (57.9)	1758 (60.5)
	Going to private health facilities	279 (18.9)	292 (20.4)	571 (19.6)
	Going to traditional health providers	76 (5.1)	67 (4.7)	143 (4.9)
	Using traditional treatment at home	192 (13.0)	243 (17.0)	435 (15.0)
Do you stay home and self-isolate when you tested positive or experience common COVID-19 symptoms?				
	Always	792 (53.7)	825 (57.7)	1617 (55.6)
	Often	329 (22.3)	268 (18.7)	597 (20.5)
	Sometimes	196 (13.3)	150 (10.5)	346 (11.9)
	Rarely	107 (7.2)	142 (9.9)	249 (8.6)
	Never	52 (3.5)	46 (3.2)	98 (3.4)
Have you participated in communal prayers, funerals including celebrating Eid and going to friend's houses and did not stop going to work during COVID-19 pandemic?				
	Always	227 (15.4)	309 (21.6)	536 (18.4)
	Often	311 (21.1)	240 (16.8)	551 (19.0)

	Sometimes	340 (23.0)	191 (13.3)	531 (18.3)
	Rarely	288 (19.5)	347 (24.2)	635 (21.8)
	Never	310 (21.0)	344 (24.0)	654 (22.5)

3.4 Socio-economic impact of COVID-19

Nearly 60% of participants indicated that their household had problems satisfying food needs partly during the COVID-19 pandemic. Moreover, the majority (82.5%) stated that they applied for food rations during the lockdown. Most of the participants had to seek financial assistance and loans from their friends, relatives, colleagues and communities (47.9%) during the lockdown. However, the majority also could afford to buy masks, disinfectants and medicine when they were prescribed during COVID-19 pandemic. Almost 44% of participants stated that they lost part of their source of income in the mentioned period. This study shows that 45.3% of participant’s families have students who faced problems in following their education during the pandemic period; the majority also believed that the COVID-19 pandemic caused an increase in the level of violence at family and/or in the community. (Figure 28 to 34) (Table 6).

Figure 28: Need for food during pandemic of COVID-19 by participants, KAP survey

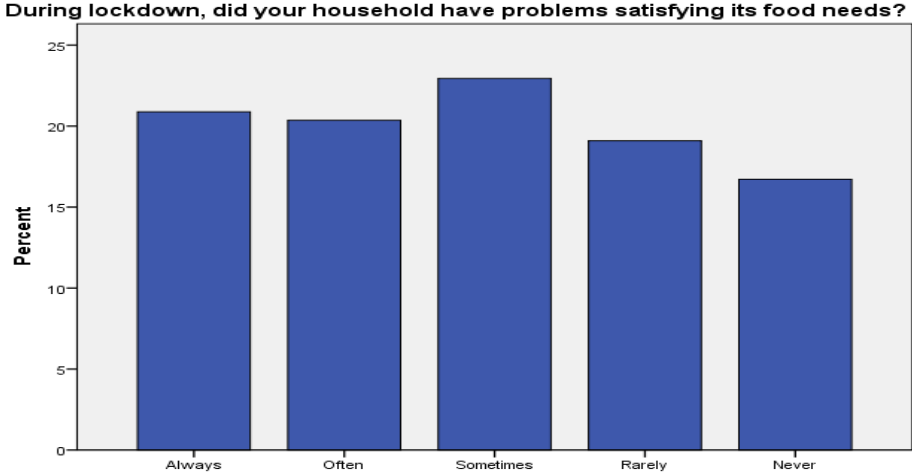


Figure 29: Receipt of food ration during pandemic of COVID-19 by participants, KAP survey

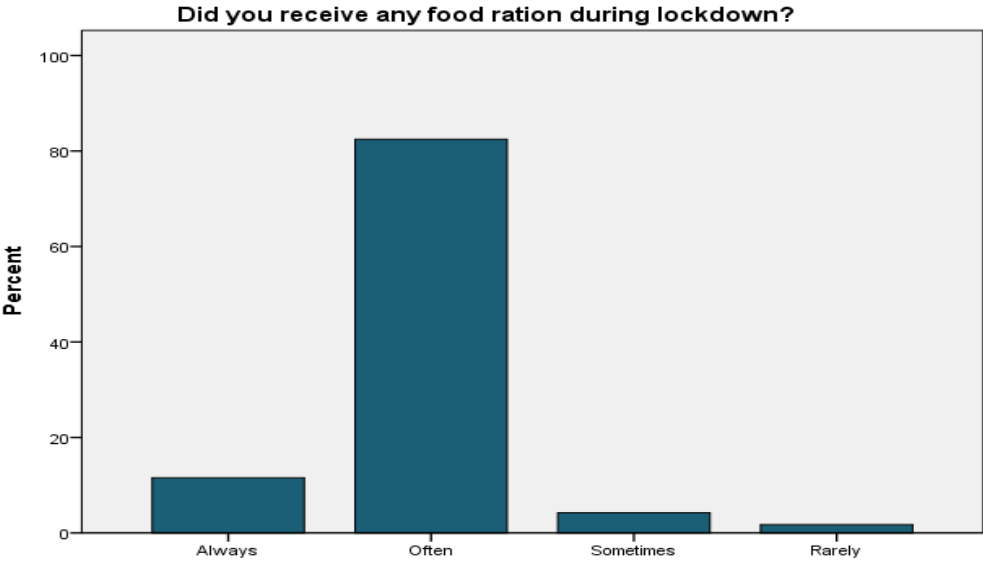


Figure 30: Receipt financial assistance during pandemic of COVID-19 by participants, KAP survey

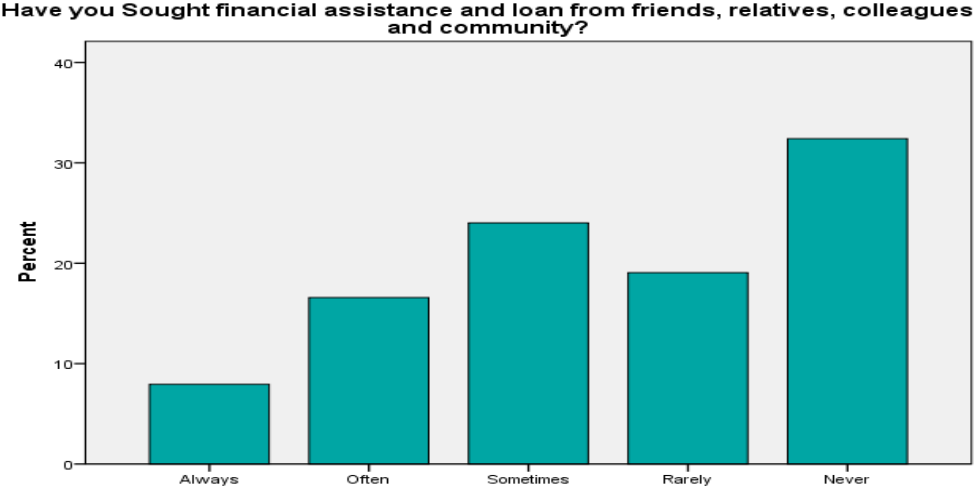


Figure 31: Level of affordability for purchasing masks and disinfectant during pandemic of COVID-19 by participants, KAP survey

