NORTHWEST SYRIA: COVID-19 Knowledge, Attitudes and Practices (KAP) Survey

APRIL 2020

CONTEXT

Syria reported its first case of COVID-19 on 22 March 2020, and as of 13 May had 47 cases and 3 fatalities.[1] Due to limited testing capacities in-country[2] however, it is possible the actual number of cases is higher than reported. An outbreak in overcrowded camps, sites, and communities would be disastrous in a humanitarian context already characterized by mass displacement, economic volatility, and a health system weakened from years of conflict.

Rapid assessments have shown that preventive measures were put in place in both northwest and northeast Syria as early as March. The Humanitarian Needs Assessment Programme (HNAP) reported community lockdowns, curfews, closing of non-essential businesses, and awareness campaigns in many sub-districts across Syria,[3] and REACH assessments reported increased hand-washing and social distancing behaviors.[4] In northwest Syria, border crossings between Turkey and Syria have since been closed or restricted to medical emergencies and humanitarian necessity.[5] Preparatory measures have focused on prevention, as a shortage of personal protective equipment, ventilators, and isolation units will make treatment difficult in the case of an outbreak.[5]

Little is known about how preventive measures are impacting the knowledge, attitudes, and practices (KAP) of the Syrian population. In March 2020, UNHCR did a rapid assessment of KAP in camps and informal settlements in northeast Syria and found that most respondents had some knowledge of preventive measures and symptoms of the virus, and the source of information tended to be community health workers. Respondents were concerned about the lack of preventive resources and information, and about half of respondents reported having moderate to severe stress or feelings of helplessness towards COVID-19.[6] More information on KAP is needed in other settings in Syria to better understand the effects of preventive measures and design appropriate risk communication campaigns.

Based on this information gap, REACH developed a KAP survey with relevant humanitarian clusters and working groups to assess knowledge, attitudes, and practices of Syrians in northwest Syria. This factsheet presents the findings from this survey.

METHODOLOGY

REACH conducted a KAP survey in two governorates of northwest Syria (Aleppo and Idleb) from 16-23 April 2020. Restrictions on movement imposed to prevent the spread of COVID-19 precluded the preferred methodology of area-based, random sampling. As random digit dialing was also unfeasible, a non-probability, purposive sampling approach was used.

Governorates were selected based on REACH field team capacity. Enumerators were then instructed to identify respondents through their own networks and from references of other respondents (snowballing), aiming to include respondents from a wide range of ages, socioeconomic backgrounds, and living situations. Loose quotas for male and female respondents were provided to guide enumerators (300 of each gender). A total of 943 individual interviews were collected in northwest Syria (Aleppo: 390 interviews; Idleb: 553 interviews). In the analysis phase, the sample was calibrated against an existing household survey to increase its representativeness. More information about the particulars of this calibration can be found in the appendix at the end of this factsheet.

Enumerators contacted respondents and potential respondents by phone. The survey consisted of two sections: 1) questions about the knowledge, attitudes, and practices of respondents, and 2) an experimental section of vignettes. Vignettes are very short, hypothetical scenarios which were presented to respondents to gauge their responses to various COVID-19 situations. Each respondent was randomly assigned to answer one scenario each for two different types of vignettes.

Results are presented here in two forms. The KAP section of the survey is presented as weighted, descriptive statistics. Because the vignettes section of the survey was a randomized experiment, these results are presented as a series of regressions and average marginal effects. A more detailed explanation of the analysis methodology can be found in the Annex C at the end of this factsheet.

This KAP survey is the first in a series of three KAP surveys which will be administered monthly in northwest and northeast Syria. Results will be compared across data collection cycles to show change over time, and will be presented in future publications.

KEY FINDINGS

- Most respondents knew that elderly populations are the most likely to contract COVID-19, but did not know that adults are more likely than children to become seriously ill from the virus.
- Most respondents could correctly identify modes of COVID-19 transmission and symptoms, but a little over half (52%) did not know that COVID-19 carriers can be asymptomatic.
- Over half of respondents were taking measures to reduce their chance of contracting COVID-19, including social distancing measures and hygiene measures. Men and urban populations (as opposed to women and rural populations) more frequently reported that they were still leaving their houses, attending social gatherings, and touching others.
- The most commonly reported barriers to preventive action among respondents were inability to stop working because of the need to earn money (55%), and lack of hygiene items (61%). Men and rural populations more frequently reported they needed to keep working to earn money, whereas women more frequently reported a lack of hygiene items.
- Less than half of respondents were somewhat or very worried that they (41%) or someone in their family (39%) would get COVID-19.
- Fifty-three percent (53%) of respondents thought COVID-19 would generate discrimination against specific groups of people, particularly those with or suspected of having the virus.
- Young males are more likely to visit family and friends in the next week than any other gender/age group. An individual was less likely to leave their house to visit family/friends in the next week if the number of COVID-19 cases in their area was higher or if they felt they might be catching a cold. The number of confirmed cases in an area was the strongest deterrent to an individual leaving their house.

LIMITATIONS

Due to the methodology used, findings are not statistically representative and should only be considered as indicative of the situation in assessed areas. The rapidly evolving context in the assessed areas, especially with regards to the COVID-19 situation, also means that findings are only indicative of the situation at the time the data was collected (16 to 23 April 2020).

Sample Demographics

The distribution of respondents between genders was roughly equal with 49% male and 51% female participants. The same was true of the distribution between IDPs and host community members where the proportion was 48% and 52%, respectively and between rural and urban areas (with 49% and 51% respectively). For the purposes of this assessment, communities were designated as rural if their population size did not exceed 20,000 individuals.

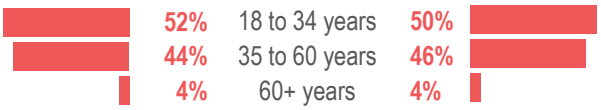
The average household size reported by survey participants was 5.7 with an average of 1.4 working household members. Most of the respondents (87%) lived in communities as opposed to camps (13%). The vast majority of interviewed individuals reported living in undamaged apartments or houses (82%). Of these, 50% of participants reported living in an owned house, while 29% reported they were renting.

