

INPLASY PROTOCOL

To cite: Wang et al. Can we utilize Mukbang in health promotion? A scoping review protocol. Inplasy protocol 2022120109. doi: 10.37766/inplasy2022.12.0109

Received: 28 December 2022

Published: 28 December 2022

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Support: NSFC and GBRPBABRP.

Review Stage at time of this submission: The review has not yet started.

Conflicts of interest:
None declared.

Can we utilize Mukbang in health promotion? A scoping review protocol

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Review question / Objective: The scoping review will systematically map the research on Mukbang and health promotion, identify any existing gaps in this area, and reveal the impacts of watching Mukbang on public health by combing, comparing, and integrating relevant literature. The specific objectives of this scoping review are to: (1) Identify the potential effects Mukbang may has on physical and psychological health promotion as reported in the literature; (2) Clarify different ideas on Mukbang and health-related issues revealed in the literature; (3) Examine public's opinion on the utilization of Mukbang in facilitating physical and psychological health; (4) Identify any gaps in the current studies and make recommendations for future research on the use of Mukbang in health and related fields; and (5) Analyze how Mukbang can be used to promote physical and psychological health. According to the objectives above, the following issues will be addressed in this scoping review: 1. What are the potential effects Mukbang may has on health promotion according to existing researches? 2. What are public's opinions on Mukabng and its applications in the field of health promotion? 3. How to use Mukbang to facilitate physical and psychological health?

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 28 December 2022 and was last updated on 28 December 2022 (registration number INPLASY2022120109).

INTRODUCTION

Review question / Objective: The scoping review will systematically map the research on Mukbang and health promotion, identify any existing gaps in this area, and reveal

the impacts of watching Mukbang on public health by combing, comparing, and integrating relevant literature. The specific objectives of this scoping review are to: (1) Identify the potential effects Mukbang may has on physical and psychological

health promotion as reported in the literature;

(2) Clarify different ideas on Mukbang and health-related issues revealed in the literature;

(3) Examine public's opinion on the utilization of Mukbang in facilitating physical and psychological health;

(4) Identify any gaps in the current studies and make recommendations for future research on the use of Mukbang in health and related fields; and

(5) Analyze how Mukbang can be used to promote physical and psychological health. According to the objectives above, the following issues will be addressed in this scoping review:

1. What are the potential effects Mukbang may have on health promotion according to existing researches?

2. What are public's opinions on Mukbang and its applications in the field of health promotion?

3. How to use Mukbang to facilitate physical and psychological health?

Background: "Mukbang", also known as eating performance, refers to the process in which anchors publicly record and show their own eating through the Internet platform. It first appeared on AfreecaTV in the South Korean Internet in 2010, and then spread overseas via YouTube in 2015. The popular Mukbang channels have more than 4 million YouTube subscribers, with a whopping over 25 million views for a single video. Nowadays, Mukbang is ubiquitous spreading into our living environments and imperceptibly affects people's lives and daily interactions.

Mukbang is composed of two essential elements. One is the auditory and visual sensory stimulation, and another one is the online interaction. Mukbang brings the audiences the enjoyment of different senses, such as vision and hearing. The sound in the Mukbang video consists of the host's eating actions to create an ASMR (Autonomous Sensory Meridian Response) effect. These sounds always stimulate the sense of relaxation, pleasure, and eating impulsiveness. The auditory and visual senses can also be linked with the audience's emotions and viewing

motivations, closely fitting the different psychological needs of the audience, bringing the audience happiness, relief, and vicarious satisfaction. Online interaction is established by posting bullet chatting, giving gifts, or likes. Previous study has found that watching Mukbang allows viewers to create emotional connections with other viewers and the host, which can alleviate one's real-life loneliness and social isolation. Furthermore, it was clear that the conversational Mukbang videos had a positive impact on one's emotion during the meal and improved the audience's sense of taste based on the host's reactions. Besides, Mukbang can help viewers escape problems and negative feelings from real life. As stated above, the two elements of Mukbang could affect people's psychology, emotion, and physiology, such as appetite. Thus, watching Mukbang may have a potential link to health issues.