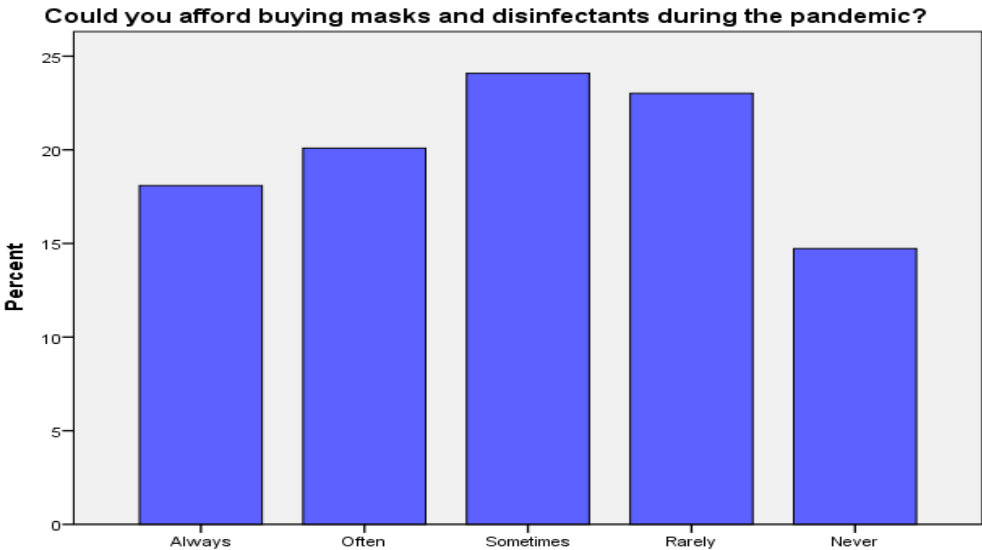


Figure 32: Loosing source of income during pandemic of COVID-19 by participants, KAP survey

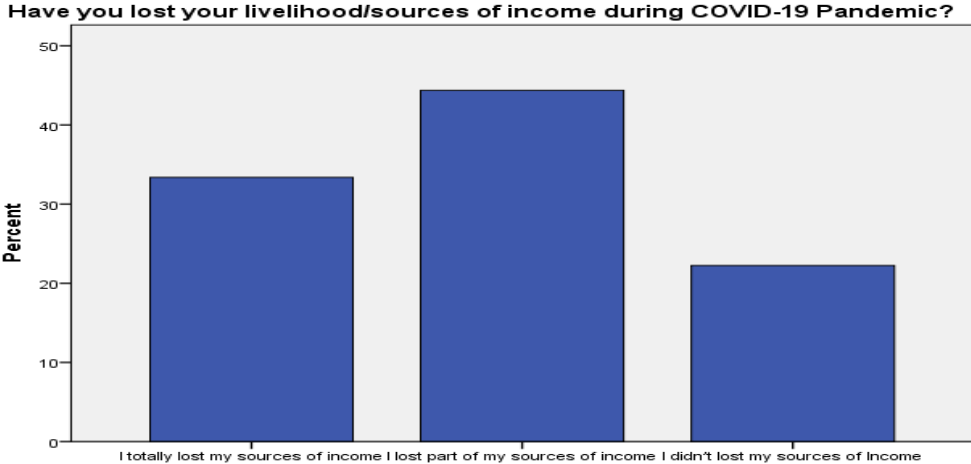


Figure 33: Facing problem for following education during pandemic of COVID-19 by participants, KAP survey

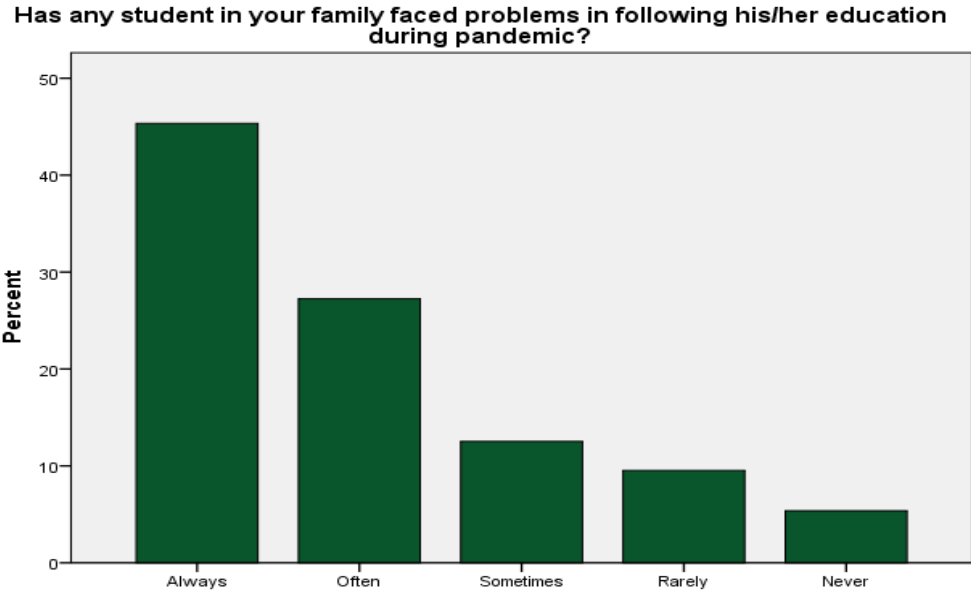


Figure 34: Level of family violence during pandemic of COVID-19 by participants, KAP survey

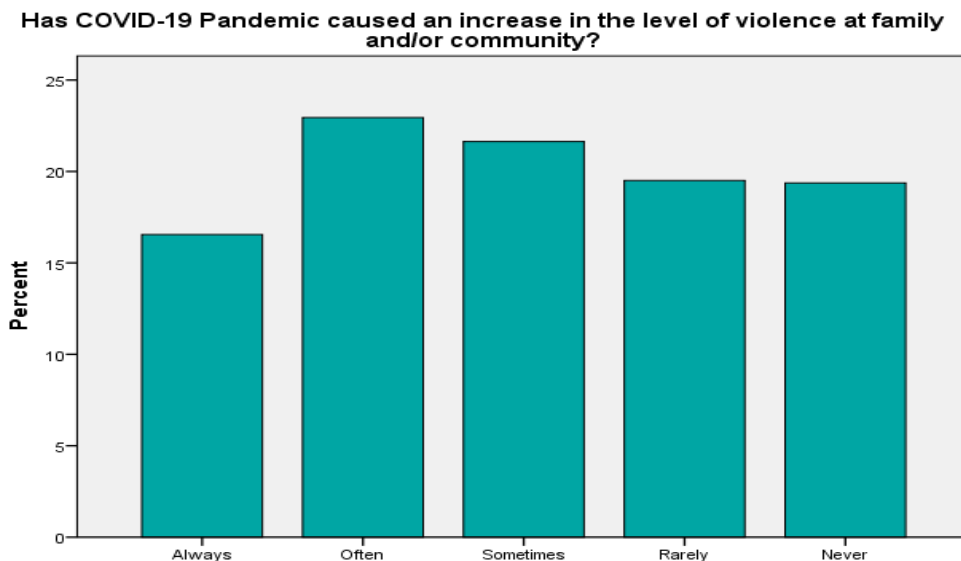


Table 6: frequency distribution on Socio-economic Impact of COVID-19 pandemic (N= 2907)