49% Male

Proportion of survey respondents by gender

51% Female

Proportion of survey respondents by age and gender:



Proportion of survey respondents by marital status:

Proportion of survey respondents by IDP or host community status:

48% IDPs

52% Host community members

Proportion of survey respondents by rural and urban communities:

49% Rural

51% Urban

Proportion of survey respondents by chronic disease status:

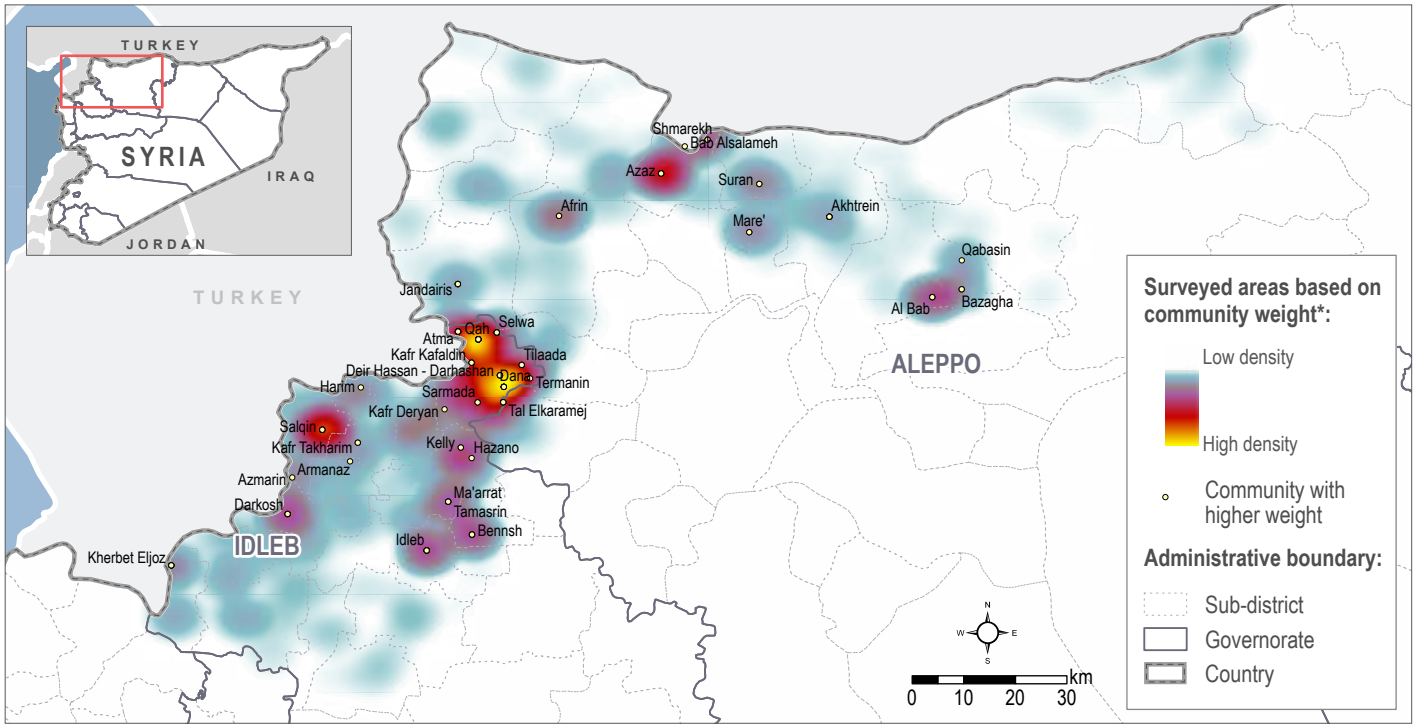
17% Respondents with chronic disease

83% Respondents without chronic disease

Proportion of survey respondents by type of shelter:

1	Undamaged apartment or house	82%
2	Tents in an IDP camp	13%
3	Unfinished or abandoned residential building	4%
4	Other	2%

COVERAGE AREA

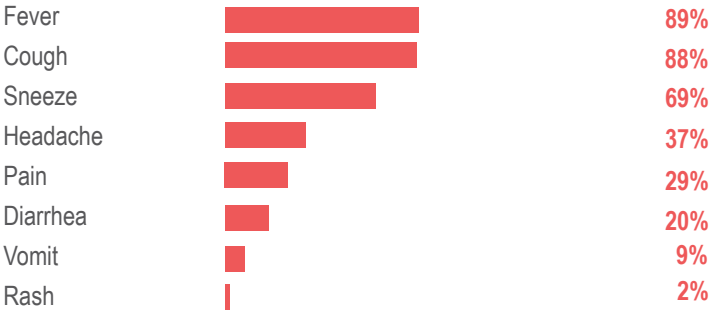


* This heat map displays the relative density of surveys, using a color scheme ranging from cool (low density) to hot (high density). For this heat map, a weight generated from a generalized regression estimator was applied, and densities represent the weighted survey population. Applying a weight means that survey responses were adjusted to match the proportions of a pre-existing, representative dataset so that the survey more accurately represents the population of interest.

With respect to the most commonly reported sources of information about COVID-19, few differences were seen across genders and between rural and urban areas, with some exceptions. Social media was reported more commonly among men (90%) than women (80%). Similarly, word of mouth was reported more often in urban areas and by women (both 67%) than in rural areas and by men (both 60%). Health workers conducting door to door campaigns were reported more often among urban (23%) than rural population (15%) while health workers working in a healthcare facility were reported more frequently by men (33%) than women (26%).

The graph displaying most common sources of information also includes the most trusted sources of information. When assessing how much these categories overlap for particular respondents, it was found that among those who reported word of mouth as their common source of information, 33% stated that it is also their most trusted source. Social media and radio and television were reported to be the most trusted source by 52% and 46% of respondents who reported these to be their common source of information respectively. Respondents from rural areas were more likely to name social media as a trusted source (50%) than those living in urban areas (41%). Religious leaders were cited as the least common information source (4%) as well as the least trusted source (1%). However, 78% of those who reported door-to-door health workers as an information source also reported that these workers were one of their most trusted information sources. A similar effect was seen among health workers at health facilities, which were highly trusted among those people who reported these health workers as an information source (93%).

Symptoms most commonly reported by respondents as related to COVID-19:[7]



Most survey participants reported that they thought it was possible to take preventive measures in relation to COVID-19. The preventive measure most frequently reported as a way to decrease the chance of getting COVID-19 was reducing contact with others (79%), followed by washing hands (73%) and wearing a mask (67%). The least common measure mentioned was prayer (21%). All types of preventive measures were in general reported more frequently in urban areas.