Several studies have investigated the relationship between Mukbang viewing and physiological health, found that watching Mukbang more frequently will have a stronger impact on one's health habits. Meanwhile, the effect of different Mukbang content varies on viewers' eating and health habits. From the perspective of eating disorder and body imagery to analyze the phenomenon of watching Mukbang, the effects of Mukbang watching on diet and health are contradictory. Mukbang watching can help increase food intake for people with low appetites or selective diets by augmenting taste sensations, while watching others eat helps viewers who have experienced or are experiencing binge eating avoid overeating and obtain the experience of pleasant and calm. Mukbang increases flavor perceptions by avoiding the need to alter healthy food into unhealthy, it may be a healthier method of improving appetite. On the other hand, the relationship between Mukbang and psychological health has also been reported. Several studies found that dieting women watch Mukbang to curb their desire to eat or to reduce guilt for occasional overeating. Patients or pregnant women who are suffering from morning sickness, get vicarious satisfaction by

watching Mukbang and imagining themselves eating food. Besides, people described positive emotional changes when watching Mukbang that elicits an enjoyable eating experience. Patients who cannot consume food due to chemotherapy or digestive disease stated comfort and enjoyment while watching Mukbang. Therefore, Mukbang could be potentially used as a tool to help promote physical and psychological health, especially for patients.

Rationale: With the improvement of living standards, there has been an increase in consumer awareness about the health benefits of diet, not only appreciating nutrients in food, but also their active benefits on health. However, Mukbang, which involves "eating", "figure", and "health", has not been widely recognized in the field of psychological and physiological health promotion. The content of existing Mukbang studies in the field of health is scattered, and a review integrating the utilization of Mukbang in physical and psychological health promotion does not exist.

METHODS

Strategy of data synthesis: We will search relevant studies in the Databases in English, Chinese and Korean, including PubMed, Embase, web of science, Researching Information Sharing Service (RISS, in Korean), DBpia Scholarly Database (DBpia, in Korean), China National Knowledge Infrastructure (CNKI, in Chinese), China Science and Technology Journal Database (VIP database, in Chinese), and Wan fang data (in Chinese). Google scholar will also be used for a comprehensive retrieval to result in adequate and diverse coverage for the study, including grey literature sources. The search will be conducted simultaneously in the above databases and websites by two reviewers using the same search strategy. To ensure reproducibility, each search strategy will be validated by an independent expert using the Peer Review of Electronic Search Strategies (PRESS) checklist. The number of articles will be

checked and corrected after the completion of the two reviewers' respective searches, and the final search result will base on the reviewer with more comprehensive number of articles.

Eligibility criteria: This scoping review will include academic and non-academic articles related to Mukbang and health issues, including binge-eating disorder, diet, eating habits, overweight/obesity, health behavior, and health promotion. The academic literature will include primary studies with experimental, observational, and qualitative designs. The empirical studies, reviews and meta-analyses that describe or reflect Mukbang phenomenon will also be searched. Moreover, we will consider the non-academic articles, including commentaries, magazine articles, news articles, personal or business letters, blog posts, newspapers, blogs, and books or book chapters which report or conduct information about Mukbang- and health-related issues. Targeted searches for grey literature sources such as dissertations, conference papers, research and committee reports, government reports, and ongoing research will also be conducted. The grey literature sources will be searched in Google Scholar, WorldWideScience.org, Open Grey, ProQuest, Open Access Theses and Dissertations, and Greynet.

Beyond that, we will also include references if: (1) the articles involved the reasons for watching Mukbang and its impact on viewers, (2) the articles discussed the relationship between Mukbang viewing and health promotion, (3) the main idea of the study is to explore the effects of Mukbang on health-related issues including diet, obesity, body shape, and eating disorders, etc., and (6) the articles were published in English, Chinese or Korean. Table 1 amply delineates the preliminary inclusion and exclusion criteria, following the Population-Concept-Context (PCC) framework for scoping reviews. We will continue to refine the inclusion and exclusion criteria for studies that fit the purpose of this scoping review.

Source of evidence screening and selection: We will follow the three-step search strategy recommended by JBI to conduct an extensive literature search. First is to conduct an initial limited search in the databases of MEDLINE via PubMed using the following keywords: “mukbang” “eating broadcast” “eating show” “health” “health promotion” “eating habits” “disordered eating” and “autonomous sensory meridian response, ASMR”, analyzing possible key words contained in the title and abstract of retrieved literature to check the suitability and appropriateness of keywords and search strategies. For the second step, an exhaustive search will be done across the collected databases using all the identified keywords and index terms. The same keywords in Chinese and Korean will also be searched in Chinese and Korean databases respectively by using similar strategies. Comprehensive search strategies will use ‘Title/Abstract’ or ‘All Fields’ as retrieval fields and a Boolean strategy to connect each identified keyword. The proposed search strategies for all databases are outlined in the online supplementary appendix (Supplementary 2). Thirdly, after the first two steps, we will undertake a snowball searching strategy by reviewing relevant studies, systematic reviews, and study protocols for RCTs and previous reviews.

