



# "SDHNS"

The Sharik Diet and Health National  
Survey

The Methodology



## 1. Design

2. Sampling and Sample Size
3. Participant Recruitment
4. Variables and Outcome Measures
5. Data Collection, Cleaning, and Transformation
6. Ethical Considerations
7. Refrenace

# Design

The Sharik Diet and Health National Survey (SDHNS) is an annual nationwide cross-sectional survey conducted through phone interviews in Saudi Arabia that started in 2020. SDHNS aims to provide rigorous community surveillance data for diet and health on a national level in Saudi Arabia to enable research activities in various health and nutrition areas and to generate historical data to assist future efforts to assess the effects of new polices, awareness campaigns, and significant events. The Sharik association for research & studies (Sharik) and Informed Decision Making (IDM) operate and fund the SDHNS [1, 2].

1. Design
2. Sampling and Sample Size
3. Participant Recruitment
4. Variables and Outcome Measures
5. Data Collection, Cleaning, and Transformation
6. Ethical Considerations
7. Refrenace

## Sampling and Sample Size

The SDHNS uses a proportional quota sampling system to obtain an equal distribution of participants stratified by age and gender across the 13 regions of Saudi Arabia. Based on the median age of Saudi Arabian adults (36 years) according to the national authority of statistics, two age groups (18–36 and 37+) were used, leading to a sample of 52 strata. The SDHNS used the ZdataCloud® data collection system, which integrated eligibility and sampling modules, to control the sample distribution [3]. The SDHNS sample size was calculated based on a medium effect size of 0.25, and participants were selected to empower the sample to compare between quota groups, with an 80% power and a 95% confidence level[4]. Therefore, each quota (age/gender/region quota) required between 100 and 120 participants, and the total targeted sample size was between 5200 and 6240 subjects.

1. Design
2. Sampling and Sample Size
3. Participant Recruitment
4. Variables and Outcome Measures
5. Data Collection, Cleaning, and Transformation
6. Ethical Considerations
7. Refrence

## Participant Recruitment

SDHNS participant recruitment was limited to Arabic-speaking adults and Saudi residents who were  $\geq 18$  years old, a list generated via a random-phone number list from the Sharik Database. Participants were contacted by phone up to three times. If a potential participant did not answer, the phone number of a new potential participant with similar demographics (age, gender, and region) was generated. This process was repeated until the targeted quota was completed.



1. Design
2. Sampling and Sample Size
3. Participant Recruitment
- 4. Variables and Outcome Measures**
5. Data Collection, Cleaning, and Transformation
6. Ethical Considerations
7. Refrence

## Variables and Outcome Measures

The SDHNS includes sociodemographic information (age, gender, and educational level); health status, including chronic disease; mental health screening using the Patient Health Questionnaire (PHQ-9) [5, 6] and Generalized Anxiety Disorder (GAD-7)[7]; self-health rating; smoking; physical activity; sedentary lifestyle; and food habits and consumption of various food categories.

Appendix 1 presents the full details of the questions and possible answers.

The question list for the SDHNS was generated via a multilevel process starting with examining the national needs via a panel of experts, reviewing the literature to identify the related variables and their question phrasing, and finally comparing the list of variables and their questions to international tools, such as the National Health and Nutrition Examination Survey.

1. Design
2. Sampling and Sample Size
3. Participant Recruitment
4. **Variables and Outcome Measures**
5. Data Collection, Cleaning, and Transformation
6. Ethical Considerations
7. Refrenace

## Variables and Outcome Measures

Linguistic validation was performed to ensure that the questions and answers were understandable and generated the intended results. A focus group of 7 to 10 participants was asked to discuss and answer the survey questions, and an updated version was tested again with another focus group. Afterward, the electronic version of the survey was developed on the ZDataCloud, and in a pilot test, 30 to 50 participants were interviewed by phone to ensure the survey's accuracy, quality, and data integrity. Per the pilot study results and feedback from the researchers and interviewers, the survey questions were edited further, and an improved version was developed. This process is repeated each time we update the survey questions.

All questions had to be answered for the responses to be submitted successfully to the database. All data were coded and stored on the ZdataCloud database [12].

1. Design
2. Sampling and Sample Size
3. Participant Recruitment
4. Variables and Outcome Measures
- 5. Data Collection, Cleaning, and Transformation**
6. Ethical Considerations
7. Refrenace

## Data Collection, Cleaning, and Transformation

The data collectors were trained by the researchers and had experience conducting health-related phone interviews. Researchers monitored data consistency and integrity during the data collection process on the ZDataCloud and during the cleaning process. The IBM SPSS syntax procedure was created to modify the data coding and generate the secondary variables to allow for consistency in the data set and reduce human errors. The data was then combined with the previous year's data set to allow for comparison across years. Information regarding the number of potential participants contacted was stored on the ZDataCloud and allowed us to calculate the response rate.

Finally, the data set was stored on the Sharik Project Management System with the codebook generated from the ZDataCloud.



1. Design
2. Sampling and Sample Size
3. Participant Recruitment
4. Variables and Outcome Measures
5. Data Collection, Cleaning, and Transformation
- 6. Ethical Considerations**
7. Refrenace

## Ethical Considerations

The ethics committee of the Sharik Association for Health Research approved this research project (Approval no. 2020-3), according to the national research ethics regulations.

Consent to participate was obtained verbally during the phone interview with the participants and recorded in the data collection system.



1. Design
2. Sampling and Sample Size
3. Participant Recruitment
4. Variables and Outcome Measures
5. Data Collection, Cleaning, and Transformation
6. Ethical Considerations
7. Reference

## Reference

1. Sharik Association for Research & Studies. 25-Jan-2022]; Available from: <https://en.sharikhealth.com/index.php>.
2. Informed Decision Making for Research & Studies (IDM). 15 April 2022]; Available from: <https://idm.sa/>.
3. ZDataCloud. 23 June 2022]; Available from: <https://zdatacloud.com/>.
4. Cohen, J., Statistical power analysis for the behavioral sciences. 2013: Academic press.
5. AlHadi, A.N., et al., An arabic translation, reliability, and validation of Patient Health Questionnaire in a Saudi sample. *Annals of general psychiatry*, 2017. 16(1): p. 1-9.
6. Kroenke, K. and R.L. Spitzer, The PHQ-9: a new depression diagnostic and severity measure. 2002, Slack Incorporated Thorofare, NJ. p. 509-515.
7. Löwe, B., et al., Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the general population. *Medical care*, 2008: p. 266-274. participate was obtained verbally during the phone interview with the participants and recorded in the data collection system.