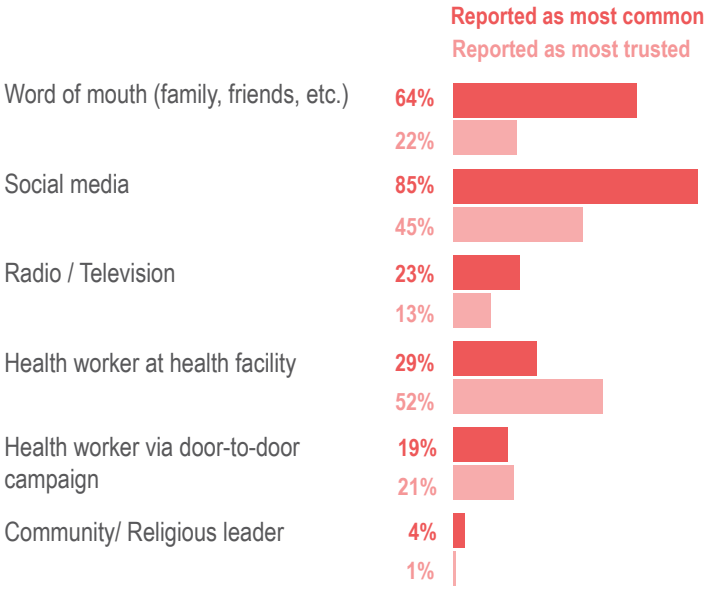
With respect to groups that are at increased risk of contracting COVID-19, the only population group selected by more than half of respondents was the elderly (72%). It is noteworthy that children, who are generally believed to be more resistant to COVID-19 than adults, were selected as an at-risk group by 16% of respondents, whereas adults were selected as an at-risk group by 12% of respondents.[8]

91% Urban areas

Percentage of individuals who believe that it is possible to take measures to reduce risk of contracting COVID-19

86% Rural areas

Information sources on COVID-19:[7]



48% Urban areas

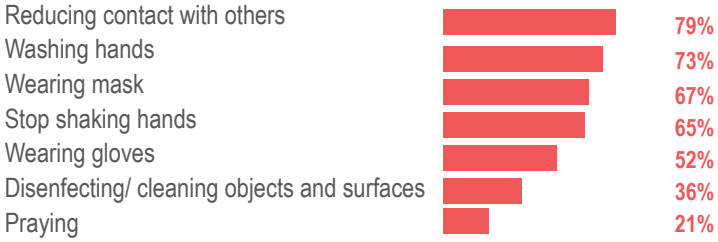
Percentage of individuals who believe that all people with COVID-19 show symptoms

56% Rural areas

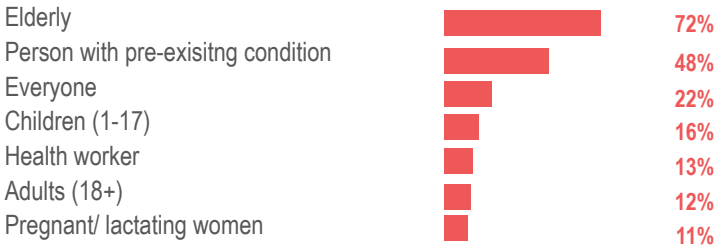
Fifty-two percent (52%) of respondents reported incorrectly that everyone who gets COVID-19 shows symptoms.[8] This belief was more commonly held by women (56%) than by men (48%).

With respect to knowledge of symptoms, few marked differences existed between men and women or between rural and urban areas. Most respondents were able to correctly identify fever (89%) and cough (88%) as COVID-19 symptoms. The less common symptoms of muscle pain and headache were identified by 29% and 37% of respondents, respectively. Sneezing, which is a symptom of seasonal flu but not COVID-19 was the third most common reported symptom (69% of respondents).[8]

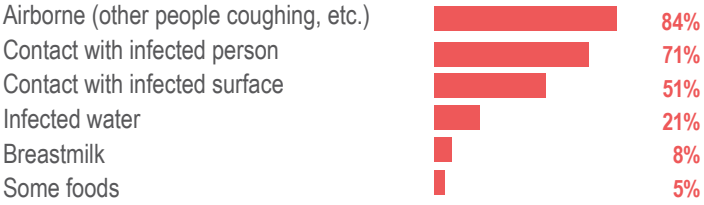
Proportion of respondents reporting the following possible prevention measures to reduce the risk of contracting COVID-19:[7]



Proportion of respondents reporting the following groups as most at risk from getting seriously ill from COVID-19:[7]



Proportion of respondents reporting the following methods of contracting COVID-19:[7]

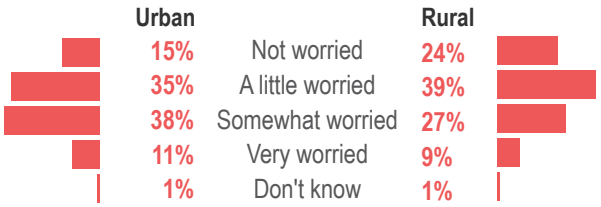


The survey participants demonstrated a relatively good knowledge of how COVID-19 is transmitted. However, only 51% of respondents rightly identified contact with infected surfaces as a possible way of contracting COVID-19. Less than one-third of respondents selected from other incorrect options such as infected water, breastmilk, or some foods.[8]

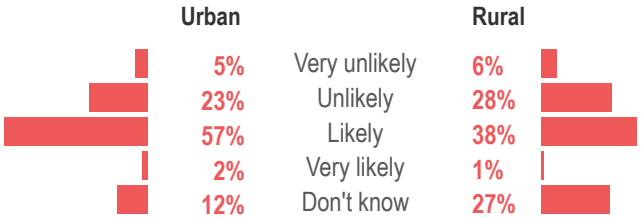
COVID-19 Attitudes

The level of concern with regards to COVID-19 was generally consistent between genders but with respect to residents of urban and rural areas it was the latter who reported concerns less frequently. Overall, 59% of survey participants reported they were not worried or a little worried for themselves or their families, while 41% and 39% of individuals reported they were somewhat worried or very worried for themselves and their families, respectively.

Respondent degree of personal concern with regards to COVID-19:

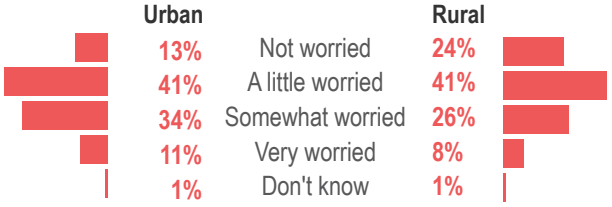


Respondent estimation of likelihood that he/she will contract COVID-19 within a month:



When respondents were asked to estimate the likelihood they or someone in their family would contract COVID-19 within the month following data collection, there was a high level of uncertainty. Nineteen percent (19%) of respondents said they did not know if they personally would contract COVID-19, and the same number reported that they did not know if someone in their family would contract COVID-19. Overall, 50% and 48% respectively thought it likely/very likely that they or someone in their family would contract COVID-19.

