

# Monitoring knowledge, risk perceptions, preventive behaviours, and public trust in the current coronavirus outbreak in Saudi Arabia- Eastern Province

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## I. Aims and Objectives of the Study

The overall aim of the study is **to inform COVID-19 outbreak response efforts, including policy, interventions and communications**. The underlying objectives are to:

- Monitor variables that are critical for behaviour change in the population to avoid transmission of COVID-19, including risk perceptions, trust, use of information sources, knowledge as well as barriers and drivers to recommended behaviours;
- Document changes over time in these variables to understand the effect of measures taken;
- Monitor possible issues related to misinformation and stigma as they emerge to allow for early and rapid response;
- Identify relations between variables to assess and define the most effective and cost-effective response;
- Explore the relationship of psychological variables (e.g. fear, worry, distance) with the evolution of the pandemic and epidemiological situation;
- Identify gaps between perceived and actual knowledge;
- Evaluate the effectiveness of pandemic response measures, and the acceptance and effectiveness of policies and restrictions implemented;
- Contribute to post-outbreak evaluation, thereby contributing to continued regional/global efforts to better understand causal relations and effective mechanisms of crisis response.

## II. Research Questions

Overall, research questions relate to:

- **Levels of** and **changes in** risk perceptions, knowledge, used and trusted sources of information, confidence in crisis management, correct knowledge about and uptake of preparedness and protective behaviours, at each data collection point;
- How changes in risk perceptions relate to characteristics of the outbreak and other psychological variables such as knowledge, affect and misinformation;
- Whether participants report that they are aware of specific outbreak response measures and whether being aware of them influences risk perceptions;
- Whether risk perceptions are positively related to preparedness and protective behaviours and which other factors are relevant correlates of preparedness and protective behaviours (e.g. knowledge, misinformation, trust);
- Knowledge and misinformation about preparedness and preventive measures and whether the level of knowledge is related to certain sources of information; and
- Reactions to announcements and programs from the Government of Canada to help combat the COVID-19 outbreak, and its associated effects.

If additional research capacity is available, the data can be triangulated with data on media reporting, imported or confirmed cases, etc., to explore:

- Relationships between psychological variables and characteristics of the outbreak situation (i.e. how closely the perceived risk mirrors reported cases, relative import risk, media reports); and
- Whether it is possible to identify the emergence of certain misinformation as a correlate of risk perceptions.

### **III. Overview of Variables**

- Demographics
- knowledge about the novel coronavirus and COVID-19
- Individual feelings of preparedness efficacy to avoid an infection with the coronavirus
- knowledge about effective preventive measures to avoid infection with the coronavirus
- Application of preventive measures to avoid infection with COVID-19
- Risk perceptions regarding the disease (probability, susceptibility, severity)
- Affective measures (feeling of closeness, novelty, threat, fear, and worry regarding the disease)
- Perception of the outbreak as a media-hype
- Trust and frequency of use of regarding different information channels
- Source of information search on COVID-19
- Trust in health authorities, government institutions, media and other relevant stakeholders
- Primary source of official health information
- Perceptions and acceptance of policies to control the outbreak
- Panic buying behaviour

### **IV. Methodology: Sample and Data collection**

To ensure that the sample is representative of the Eastern province, KSA population and to allow for analyses of/comparisons between subgroups of interests (e.g. age groups, vulnerable groups), each wave will consist of 1,000 participants.

The study will be conducted with an online electronic survey employing convenience sampling technique using an IP-Based duplicate protection system to avoid participants to respond to the link survey more than once. Data will be collected through a 20 minutes web link with adults' citizens (Saudis and NonSaudis) 18 years and older. Participants should take part in the survey voluntarily. Data collection will begin on July 1st, 2020 and will be collected within a week and 4 week after survey will be distributed for again for another week. In case of unexpected developments or new response measures implemented, the time frame between the data collections may change.

### **V. Tests**

Analyses are integrated in a R Notebook environment. All analyses are exploratory and may change based upon requirements of the situation. The data analysis script uses means of descriptive data presentation, regression analyses and correlation analyses.

Only completed data sets will be considered in the analysis. Missing values will be treated as missing values and not be imputed.

## **VI. Flexibility and Adaptation**

As the COVID-19 pandemic evolves and the epidemiological and response situation rapidly changes, the questionnaire must be continuously updated, so that the questions asked reflect the situation and provide necessary information to shape effective and appropriate outbreak response measures.

## **VII. Institutional Review Board agreements, ethical standards met and safety monitoring**

The study will be following Mohammed Al-Mana College IRB standards. Data will be collected anonymously, with no information which can identify participants or link participants to data. Voluntary participants will be informed of the purpose of the research and should provide informed consent before starting the questionnaire. The research will not cause any risk or harm to participants. Ethical approval is obtained from Mohamad Al-Mana college of Medical Sciences Institutional Review Board.

## **VIII. Scientific Review and Validation of Tools**

Due to the urgency of the need for data, and the rapidly evolving situation (i.e., requiring constant adaptations of the tools used), the protocol and questionnaire have been reviewed and validated based on an ad hoc approach. The documents were originally prepared by Professor Betsch at the University of Erfurt, Germany, and subsequently reviewed by the COSMO group (for more information, see the [WHO Guidance Document](#)). This group represents leading global experts in behavioural insights research for health and in developing and validating survey tools similar to the current. In addition, following two rounds of data collection in Germany, two scientists (Prof. Robert Böhm, University of Copenhagen, Denmark, and Britta Renner, University of Konstanz, Germany) reviewed the data and how it was presented. This review cannot be shared due to the urgency of the situation; it was completed via comments on PDF snapshots of the website where the data was presented. Lessons learned from the implementation in two rounds in Germany have led to continuous adjustments of the questionnaire.

The questionnaire will be reviewed back translated to Arabic- English to ensure every question is understandable to participants.

## **IX. Publication of the Study Protocol**

The study protocol and adapted questionnaire will be published on the PsychArchives repository, as recommended by the WHO.

## **I. Limitations**

The urgency of the situation incurs some limitations to the study, including limited opportunities for scientific review and validation, as described above.

In addition, using online panels limits the participation of certain important population groups, including the elderly (a risk group for COVID-19) and disadvantaged population groups such as migrants, people experiencing homelessness and/or poverty, and other vulnerable groups.