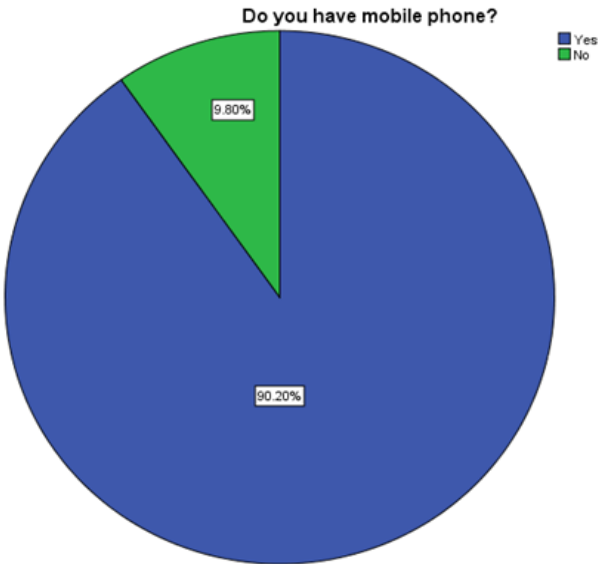
Variable	Categories	Male (%)	Female (%)	Total (%)
During lockdown, did your household have problems satisfying its food needs?				
	Always	250 (16.9)	357 (24.9)	607 (20.9)
	Often	324 (22.0)	268 (18.7)	592 (20.4)
	Sometimes	364 (24.7)	303 (21.2)	667 (22.9)
	Rarely	267 (18.1)	288 (20.1)	555 (19.1)
	Never	271 (18.4)	215 (15.0)	486 (16.7)
Did you receive any food ration during lockdown?				
	Always	144 (9.8)	192 (13.4)	336 (11.6)
	Often	1248 (84.6)	1149 (80.3)	2397 (82.5)
	Sometimes	59 (4.0)	64 (4.5)	123 (4.2)
	Rarely	25 (1.7)	26 (1.8)	51 (1.8)
Have you sought financial assistance and loan from friends, relatives, colleagues and community?				
	Always	71 (4.8)	160 (11.2)	231 (7.9)

	Often	248 (16.8)	234 (16.4)	428 (16.6)
	Sometimes	375 (25.4)	323 (22.6)	698 (24.0)
	Rarely	282 (19.1)	272 (19.0)	554 (19.1)
	Never	500 (33.9)	442 (30.9)	942 (32.4)
Could you afford buying mask and disinfections during the pandemic?				
	Always	247 (16.7)	279 (19.5)	526 (18.1)
	Often	293 (19.9)	291 (20.3)	584 (20.1)
	Sometimes	399 (27.0)	301 (21.0)	700 (24.1)
	Rarely	318 (21.5)	351 (24.5)	669 (23.0)
	Never	219 (14.8)	209 (14.6)	428 (14.7)
Could you afford buying medicine when you were prescribed during COVID-19 pandemic?				
	Always	212 (14.4)	228 (15.9)	440 (15.1)
	Often	249 (16.9)	305 (21.3)	554 (19.1)
	Sometimes	360 (24.4)	319 (22.3)	679 (23.4)
	Rarely	381 (25.8)	364 (25.4)	745 (25.6)
	Never	274 (18.6)	215 (15.0)	489 (16.8)
Have you lost your livelihood/ sources of income during COVID-19 pandemic? (missing= 1086)				
	I totally lost my sources of income	417 (35.0)	191 (30.4)	608 (33.4)
	I lost part of my sources of income	548 (45.9)	260 (41.4)	808 (44.4)
	I didn't lost my sources of income	228 (19.1)	177 (28.2)	405 (22.2)
Has any student in your family faced problems in following his/ her education during pandemic?				
	Always	579 (39.2)	739 (51.6)	1318 (45.3)
	Often	486 (32.9)	306 (21.4)	792 (27.2)
	Sometimes	197 (13.3)	167 (11.7)	364 (12.5)
	Rarely	122 (8.3)	155 (10.8)	277 (9.5)
	Never	92 (6.2)	64 (4.5)	156 (5.4)
Has COVID-19 pandemic caused an increase in the level of violence at family and/or community?				
	Always	177 (12.0)	304 (21.2)	481 (16.5)
	Often	324 (22.0)	343 (24.0)	667 (22.9)
	Sometimes	352 (23.8)	277 (19.4)	629 (21.6)
	Rarely	300 (20.3)	267 (18.7)	567 (19.5)
	Never	323 (21.9)	240 (16.8)	563 (19.4)

3.5 Source of information about COVID-19

Figures 35 to 40 indicate the frequency distribution of the source of information of respondents about the COVID-19 pandemic. It reflects that 90.2% of participants have a mobile and more than half of them have access to internet sometimes. The majority of the respondents also have radio and television in their home (60.0% and 82.9% respectively) and listen to the radio and watch TV often. The participants heard about COVID-19 mainly through television (67.8%); social media (42.3%); radio (35.1%); and health facility staff (32.7%). However, they mostly trust television (62.6%) and health facility staff (48.1%). (Table 7)

Figure 35: Access to mobile phone and internet during pandemic of COVID-19 by participants, KAP survey



