

Food and COVID-19 Lit Review: 11.15-11.19

DNPAO (Division of Nutrition, Physical Activity, and Obesity)
Worker-Safety/NIOSH
DFWED/Food Safety
Child Nutrition/School Meals
Food/Farm/Ag/Migrant

DNPAO

1. Impact of the COVID-19 pandemic and related lockdown measures on lifestyle behaviors and wellbeing in children and adolescents with severe obesity.

<https://dx.doi.org/10.1159/000520718>

- a. INTRODUCTION: COVID-19 lockdown measures have large impact on lifestyle behaviors and wellbeing of children. The aim of this mixed-methods study was to investigate the impact of COVID-19 lockdown measures on eating styles and behaviors, physical activity (PA), screen time, and health-related quality of life (HRQoL) in children (0-18 years) with severe obesity. METHODS: During the first COVID-19 wave (April 2020), validated questionnaires were completed and semi-structured telephone interviews were conducted with parents of children with severe obesity (adult BMI-equivalent $\geq 35\text{kg/m}^2$) and/or with the children themselves. Changes in pre-pandemic versus lockdown scores of the Dutch Eating Behavior Questionnaire Children (DEBQ-C), Pediatric Quality of Life Inventory (PedsQLTM), and Dutch PA Questionnaire were assessed. Qualitative analyses were performed according to the Grounded Theory. RESULTS: Ninety families were approached of which 83 families were included. Characteristics of the included children were: mean age 11.2 ± 4.6 years, 52% female, mean BMI SD-score $+3.8 \pm 1.0$. Emotional, restrained, and external eating styles, HRQoL, and (non-educational) screen time did not change on group level (all $p > 0.05$). However, weekly PA decreased (mean difference -1.9 hours/week, $p = 0.02$), mostly in adolescents. In the majority of children, mean weekly PA decreased to ≈ 2 hours/week. Children with high emotional and external eating scores during lockdown or pre-existent psychosocial problems had the lowest HRQoL ($p < 0.01$). Qualitative analyses revealed an increased demand for food in a significant proportion of children ($n = 21$), mostly in children < 10 years (19/21). This was often attributed to loss of daily structure and perceived stress. Families who reported no changes ($n = 15$) or improved eating behaviors ($n = 11$) attributed this to already existing strict eating schemes that they kept adhering to during lockdown. CONCLUSION: This study shows differing responses to COVID-19 lockdown measures in children with severe obesity. On group level, PA significantly decreased and in substantial minorities eating styles and HRQoL deteriorated. Children with pre-existent psychosocial problems or pre-pandemic high external or emotional eating scores were most at risk. These children and

their families should be targeted by health care professionals to minimize negative physical and mental health consequences.