The selection of probable studies will follow the two levels of screening below: (1) initial screening of title and abstract and (2) full-text review. In the first step, titles and abstracts of all search results will be evaluated for eligibility. All the studies will be marked as ‘include’, ‘exclude’ or ‘maybe’ based on the selection criteria. When there is ambiguity on the same article, a third reviewer will intervene to hold an independent confirmation and feedback from the two original reviewers. After initial screening, full text of the studies deemed as either ‘included’ or ‘maybe’ will be searched and sifted independently by two researchers to ensure inclusion that meet the selection criteria. All reviewers will review each study at each stage of the selection process against the criteria established for that

review. Due to the variety of research topics related to Mukbang, the entire team will discuss the sources that remain identified as ‘maybe’ after full text screening together to determine a final consensus. When it is inaccessible to get the full-text version of an article, we will try to contract the original authors.

Data management: The result of preliminary searches will be merged and stored using Endnote 20 (Version 4.1, Developed by Camelot UK Bidco Limited Clarivate). We will combine all the bibliographic data and remove duplicate records. All the included studies will be reviewed independently by two reviewers using a data extraction strategy created for this scoping review.

In line with the eligibility criteria, formal screening of search results will be done using Rayyan QCRI (Qatar Computing Research Institute (Data Analytics), Doha, Qatar).

All the included studies will be reviewed independently by two reviewers using a data extraction strategy created for this scoping review. The data chart development will be carried out according to a framework of the JBI template data extraction instrument independently by two reviewers to identify the specific variables to be extracted, with modifications aligned with the purposes and research questions of the proposed scoping review. The data collection will at least include article characteristics, type of study, aims/purposes, demographic information, methodology, participants, study instruments, the main content of study, and outcomes. If data are missing or if further information or clarification is required, the corresponding authors of the studies will be contacted via email. Two reviewers will extract data independently following the pre-developed rules. Calibration exercises will be conducted before the review begins to ensure consistency among reviewers. For every 20 articles extracted, data abstracted by each reviewer will be compared. If there is a serious deviation in the content of the extracted data (that is, the content extracted by both parties is completely inconsistent), it will be handed

over to the general person in charge for judgment.

Reporting results / Analysis of the evidence: We will fully report the search results, especially the reasons for excluding full-text studies that do not meet the inclusion criteria in the final scoping review. Meanwhile, the results will also be presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses for Scoping Reviews (PRISMA-ScR) flow diagram.

The main result of this scoping review is to reveal the potential impact of Mukbang on public health to readers, and to analyze the effectiveness of the impact and its causes in combination with existing research and actual conditions, so as to comprehensively evaluate the role of Mukbang in the field of health promotion. It provides an information basis for the application research of eating and broadcasting in the field of health and treatment. Therefore, in order to integrate the extracted data, we will provide a narrative summary, including key findings as well as context information about the use of Mukbang in promoting physical and psychological health. Through this process, key findings regarding the attempt to utilize Mukbang in health promotion, including program design and its effectiveness, will be collated and summarized. Since this is a scoping review, the quality of the included studies will not be assessed.

Presentation of the results: To characterize and summarize the results, we will produce a diagrammatic or tabular representation of the data extracted from the included studies. The diagram or table will provide a general view of the amount, type, and categorization of the included papers. Meanwhile, it will also contain the study type, database source, specific research methods, and key findings of all the included studies.

Language restriction: The language of the research that meets the criteria will be limited to English, Chinese, and Korean.

Country(ies) involved: China.

Keywords: Mukbang; Online eating; Health; Health promotion; Eating habits; Binge-eating disorder

Dissemination plans: This scoping review will help advance the interdisciplinary field of Mukbang and health promotion while also provoking Mukbang viewers to attach importance to their own health. On completion of this scoping review, it may show Mukbang's influence on eating habits and health promotion. What's more, the viewers can also know what content of Mukbang may cause disordered eating or even poor health outcomes.

Therefore, it will provide information to a variety of stakeholders, including researchers, medical staff, live broadcast hosts, short video platform leaders and relevant government departments. It will be easy for public health agencies and governments to grasp the overall situation of the field, the relationship between different kinds of Mukbang and health, and to make comprehensive presentations on the pros and cons, practicality and benefits, and potential of Mukbang.

Contributions of each author:

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[37] Appendix 11.1 JBI template source of evidence details, characteristics and results extraction instrument - JBI Manual for Evidence Synthesis - JBI Global Wiki [Internet]. [cited 2022 Dec 27]. Available from: <https://jbi-global-wiki.refined.site/space/MANUAL/4687579>.