Respondent degree of concern for family/friends with regards to COVID-19:



Respondent estimation of likelihood that a member of his/ her household will contract COVID-19 within a month:

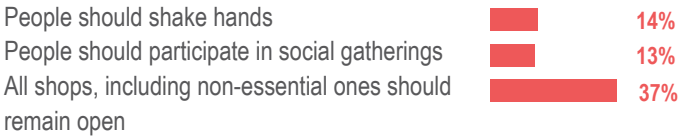
When comparing the danger COVID-19 poses as opposed to other illnesses, only small differences were recorded in responses of urban and rural populations, but male respondents more frequently viewed COVID-19 as more dangerous than other illnesses. The number of respondents who believed COVID-19 to be less dangerous was generally low for cold and typhoid (reported by 2% and 5% of respondents) but much higher for cancer where COVID-19 was reported as less dangerous by 47% of survey participants.

Respondent's assessment of danger posed by COVID-19 in comparison to other diseases:

	1 Common Cold	2 Typhoid	3 Cancer
Less dangerous	2%	5%	47%
About the same	4%	12%	19%
More dangerous	93%	77%	31%
Don't know	1%	6%	3%

The respondents indicated that they found social distancing efforts important. Few respondents thought that people should continue to shake hands (14%) or participate in social gatherings (13%). However, 37% of participants also held that all shops should remain open. No significant differences were observed between male and female or urban and rural populations. Over half (53%) of respondents believe that COVID-19 is generating discrimination among specific groups. This conviction was more prominent in urban areas (57%) than in rural areas (48%). The most reported groups to be at risk of discrimination were persons who have contracted COVID-19 and those who display symptoms (reported by 96% and 34% of participants respectively).

Proportion of respondents who agree with the following statements:

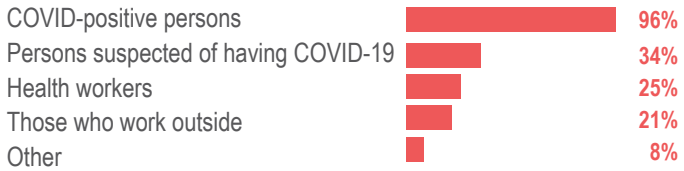


57% Urban areas

Percentage of individuals who believe that COVID-19 is generating discrimination against specific groups

48% Rural areas

Most commonly reported people to be likely to face discrimination in relation to COVID-19:[7]



COVID-19 Practices

While the attitudes section above showed that people view social distancing measures as important in mitigating the risk of contracting COVID-19, the majority of respondents reported having left their home for various reasons in the week prior to the data collection. A higher proportion of urban residents had left their homes than the proportion of rural residents (91% compared to 86%), and men left the house for specific reasons more frequently than women (86% of men had visited friends or family as opposed to 81% of women; 86% of men had gone to work as opposed to 42% of women).

While the data shows that respondents did continue to leave their house during the week prior to the data collection, both men and women reported that they were staying home more than normal (37% and 53% respectively).

37% Males — **Percentage of individuals reporting they left their house less than usual in the week prior to the data collection** — **53%** Females

16% Males — **Percentage of individuals who reported that they tried to keep two meters away from others while out of their house** — **17%** Females

In case of contracting COVID-19, responses from respondents as to what they would do:[7]

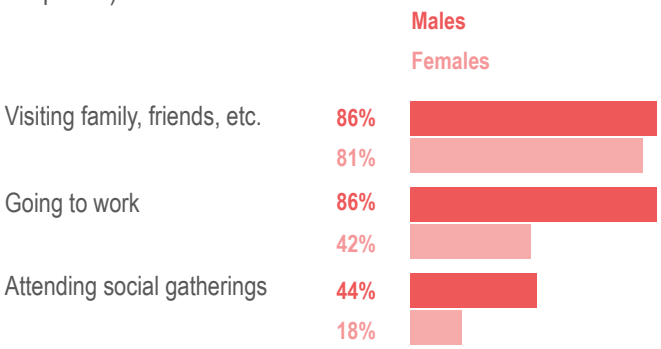
1	Go to hospital	69%
2	Go to doctor's office/ clinic	29%
3	Stay at home and isolate oneself from others	23%
4	Call a doctor/ medical professional	18%
5	Stay at home	7%
6	Do nothing/ Continue life as normal	2%

63% Males — **Percentage of individuals reporting that they washed their hands more often in the week prior to the data collection** — **68%** Females

54% Males — **Percentage of individuals who reported undertaking preventive measures to mitigate risk of contracting COVID-19** — **61%** Females

97% Males — **Percentage of individuals who reported leaving their house in the week prior to the data collection** — **87%** Females

Reasons for leaving the house in the week prior to data collection (% of those who reported leaving the house during this period)**:**



When people did leave their houses, only 17% were trying to maintain a two-meter distance from others, with this measure reported with same frequency in urban areas and rural areas. Majority of respondents had greeted someone with a handshake in the week prior to data collection (86%), although this varied by gender (92% of men as opposed to 80% of women) and living area (82% of rural respondents as opposed to 90% of urban respondents). Most respondents were washing their hands more than normal (66%), with few differences across genders or living area.

Overall, 54% of men and 61% of women reported they had taken some action to prevent the spread of COVID-19. At the same time, however, over half of respondents reported lack of money to either buy hygiene items (61%) or stop engaging in work or employment (55%) as major barriers to undertaking preventive measures. Men were more likely to say they could not stop working because they needed money (69% of men; 41% of women), whereas women were more likely to say they needed money for hygiene items (72% of women; 51% of men).

Most common barriers to undertaking preventive measures as reported by respondents:

1	Lack of money to buy hygiene items	61%
2	Lack of money thus unable to stop working	55%
3	Lack of knowledge	19%
4	Lack of time	4%

Key messages for risk and behaviour change communication:

- According to modeling, the number of confirmed cases at a regional level has a significant impact on whether or not people are willing to engage in social distancing. As expected, respondents were less likely to say that a vignette character would visit family/friends in the next week as the number of COVID-19 cases in the scenario increased from 0 cases to 10 cases to 100 cases.
- According to modeling, feeling ill significantly reduces the likelihood of visiting family/friends regardless of age or gender compared to feeling healthy, but the likelihood of visiting family/friends while feeling ill is still greater than 50% in all scenarios.
- According to modeling, young males are more likely to visit family/friends in the next week than older males or females of any age.
- Communicating confirmed regional COVID cases is more likely to have an impact on social distancing / isolation behaviours than communicating about the impact of cold or flu-like symptoms.

Vignette Experiment

A vignette experiment was developed to look at factors that are important to respondents when deciding whether or not to leave their home to visit others. Describing hypothetical scenarios that vary on key factors, including age, gender, health status of the vignette character, and confirmed COVID-19 cases in the respondent's area, help to identify which of these factors are most important to people.