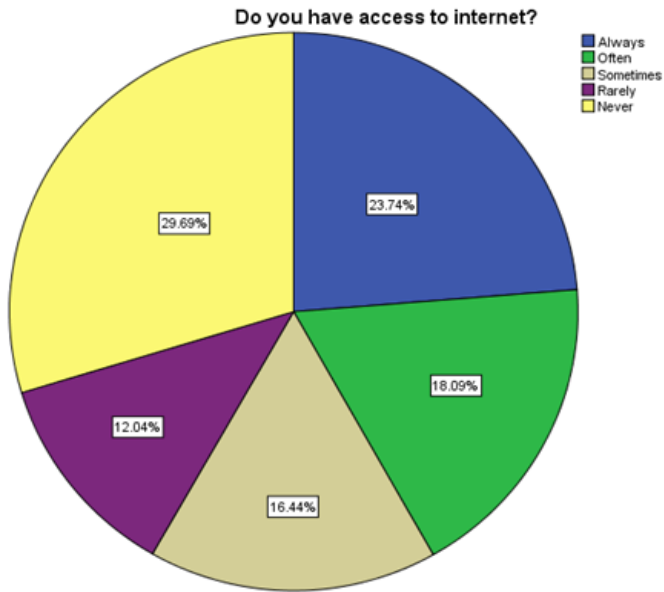
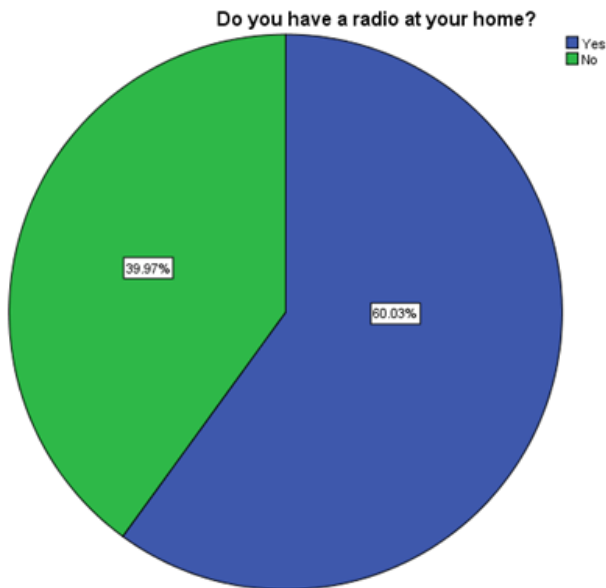


Figure 36: Access to radio and television during pandemic of COVID-19 by participants, KAP survey



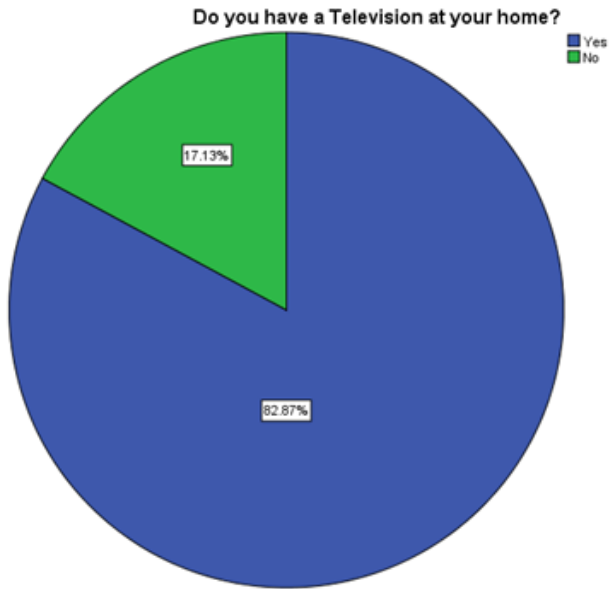
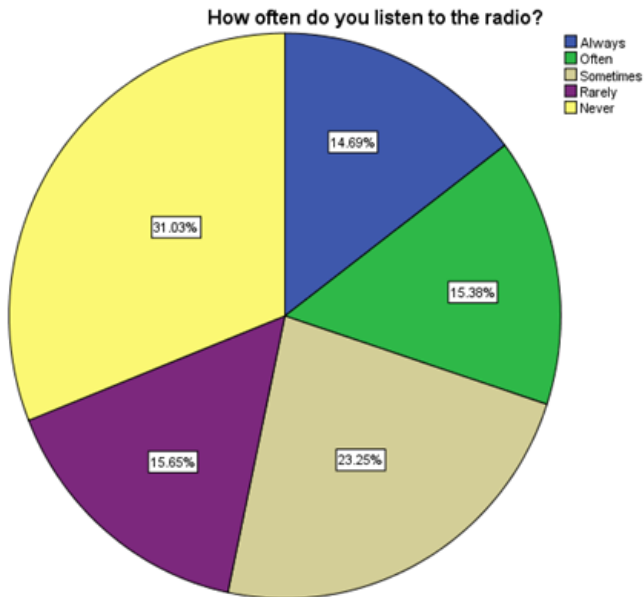


Figure 37: proportion of time listening to radio and watching TV during pandemic of COVID-19 by participants, KAP survey



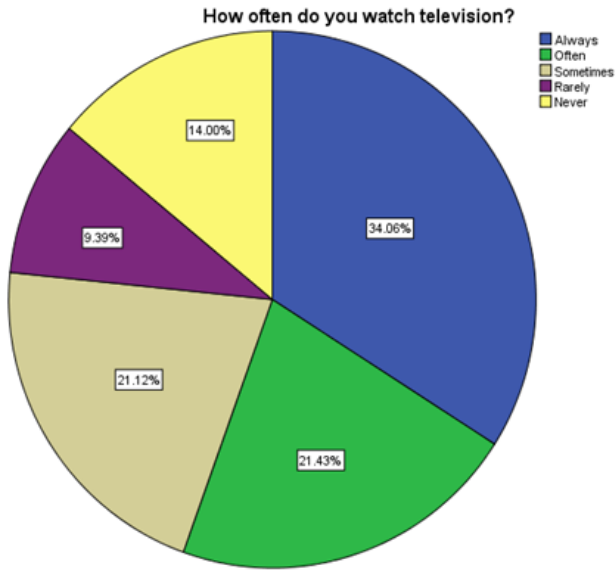


Figure 38: Use of social media during pandemic of COVID-19 by participants, KAP survey

