

Abstract

Background and Objectives

Climate change caused by human activities has resulted in increasing drought both in severity and occurrence. It is expected to increase in the coming decades. Drought has an extensive impact on human health via different pathways. This makes a need for awareness of the effects to reduce them. This study aimed to determine the direct and indirect, short-term and long-term effects of drought on various aspects of health in Kerman province. This study has been performed as the dissertation research.

Methods

The research was conducted by data triangulation method; Therefore, several methods were used to collect and interpret the data. The research was conducted in four stages. In the first stage, a systematic review of the previous studies of the world and Iran was performed, and content analysis was used to synthesize the results.

The second phase of the study was the case study of the effects of drought on health, which itself consisted of three parts. The first part was a qualitative case study. Data were collected using interviews and direct observation. 57 participants were selected by purposive sampling; the Content analysis method was used to analyze the interviews. The second part was the preparation and validation of a questionnaire to assess the effects of drought on health. Face validity, content validity, and construct validity were performed. Also, test-retest reliability and internal reliability indices were used to test the reliability of the questionnaire. In the third part of this stage, the quantitative

investigation of the perspective of people and officials about the effects of drought on health was performed on 477 people who were selected by multi-stage cluster sampling.

In the third stage of the research, the effective near and far factors were identified, and stratification of drought health effects was performed using the findings of the previous stages and inspired by the causal layered analysis method, In the final stage, causal models of the effects of drought on health were drawn using causal diagrams to show the pathways of drought impact on health.

Results

After analyzing the findings of the systematic review and qualitative content analysis, the effects of drought were divided into two main themes including direct and indirect consequences. Direct effects include environmental and ecological consequences, and indirect effects include physical health consequences (increased some infectious and chronic diseases, malnutrition), mental health (concern, anxiety), social health (social and family relationships, social services, social harms), and spiritual health (hopelessness).

According to the results of the quantitative study, the highest means were related to some aspects of mental and social health, including concern about the future, unemployment, poverty, and high social class distance. Then increased social dissatisfaction and decreased social happiness, increased anxiety, theft, trafficking, delayed marriage and hopelessness; averaged more than the other variables. Regarding physical health; the highest average was related to reduced access to safe water and reduced drinking water quality. Generally; The results in the quantitative and qualitative phases showed that participants perceived other aspects of health better than physical health.

The findings were layered in obvious to hidden layers. Effects on water, mental health and nutrition were classified at the superficial level; and the deeper effects, such as social disruption, were located in the most hidden layer. Eventually; Causal models have shown multiple pathways of drought health impacts.

Discussion and Conclusion

The direct effects of drought on health are caused by environmental, economic and social effects, indirectly. These can be short-term, or long-term. Regarding direct consequences in terms of physical health, short-term consequences are including access to food and some infectious diseases, and chronic diseases are the long-term consequences of drought. In terms of mental and spiritual health, consequences such as anxiety and concern are short-term; and depression, diminished social happiness and hopelessness are long-term. Regarding social health, a negative effect on relationships appears in the short term, and the intensification of this issue, in addition to migration, conflict, and other social harms Occurs in the long term.

These direct health effects of drought, are created through the effects of drought on water and the environment, agriculture, and economic and social problems indirectly. Due to the widespread drought in Iran and Kerman province, and its numerous effects on health; the health sector must have a more active role in managing and mitigating drought risk, with the participation of other sectors;

Keywords

Health, Drought, Climate change, Natural hazards, Iran, Kerman province



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