All respondents in all vignettes were asked "Within the space of a week, how likely is it that this character leaves his/her house to visit another woman/man?" Respondents could answer 'very likely', 'likely', 'neutral', 'unlikely', 'very unlikely'. Each respondent was presented with one vignette from scenario 1, and one vignette from scenario 2, and the key factors of interest were randomly varied across respondents.

Scenario 1

Scenario 1 looked at the likelihood that an individual would leave their house in the next week based on varying age (64 years old / 36 years old), gender (male / female), and confirmed COVID-19 cases in the area (0 cases / 10 cases / 100 cases). A sample scenario went as follows: "Reem is 36. Imagine there are 0 confirmed cases of COVID-19 in northwest Syria. Within the space of a week, how likely is Reem to leave her house to visit another woman?"

Results

The model suggests that 92% of people are very likely/likely to visit family/friends in the next week if there are 0 confirmed COVID-19 cases in the region. The likelihood of people visiting family/friends in the next week drops by 46 percentage points[9] if there are 10 confirmed cases in the region (from 92% to 46%), and by 56 percentage points if there are 100 confirmed cases in the region (from 92% to 36%).

The model suggests that younger persons (36 years old) are 10 percentage points more likely to visit family/friends in the next week than older persons (64 years old). No significant difference was observed between genders.

Scenario 2

Scenario 2 looked at the likelihood that an individual would leave their house in the next week based on varying age (47 years old / 22 years old), gender (male / female), and health status of the character (perfect health / might be catching a cold). A sample scenario went as follows: "Ahmad is 22. He feels like he is in perfect health. Within the space of a week, how likely is he to leave the house to visit family or friends?"

Results

The model suggests that 86% of people are very likely/likely to visit family/friends in the next week if they feel perfectly healthy. The likelihood of people visiting family/friends in the next week drops by 27 percentage points (from 85% to 58%) if a person feels they may be coming down with a cold.

The model suggests that males are 6 percentage points more likely to visit family/friends than females. No significant difference was observed between ages.

More information on modeling methodology is available in Annex C; summary probability and average marginal effect tables for both vignettes can be found in Annex B.

ENDNOTES

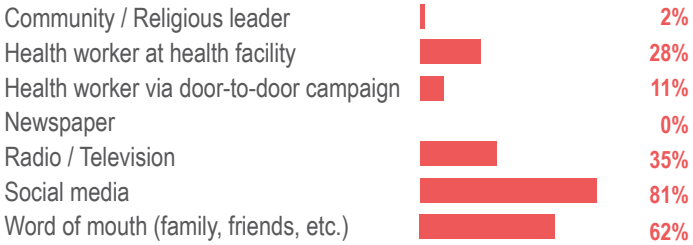
1. COVID-19 Dashboard by the Center for Systems Science and Engineering at Johns Hopkins University
2. COVID-19 Rapid Assessment. Humanitarian Needs Assessment Programme, 4 May 2020.
3. COVID-19 Rapid Assessment. Humanitarian Needs Assessment Programme, 31 March 2020.
4. Northwest Syria: Multi-sectoral Needs Asssement – COVID-19 Zoom-In. REACH Initiative, 16 April 2020.
5. Syrian Arab Republic: Recent Developments in Northwest Syria. OCHA Situation Report No. 13, 1 May 2020.
6. COVID-19 Rapid Assessment in Camps and Informal Settlements. UNHCR, March 2020.
7. Respondents could select multiple answers; total may be greater than 100%.
8. COVID-19 Frequently Asked Questions. Centers for Disease Control and Prevention, May 2020.
9. A percentage point is the numerical difference between two percentages. It differs from a percent, which measures a rate of change.

Appendix A - Results by Governorate

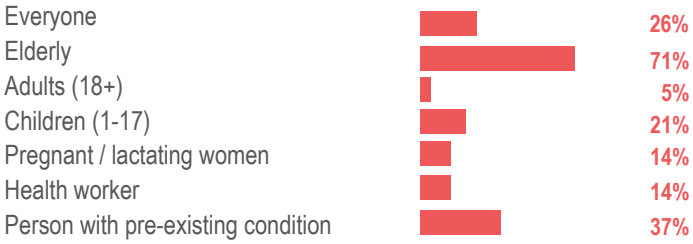
Aleppo - NWS

COVID-19 Knowledge

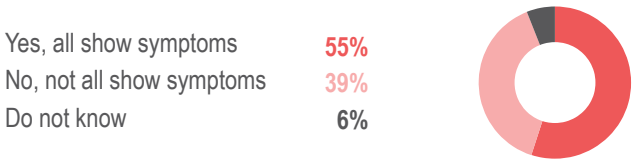
Most commonly reported means to receive information about COVID-19:[7]



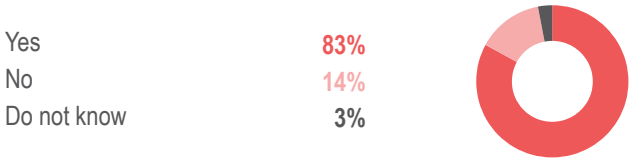
Survey respondents' views on which group of people is most at risk from getting seriously ill from COVID-19:[7]



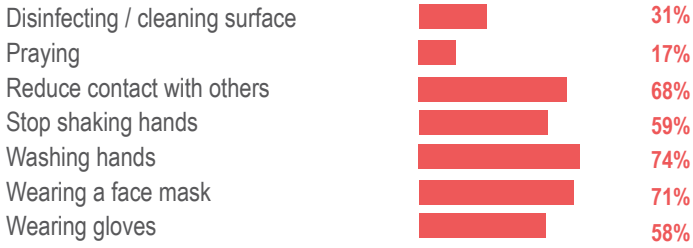
Survey respondents' views on whether or not all people with COVID-19 virus show symptoms:



Survey respondents' view on whether one can take measures to reduce the chance of getting COVID-19:



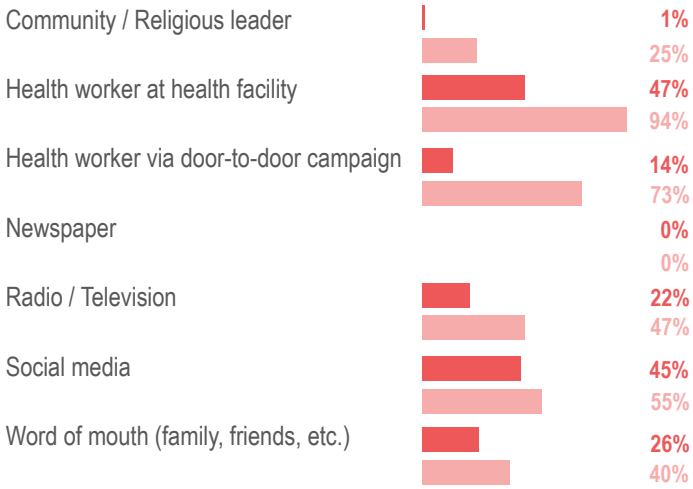
Proportion of respondents reporting the following possible prevention measures to reduce the risk of contracting COVID-19:[7]