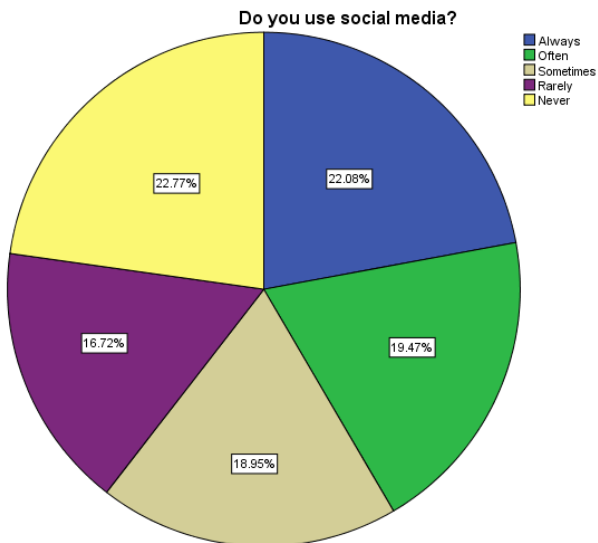


Figure 39: Source of information of COVID-19 by participants, KAP survey

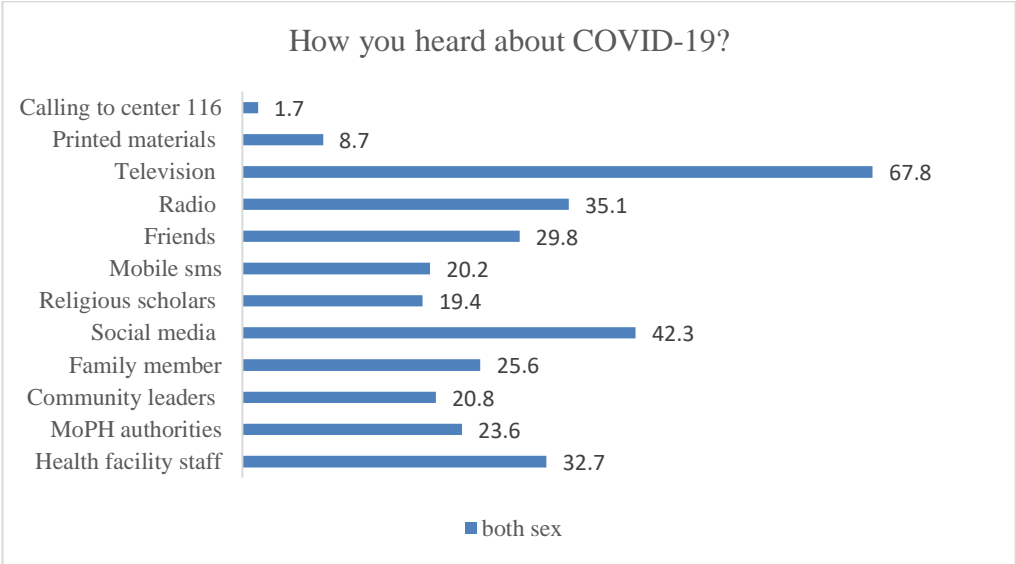


Figure 40: Preferred source of information during pandemic of COVID-19 by participants, KAP survey

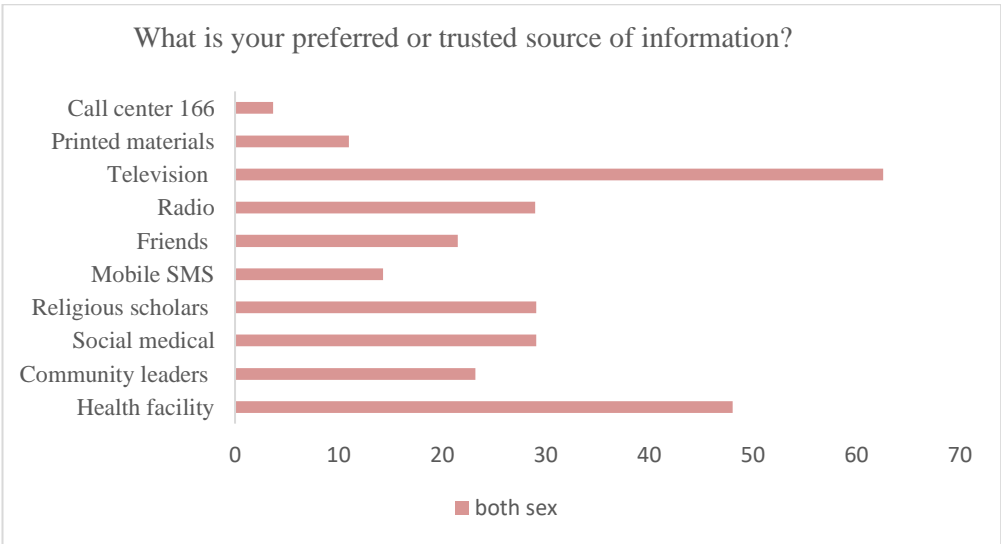


Table 7: Frequency distribution of source of information about COVID-19 (N= 2907)

Variable	Categories	Male (%)	Female (%)	Total (%)
Do you have mobile:				
	Yes	1406 (95.3)	1216 (85.0)	2622 (90.2)
	No	70 (4.7)	215 (15.0)	285 (9.8)
Do you have access to internet?				
	Always	370 (25.1)	320 (22.4)	690 (23.7)
	Often	305 (20.7)	221 (15.4)	526 (18.1)
	Sometimes	281 (19.0)	197 (13.8)	478 (16.4)
	Rarely	174 (11.8)	176 (12.3)	350 (12.0)
	Never	346 (23.4)	517 (36.1)	863 (29.7)
Do you have radio at your home?				
	Yes	942 (63.8)	803 (56.1)	1745 (60.0)
	No	534 (36.2)	628 (43.9)	1162 (40.0)
Do you have a television at your home?				
	Yes	1183 (80.1)	1226 (85.7)	2409 (82.9)
	No	293 (19.9)	205 (14.3)	498 (17.1)
How often do you listen to the radio?				
	Always	202 (13.7)	225 (15.7)	427 (14.7)
	Often	250 (16.9)	197 (13.8)	447 (15.4)
	Sometimes	394 (26.7)	282 (19.7)	676 (23.3)
	Rarely	237 (16.1)	218 (15.2)	455 (15.7)
	Never	393 (26.6)	509 (35.6)	902 (31.0)
How often do you watch television?				
	Always	471 (31.9)	519 (36.3)	990 (34.1)
	Often	309 (20.9)	314 (21.9)	623 (21.4)
	Sometimes	325 (22.0)	289 (20.2)	614 (21.1)

	Rarely	148 (10.0)	125 (8.7)	273 (9.4)
	Never	223 (15.1)	184 (12.9)	407 (14.0)
Do you use social media?				
	Always	323 (21.9)	319 (22.3)	642 (22.1)
	Often	299 (20.3)	267 (18.7)	566 (19.5)
	Sometimes	333 (22.6)	218 (15.2)	551 (19.0)
	Rarely	210 (14.2)	276 (19.3)	486 (16.7)
	Never	311 (21.1)	351 (24.5)	662 (22.8)
How you heard about COVID-19?				
	Health facility staff	480 (32.5)	470 (32.8)	950 (32.7)
	MoPH authorities	362 (24.5)	324 (22.6)	686 (23.6)
	Community leaders	329 (22.3)	275 (19.2)	604 (20.8)
	Family member	312 (21.1)	433 (30.3)	745 (25.6)
	Social media	703 (47.6)	526 (36.8)	1229 (42.3)
	Religious scholars	333 (22.6)	231 (16.1)	564 (19.4)
	Mobile sms	338 (22.9)	250 (17.5)	588 (20.2)
	Friends	460 (31.2)	407 (28.4)	867 (29.8)
	Radio	600 (40.7)	420 (29.4)	1020 (35.1)
	Television	997 (67.5)	973 (68.0)	1970 (67.8)
	Printed materials	134 (9.1)	118 (8.2)	252 (8.7)
	Calling to center 116	24 (1.6)	26 (1.8)	50 (1.7)
What is your preferred or trusted source of information?				
	Health facility	686 (46.5)	713 (49.8)	1399 (48.1)
	Community leaders	344 (23.3)	331 (23.1)	675 (23.2)
	Social medical	401 (27.2)	301 (21.0)	845 (29.1)
	Religious scholars	524 (35.5)	321 (22.4)	845 (29.1)
	Mobile SMS	232 (24.1)	185 (12.9)	417 (14.3)

	Friends	355 (24.1)	269 (18.8)	624 (21.5)
	Radio	483 (32.7)	359 (25.1)	842 (29.0)
	Television	905 (61.3)	914 (63.9)	1819 (62.6)
	Printed materials	198 (13.4)	122 (8.5)	320 (11.0)
	Call center 166	55 (3.7)	54 (3.8)	109 (3.7)

3.6 Satisfaction of government’s performance in response to COVID-19

Nearly half of participants believed that the government was successful in applying lockdown measures and in awareness rising (56.8% and 69.8%) during the COVID-19 pandemic in Afghanistan. Analysis showed that 44.2% of respondents believed that the government was/is successful in providing isolation centers in the mentioned period. However, most of them were not satisfied in terms of the provision of treatment services (49.7%), referral/ambulance services (50.2%), death management services (51.3%), or the provision of food and essential needs to poor families by the government (67.8%) during the pandemic, respectively. (Figures 41-46) (Table 8).

Figure 41: Government success of applying lockdown during pandemic of COVID-19 by participants, KAP survey

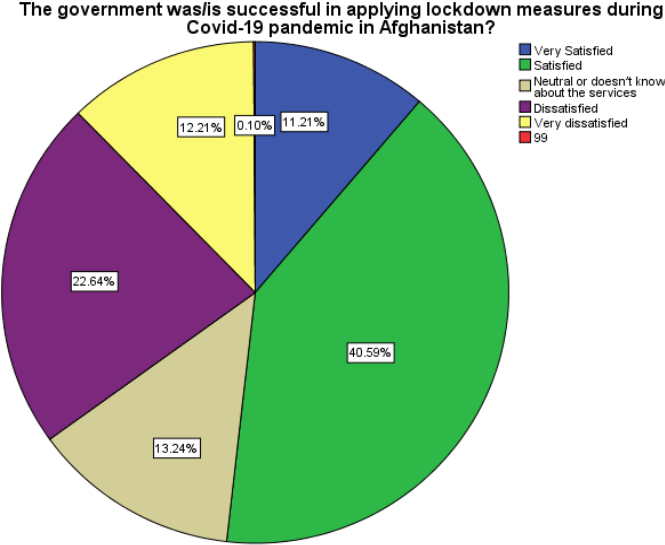


Figure 42: Government success in making awareness during pandemic of COVID-19 by participants, KAP survey

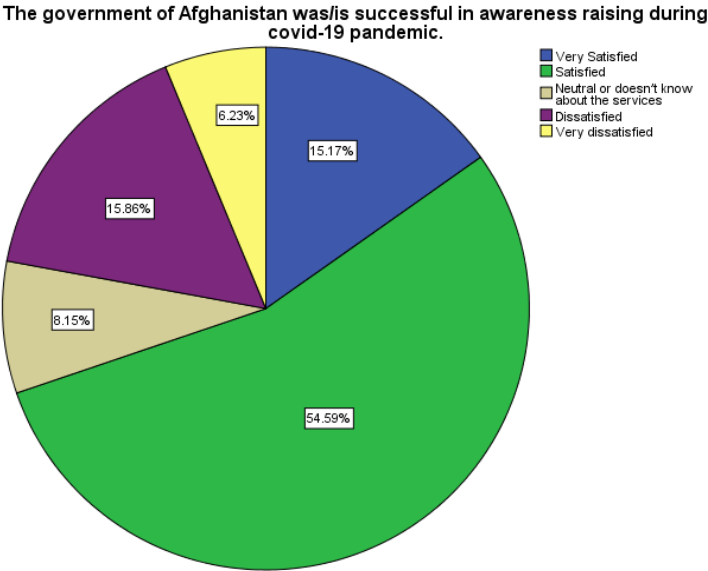


Figure 43: Government success in providing treatment facilities during pandemic of COVID-19 by participants, KAP survey

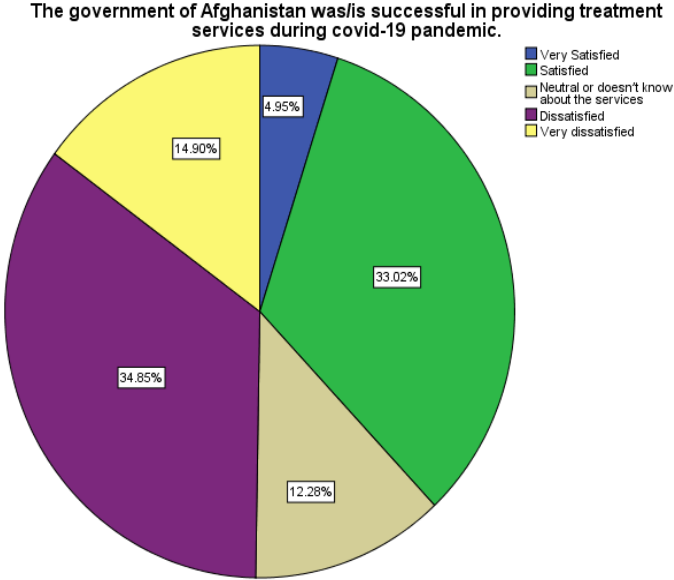


Figure 44: Government success in provision of ambulances for referral during pandemic of COVID-19 by participants, KAP survey

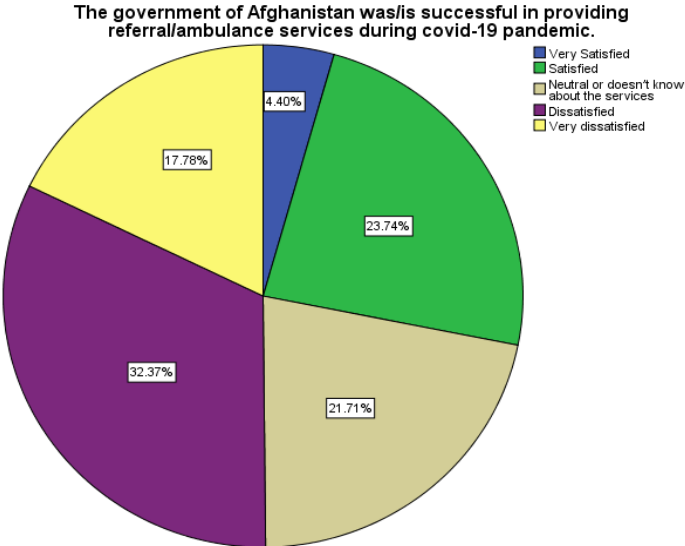


Figure 45: Government success in managing death bodies during pandemic of COVID-19 by participants, KAP survey