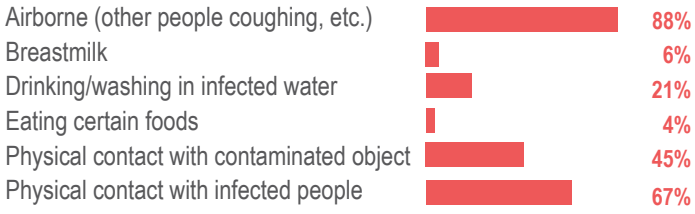
Most trusted information sources on COVID-19 as reported by survey respondents:[7]

Most trusted information overall (respondent may have listed option as a trusted, but not a regular source of information)

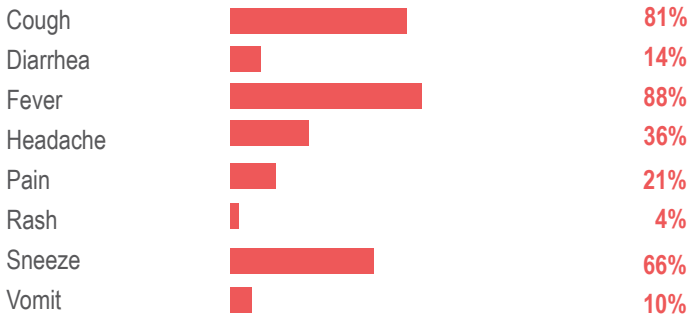
Most trusted among those who reported option as a source of information



Proportion of respondents reporting the following methods of contracting COVID-19:[7]

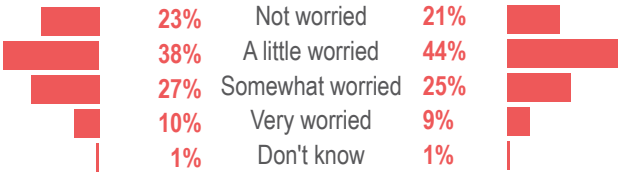


Symptoms most commonly reported by respondents as related to COVID-19:[7]



COVID-19 Attitudes

Respondent's degree of concern with regards to COVID-19:



Respondent estimations of the likelihood of contracting COVID-19 within the month following data collection:

Respondent's assessment of danger posed by COVID-19 in comparison to other diseases:

	1 Common cold	2 Typhoid	3 Cancer
Less dangerous	3%	8%	40%
About the same	9%	16%	19%
More dangerous	85%	65%	37%
Don't know	3%	12%	5%

Proportion of respondents who agree with the following statements:

People should shake hands	19%
People should participate in social gatherings	14%
All shops, including non-essential ones, should remain open	42%

31% **of individuals believe that COVID-19 is generating discrimination against specific people groups**

Most commonly reported people to be likely to face discrimination in relation to COVID-19:[7]

COVID-19 Practices

Proportion of respondents who had done the following in the week prior to data collection:

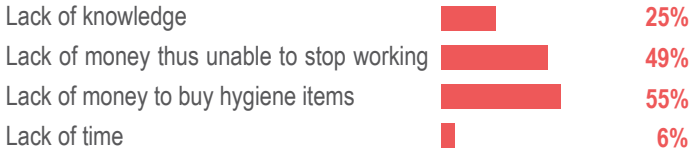
Attended large social gathering	25%
Greeted someone with a handshake	85%
Left home to go to work	62%
Left the house	87%
Stayed home more than normal	42%
Tried to keep distance of two meters from others when outside	12%
Visited friends and family outside your home	80%
Washed hands more than normal	60%

In case of contracting COVID-19, responses from respondents as to what they would do:[7]

Call a doctor / medical professional	14%
Do nothing / Continue life as normal	3%
Go to doctor's office/ clinic	28%
Go to hospital	67%
Stay at home	5%
Stay at home and isolate oneself from others	14%

51% **of individuals reported that they had undertaken preventive measures to mitigate risk of contracting COVID-19**

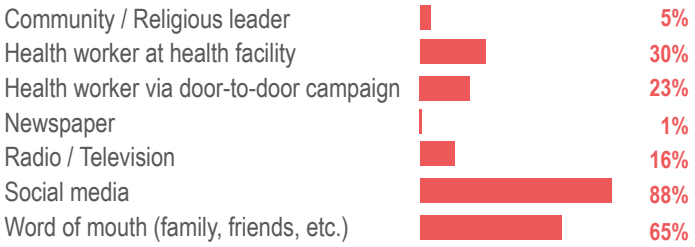
Most common barriers to undertaking preventive measures as reported by respondents:[7]



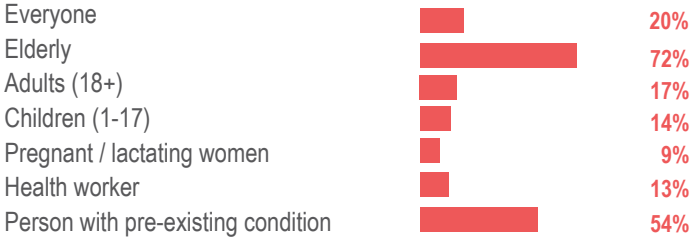
Idleb

COVID-19 Knowledge

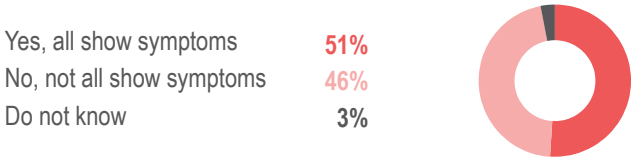
Most commonly reported means to receive information about COVID-19:[7]



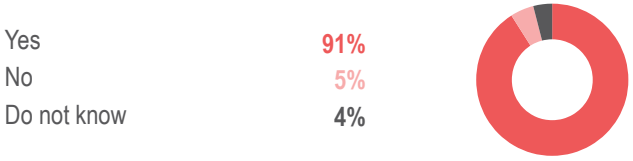
Survey respondents' views on which group of people is most at risk from getting seriously ill from COVID-19:[7]