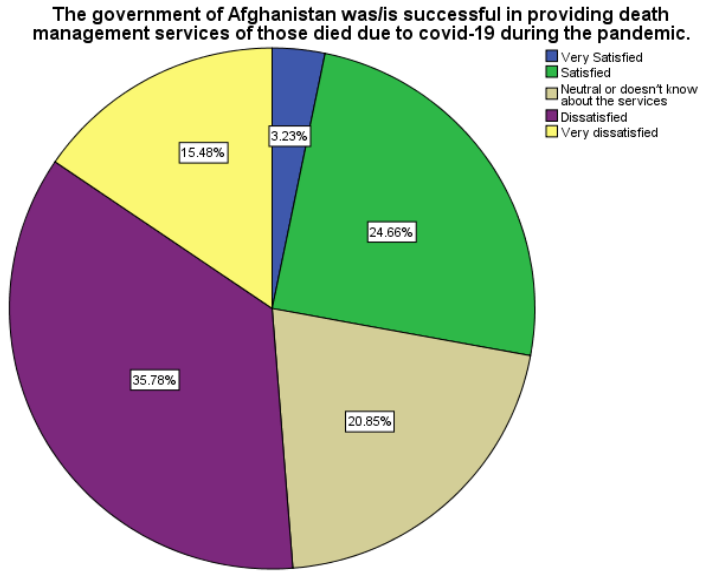


Figure 46: Government success of foods and essential needs during pandemic of COVID-19 by participants, KAP survey

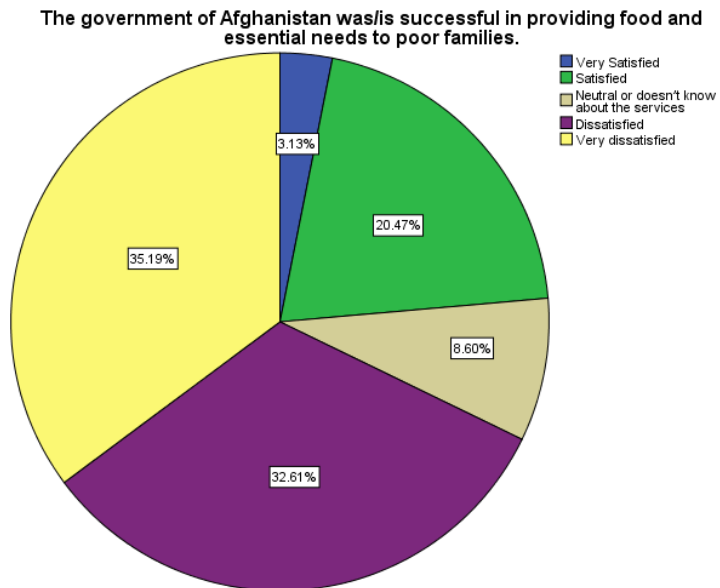


Table 8: level of satisfaction from government by participants related to COVID-19 control and prevention (N= 2907)

Variable	Categories	Male (%)	Female (%)	Total (%)
The government was/is successful in applying lockdown measures during COVID-19 pandemic in Afghanistan? (missing=3)				
	Very satisfied	148 (10.0)	178 (12.4)	326 (11.2)
	Satisfied	564 (38.2)	616 (43.0)	1180 (40.6)
	Neutral or doesn't know about the services	180 (12.2)	205 (14.3)	385 (13.2)
	Dissatisfied	359 (24.3)	299 (20.9)	658 (22.6)
	Very dissatisfied	223 (15.1)	132 (9.2)	355 (12.2)
The government of Afghanistan was/is successful in awareness raising during COVID-19 pandemic?				
	Very satisfied	225 (15.2)	216 (15.1)	441 (15.2)
	Satisfied	797 (54.0)	790 (55.2)	1587 (54.6)
	Neutral or doesn't know about the services	95 (6.4)	142 (9.9)	237 (8.2)
	Dissatisfied	245 (16.6)	216 (15.1)	461 (15.9)
	Very dissatisfied	114 (7.7)	67 (4.7)	181 (6.2)
The government of Afghanistan was/is successful in providing isolation centers during COVID-19 pandemic?				
	Very satisfied	137 (9.3)	105 (7.3)	242 (8.3)
	Satisfied	530 (35.9)	515 (36.0)	1045 (35.9)
	Neutral or doesn't know about the services	209 (14.2)	299 (20.9)	508 (17.5)
	Dissatisfied	436 (29.5)	374 (26.1)	810 (27.9)
	Very dissatisfied	164 (11.1)	138 (9.6)	302 (10.4)
The government of Afghanistan was/is successful in providing treatment services during COVID-19 pandemic?				
	Very satisfied	73 (4.9)	71 (5.0)	144 (5.0)
	Satisfied	482 (32.7)	478 (33.4)	960 (33.0)
	Neutral or doesn't know about the services	126 (8.5)	231 (16.1)	357 (12.3)
	Dissatisfied	542 (36.7)	471 (32.9)	1013 (34.8)
	Very dissatisfied	253 (17.1)	180 (12.6)	433 (14.9)
The government of Afghanistan was/is successful in providing referral / ambulance services during COVID-19 pandemic?				
	Very satisfied	81 (5.5)	47 (3.3)	128 (4.4)
	Satisfied	376 (25.5)	314 (21.9)	690 (23.7)

	Neutral or doesn't know about the services	214 (14.5)	417 (29.1)	631 (21.7)
	Dissatisfied	528 (35.8)	413 (28.9)	941 (32.4)
	Very dissatisfied	277 (18.8)	240 (16.8)	517 (17.8)
The government of Afghanistan was/is successful in providing death management services of those died due to COVID-19 during the pandemic?				
	Very satisfied	55 (3.7)	39 (2.7)	94 (3.2)
	Satisfied	370 (25.1)	347 (24.2)	717 (24.7)
	Neutral or doesn't know about the services	244 (16.5)	362 (25.3)	606 (20.8)
	Dissatisfied	577 (39.1)	463 (32.4)	1040 (35.8)
	Very dissatisfied	230 (15.6)	220 (15.4)	450 (15.5)
The government of Afghanistan was/is successful in providing food and essential needs to poor families?				
	Very satisfied	46 (3.1)	45 (3.1)	91 (3.1)
	Satisfied	304 (20.6)	291 (20.3)	595 (20.5)
	Neutral or doesn't know about the services	92 (6.2)	158 (11.0)	250 (8.6)
	Dissatisfied	467 (31.6)	481 (33.6)	948 (32.6)
	Very dissatisfied	567 (38.4)	456 (31.9)	1023 (35.2)

RECOMMENDATIONS

Like other KAP surveys, this study was conducted to find the level of knowledge, attitudes and practices towards COVID-19, as well as the gaps and behavioral patterns among various subgroups in Afghan society. If these variables are correctly identified, effective public health interventions can be designed and implemented to improve the situation (16). This study was conducted almost one year after the detection and prevalence of the COVID-19 pandemic in Afghanistan; that is why the findings of this study reflected that the study participants had sufficient knowledge about COVID-19 all over the country. In addition, they knew adequately the modes of transmission of the virus through the respiratory droplets of infected people. The majority of respondents are literate with higher education which is certainly an important input for better knowledge and appropriate practices.