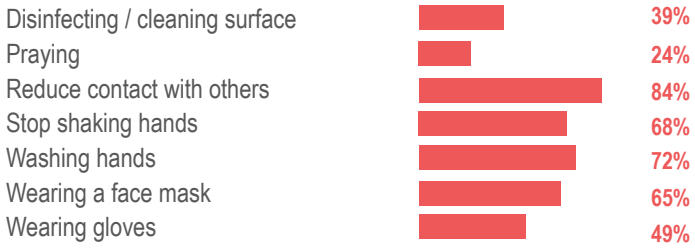
Survey respondents' views on whether or not all people with COVID-19 virus show symptoms:



Survey respondents' view on whether one can take measures to reduce the chance of getting COVID-19:



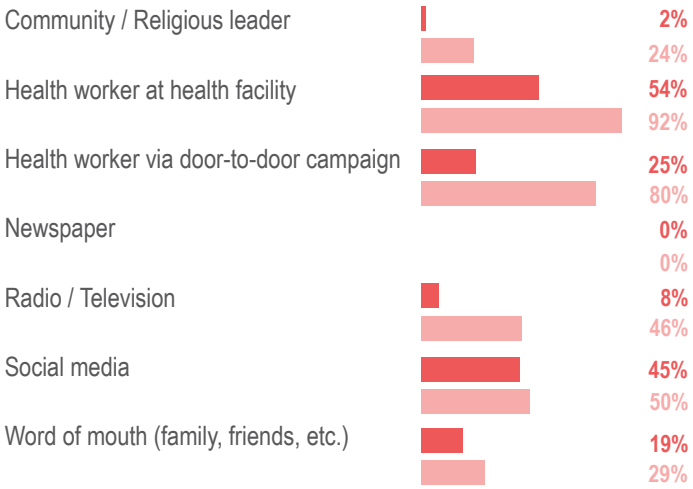
Proportion of respondents reporting the following possible prevention measures to reduce the risk of contracting COVID-19:[7]



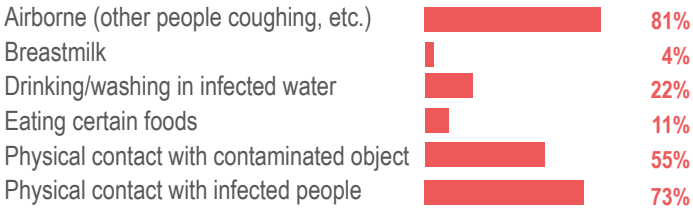
Most trusted information sources on COVID-19 as reported by survey respondents:[7]

Most trusted information overall (respondent may have listed option as a trusted, but not a regular source of information)

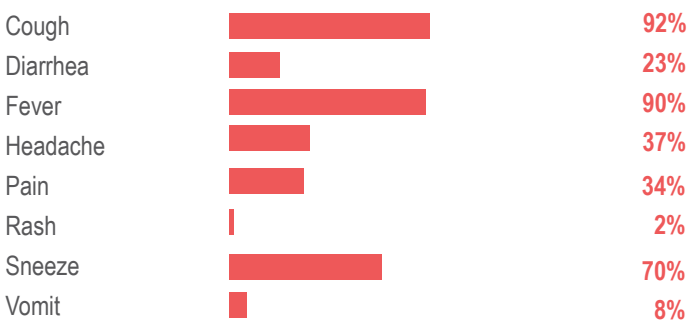
Most trusted among those who reported option as a source of information



Proportion of respondents reporting the following methods of contracting COVID-19:[7]

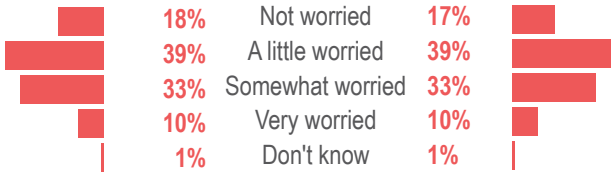


Symptoms most commonly reported by respondents as related to COVID-19:[7]



COVID-19 Attitudes

Respondent's degree of concern with regards to COVID-19:



Respondent estimations of the likelihood of contracting COVID-19 within the month following data collection:

Respondent's assessment of danger posed by COVID-19 in comparison to other diseases:

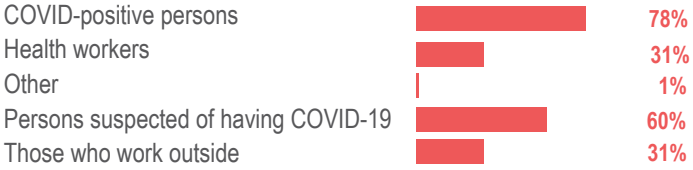
	1 Common cold	2 Typhoid	3 Cancer
Less dangerous	1%	3%	51%
About the same	2%	10%	19%
More dangerous	97%	84%	28%
Don't know	0%	3%	3%

Proportion of respondents who agree with the following statements:

People should shake hands	11%
People should participate in social gatherings	12%
All shops, including non-essential ones, should remain open	35%

64% **of individuals believe that COVID-19 is generating discrimination against specific people groups**

Most commonly reported people to be likely to face discrimination in relation to COVID-19:[7]



COVID-19 Practices

Proportion of respondents who had done the following in the week prior to data collection:

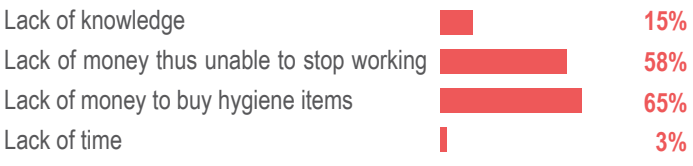
Attended large social gathering	35%
Greeted someone with a handshake	87%
Left home to go to work	67%
Left the house	89%
Stayed home more than normal	47%
Tried to keep distance of two meters from others when outside	18%
Visited friends and family outside your home	86%
Washed hands more than normal	69%

In case of contracting COVID-19, responses from respondents as to what they would do:[7]

Call a doctor / medical professional	20%
Do nothing / Continue life as normal	1%
Go to doctor's office/ clinic	29%
Go to hospital	70%
Stay at home	7%
Stay at home and isolate oneself from others	27%

61% **of individuals reported that they had undertaken preventive measures to mitigate risk of contracting COVID-19**

Most common barriers to undertaking preventive measures as reported by respondents:[7]



Appendix B - Results Tables

Vignette 1

Table 1: Model Predicted Probabilities - Vignette 1

v1_gender	v1_age	v1_cases	probability
Male	36	0	0.9433148
Male	64	0	0.9090783
Female	36	0	0.9336617
Female	64	0	0.8942485
Male	36	10	0.5390181
Male	64	10	0.4126396
Female	36	10	0.4972126
Female	64	10	0.3727110
Male	36	100	0.4405411
Male	64	100	0.3211656
Female	36	100	0.3997501
Female	64	100	0.2857816