Furthermore, the respondents were able to correctly identify the signs and symptoms of the disease. This high level of knowledge about COVID-19 and its preventive measures shows that the campaigns and communications conducted by the government have worked. Participants were aware about preventive measures such as personal hygiene, hand washing, using a mask, cough hygiene and social distancing. These findings are supported by other studies (17-18) and one year of experience could be the reason for this high level of knowledge on various aspects of the disease in the community. The level of knowledge certainly directly affects the behavior of respondents, however it is not easy to claim that a certain level of knowledge is sufficient enough to cause positive changes. However, it should be noted that the

impact of knowledge on health behaviors has been investigated in various studies (19-21). It is strictly manifested that informed decision is based on level of knowledge with respect to the issue we want to be changed. Furthermore, the findings of our study showed there is a small proportion of respondents who believe the misconceptions which is affected by the “Infodemic”. WHO says “an infodemic is an overabundance of information, both online and offline. It includes deliberate attempts to disseminate wrong information to undermine the public health response and advance alternative agendas of groups or individuals. Mis- and disinformation can be harmful to people’s physical and mental health; increase stigmatization; threaten precious health gains; and lead to poor observance of public health measures, thus reducing their effectiveness and endangering countries’ ability to stop the pandemic” (22).

Therefore, provision of accurate and precise information is needed to neutralize misguided information and myths. Such misinformation, like any other issue area, are often spread through the internet, particularly social media. The Infodemic has been a big challenge during the COVID-19 pandemic (22-24). In addition, more than half of the participants were aware that a vaccine is available while less than half reported that COVID-19 could be treated. This is an important finding because during the implementation of this study the vaccine was widely available and still effective treatment is not available for the disease. These are important points that should be focused on in health education and promotion interventions.

In addition, the majority of respondents believed that COVID-19 is a viral disease with some believing it could be Almighty Allah's anger on wrong doers or committers of sins. A similar expression was given by 60% of Muslim communities in Nigeria where it was perceived that the pandemic is due to God's punishment (25). This is an important point to be focused on by the government as well as religious leaders to discuss and develop interventions for betterment. Levels of knowledge about the source of infection, modes of transmission and ways of prevention are important findings in this study. Another important finding is the level of social distancing by respondents and listening to messages from health authorities. However, there is a big gap between having knowledge and the actual attitudes and practices of the community. Meaning that appropriate knowledge did not always influence good attitude or practice. For instance, only one third of respondents reported wearing mask when needed and half of them wash their hands frequently. Two third are not touching their mouth, nose and eyes. These are the areas for more focus in future sessions for risk communication.

The pandemic last year had a negative impact on socioeconomic status of communities around the world including Afghanistan. Almost two third were negatively affected during mobility restriction last year limiting their ability to earn and provide food. The coping mechanisms such as applications of rations, and seeking financial assistance and loans during lockdown were implemented by households. Almost half of participants stated that they had lost part of their source of income during the lockdown period. Furthermore, the prices of all goods and services were rising during

restrictions/lockdowns, for sure it has affected the price of mask, sanitary material and disinfectants. Such impact of pandemic has been recorded in other studies as well (26-27). The increased level of violence at home and the disturbance to the education of children are important points that should be focused on while implementing such measures. As the majority had access to mobile, radio, TV and sometimes to internet facilities, the main sources of information were mostly radio and TV followed by social media and healthcare workers. However, the most trusted channels of information were television and healthcare staff. Therefore, the most high-ranking channels such as TV, radio and healthcare workers should be utilized for risk communication messages and community engagement. The government's level of success in response to this pandemic was assessed as satisfactory by half of respondents. The main reasons for failure of the health system were identified as poor treatment services, referral/ambulance services, death management services, or inadequate provision of food and essential needs to poor families. These are the main lessons to be learned for future waves of this pandemic as well as future emergencies.

The study findings provide some useful insight about the KAP of communities in Afghanistan, which could assist policy makers in public health to design and implement interventions based on the information gaps reported. This study had few limitations which needs to be expressed. First, the sample size is not sufficient enough to prove estimates at the provincial level. Second, like all other studies, it was difficult to include and take into account all related factors with respect to knowledge, attitudes and

practices. In addition, there are factors to be studied which affect the knowledge and attitude and lead to proper behaviors. Third, the study has been implemented in urban settings and the rural area with less access to key source of information are missing. Therefore, the results would not be generalizable to the whole population as the urban settings have a better socioeconomic status and have more access to information and facilities. Taking into account the findings of this study, the following recommendation are given:

- Using the available information on knowledge, attitudes and practices at the national level will assist all stakeholders to establish and/or revise their risk communication strategies to fight against COVID-19 effectively and efficiently.
- The government and public health authorities should establish and implement appropriate policies and interventions which are tailored to the level of knowledge and understanding of communities.
- Public health officials should further enhance the knowledge of communities while taking into account the contextual factors which adversely affect the transfer of knowledge to behavior change.
- Information about modes of transmission of the virus should be communicated clearly targeting all misconceptions and rumors. The survivors from COVID-19 and fully vaccinated individuals with high-risk behaviors should be encouraged to share their experiences as a point for mobilizations.

- More attention should be paid to groups with low levels of COVID-19 knowledge, because they are less likely to be compliant in observing preventive measures.
- Despite having good knowledge and attitudes, the health authorities should focus more on awareness campaigns at the community level. There are a wide range of channels to be used such as face-to-face health education, posters, billboards, social channels, radio and TV advertisements to fill these practice gaps and improve the situation.
- There is a need for more relevant communication, and engagement of communities by local and religious leaders in the promotion of adherence to preventive measures. Religious leaders should be enlightened about various aspects of the pandemic and its negative impacts, because their advice and recommendation are sufficiently working in a sensitive and religious communities like Afghanistan.
- Information and health education (IEC) programs and behavior change communication interventions (BCC) with respect to COVID-19 are important to maintain appropriate knowledge and improve positive practices by targeting people with low knowledge and education levels.
- A good level of coordination should be made between various parties involved in fighting the COVID-19 pandemic in Afghanistan, especially those who target poor people and provide them with financial and in-kind assistance. Different international and national donors, provincial governments, provincial public health directorates and the Ministry of Public Health should be the main members of this coordination.

- As the findings of this study shows, the urban population has achieved a good level of knowledge regarding COVID-19 pandemic, so it is necessary for the government, especially the Ministry of Public Health, to promote the knowledge of rural communities and focus on changing attitudes and practices of communities at both rural and urban settings.
- As the majority proportion of Afghanistan's population is below the age of 18, and can be the source of transmission for the COVID-19 virus, it is recommended that another KAP survey be conducted among the 7-18 year old age group population (especially school students) to measure their knowledge, attitude and practices toward the COVID-19 pandemic.

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