Table 2: Average Marginal Effects - Vignette 1

factor	AME	SE	z	p	lower	upper
Age - 64 vs. 36	-0.0905978	0.0279641	-3.239791	0.0011962	-0.1454065	-0.0357892
Cases - 10 vs. 0	-0.4636920	0.0330714	-14.020951	0.0000000	-0.5285107	-0.3988733
Cases - 100 vs. 0	-0.5573904	0.0313768	-17.764386	0.0000000	-0.6188879	-0.4958930
Gender - female vs. male	-0.0296254	0.0279909	-1.058394	0.2898760	-0.0844867	0.0252358

Table 3: Average Predicted Probabilities - Vignette 1

factor	probability
v1_gender	
Male	0.5942929
Female	0.5638942
v1_age	
36	0.6255831
64	0.5326041
v1_cases	
0	0.9200758
10	0.4553953
100	0.3618096

Vignette 2

Table 3: Model Predicted Probabilities - Vignette 2

v2_gender	v2_age	v2_health	probability
Male	22	healthy	0.8910815
Male	47	healthy	0.8692228
Female	22	healthy	0.8514417
Female	47	healthy	0.8232061
Male	22	sick	0.6521065
Male	47	sick	0.6036219
Female	22	sick	0.5676891
Female	47	sick	0.5161687

Table 4: Average Marginal Effects - Vignette 2

factor	AME	SE	z	p	lower	upper
Age - 47 vs. 22	-0.0370763	0.0280427	-1.322138	0.1861222	-0.0920390	0.0178864
Gender - female vs. male	-0.0637905	0.0280906	-2.270885	0.0231539	-0.1188471	-0.0087340
Sick vs. healthy	-0.2724879	0.0282652	-9.640401	0.0000000	-0.3278867	-0.2170891

Table 3: Average Predicted Probabilities - Vignette 2

factor	probability
v2_gender	
Male	0.7540082
Female	0.6896264
v2_age	
22	0.7405797
47	0.7030549
v2_health	
Healthy	0.8587380
Sick	0.5848965

Appendix C - Methodology

Calibration Methodology

Northwest Syria

Respondents for the survey were recruited through a nonprobability sample. The survey was then calibrated using a generalized regression estimator. Calibration increases the weight of some respondents and decreases the weight of other respondents in reference to a pre-existing, representative dataset so that the survey more accurately represents the population of interest.

The survey was calibrated on four variables: gender, age, governorate, and community size. Several other variables, namely shelter status and number of household members working, were considered but the survey proportions for these variables were judged acceptable.

Three categories for age were utilized: 18 – 34, 35 – 59, and 60 and older. Communities were categorized as large (> 20,000 inhabitants), medium (20,000 – 2,000 inhabitants), and small (<2,000 inhabitants). Estimates for gender and age were taken from an unpublished representative survey for NWS. Population estimates were taken from HNAP's February Mobility and Needs Monitoring, which is availble upon request from HNAP.

After calibration, the survey proportions for the calibration variables (gender, age, governorate, and community size) exactly matched the estimated population proportions. Proportions were also compared to several benchmark variables: proportions for marital status and displacement status (IDP v. host community) were within three percentage point of population estimates and proportions for chronic illness were within five percentage points.

The code for the calibration is available upon request. For background information on using generalized regression estimators to calibrate survey data see Thomas Lumley, Complex Surveys: A Guide to Analysis Using R, p. 135 – 65. For an overview of approaches to weighing nonprobability samples see Carina Cornesse et.al., "A Review of Conceptual Approaches and Empirical Evidence on Probability and Nonprobability Sample Survey Research," Journal of Survey Statistics and Methodology, February 2020, p. 4–36. For a less technical introduction see Andrew Mercer, Arnold Lau, and Courtney Kennedy, "For Weighing Online Opt-in Samples, What Matters Most?" Pew Research Center, January 2018.

Analysis Methodology

Factorial survey experiments (vignette experiments) are a well-established method for inferring causal relationships between various factors. In a context where respondents' answers are likely to be influenced by social desirability bias (i.e. respondents might be tempted to over-report their likelihood of practicing social distancing), factorial experiments minimize bias by inquiring about the action of a hypothetical individual instead of the action of the respondent. Ulf Liebe et. al provide an overview of the use of factorial experiments in development contexts in "Using Factorial Survey Experiments to Measure Attitudes, Social Norms, and Fairness Concerns in Developing Countries," Sociological Methods & Research, October 2017. For an example from the Syrian context, see The World Bank's "The Mobility of Displaced Syrians: An Economic and Social Analysis" pages 221 – 225.

The results of the factorial survey experiments were estimated with logistic regression models. The independent variables for vignette 1 were gender of the character in the vignette (female vs. male), cases of COVID-19 in the vignette (10 or 100 cases vs. 0 cases), and age of the character in the vignette (older, i.e. 64 years old in the vignette vs. younger, i.e. 36 years old in the vignette). The independent variables for vignette 2 were gender of the character in the vignette (female vs. male), health of the character in the vignette (character feels like he/she might be getting a cold vs. character feels he/she is in perfect health), and age of the character in the vignette (older, i.e. 47 years old in the vignette vs. younger, i.e. 22 yrs old in the vignette). The dependent variable in both vignettes was the respondent's response as to how likely the character was to leave the house to visit family/friends within the space of a week. Responses were binned into very likely/likely vs. neutral/ unlikely/very unlikely. Logistic regressions represent the log odds that the respondent selected very likely/likely as their response compared to the log odds that the respondent selected neutral, unlikely, or very unlikely as their response, controlling for each independent variable.

The average marginal effects (AME) were then estimated for all independent variables. For a binary, independent variable such as gender, the AME approximates the difference between the average predicted probability for all combinations of independent variables that include female (e.g. predicted probability for 36 yr. old female with zero cases, predicted probability for 64 yr. old female with ten cases, etc.) and the average predicted probability for all combinations of independent variables that include male.

Logistic regressions fitted for data collected by two separate data collection teams working on NES and one data collection team in NWS to ensure that results were comparable. ROC curves were also examined for all logistic regressions and area under the curve (AUC) was calculated.

AME for the logistic regression model were similar to the results of a linear probability regression model. However, the logistic regression demonstrated better fit as assessed through marginal model plots and the Akaike information criterion (AIC). Logistic regressions with interactions for all independent variables were also examined but the inclusion of interactions had no significant effect on AME.

Vignette results are reported for Aleppo and Idleb governorates.

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