2. **Coordinating Diet-Related Efforts to Reduce Obesity.**
<https://dx.doi.org/10.1001/jama.2021.18646>
3. **Prevalence of Covid-19 sequelae in the National Health and Nutrition Survey 2020**
<https://doi.org/10.21149/13269>
 - a. Objective. To estimate the prevalence of Covid-19 sequelae and its association with sociodemographic and medical care characteristics. Materials and methods. Mexican adults that experienced Covid-19 symptoms and were seropositive to the N-protein of Sars-CoV-2 in the Ensanut 2020 responded to a question regarding sequelae. Associations were estimated using Poisson regression. Results. The prevalence of sequelae was 15.7%, being higher for people with higher education and who were hospitalized or treated at an emergency room during the acute Covid-19 phase. Conclusions. Self-reported sequelae associated to Covid-19 was frequent. Covid-19 sequelae could represent an important challenge for the health system and the Mexican society. (English)
4. **Local Community Support for Tangible Food Aid during COVID-19**
<https://doi.org/10.1145/3462204.3481766>
 - a. The COVID-19 pandemic is a long-haul disaster that has brought forth extreme hardship, in particular food insecurity. Local citizens across the United States created online groups to facilitate mutual aid, a form of community-based disaster relief. In this paper, we are interested in how online mutual aid groups addressed food insecurity through facilitating various community-based initiatives. We interviewed mutual aid group organizers in the United States and found that online groups contributed immediate food relief as well as laid the groundwork for long-term food security. These findings have implications for community resilience in the wake of an ongoing disaster. © 2021 ACM.
5. **Web content and social media analysis on children's lifestyles even during the Covid-19 pandemic** <https://doi.org/10.1093/eurpub/ckab165.420>
 - a. Background One of the main aims of the project 'Peer education as a tool to reach and involve families and schools in the promotion of healthy lifestyles of children' - funded by the Italian Ministry of Health - is the web & social media (SM) content analysis relating to children's eating habits, physical activity and sedentary behaviours. By discovering which influencers deal with health topics, when, how, and through which channels they do it, countermeasures can be planned, if needed, foreseeing better users' health literacy. This 'web and social listening' and its analysis are even more relevant now at the pandemic, as the parents' use of the web and SM has increased. Methods Four areas of interest were selected: nutrition, physical activity, sedentary lifestyle and overweight. For each, keywords were defined to search for relevant content (mention). The data were collected between May and December 2020. Results The mentions collected were 38.146. Of these, 29.666 were used to construct the panel of 3.100 citations subjected to qualitative analysis. The main Preliminary Results: - Source type: social media 48%, web 52%. 45% of SM content were from Twitter,

Instagram (40%), Facebook (14%) and YouTube (0.3%). Facebook accounts had the largest audience Audience profile: 62% women and 38% men;51% of these were 45-54 and 30% 35-44 years old The most relevant words were: physical activity, children, children's snack, correct nutrition References to the topic 'COVID-19' in the mentions collected concerned 14% of the analysed content The main organisations, by volume of citations, were: World Health Organisation (12%);National Institute of Health (6%);Italian Food Union (6%);Istat (5.5%);Doxa (5%);OKkio alla Salute (5%);Ministry of Health (4%);Coldiretti (4%);UNICEF (3%). Conclusions The results will contribute to producing indications for health promotion and increasing Internet users' health literacy. Key messages Women are the main users of the topics investigated. Children and adolescents' health was the central theme in the mentions collected relating to Covid-19.

6. **Potential Health Effects of Loneliness in the Pandemic Era**

<https://doi.org/10.1093/eurpub/ckab165.122>

- a. Background COVID-19 has posed a public health problem leading to considerably higher healthcare costs in the U.S. population. Additionally, social connectedness has been demonstrated to be directly correlated with improved disease management and outcome of treatment. The purpose of the current study was to explore 10-year mortality outcomes of loneliness. Methods We assessed data from the 1999-2008 National Health and Nutrition Examination Survey, with mortality data obtained through 2015. All individuals from this nationally representative study were 20 years and older. Hazard ratios with 95% confidence intervals (CIs) for all-cause and cardiovascular disease (CVD) mortality were estimated using Cox Regression models. Results Out of 994 participants (54% females vs. 46% males) with loneliness, 324 deaths were reported (including 71 CVD deaths) during an average of 10-year follow-up. The hazard ratio for mortality among those experiencing social isolation was 1.28 (95% CI = 1.17-1.39). The adjusted HR for all-cause mortality [1.24 (CI 1.12-1.38, p < 0.05)] and CVD mortality [1.31 (CI 1.09-2.56, p < 0.05)] were significant, after additional adjustment for demographic and health risk factors. There was also an increase in COVID-19 related loneliness search behavior. Conclusions Individuals who experience loneliness have a significantly higher likelihood of overall and CVD-mortality than those who are socially connected. Consequently, addressing loneliness in the face of social distancing and isolation may contribute to lower premature death risk and improve CVD-mortality in this vulnerable population. Key messages Loneliness may longitudinally lead to increased mortality from cardiovascular disease. Future public health interventions should incorporate active efforts to address loneliness.

7. **Overcoming social distancing in interventions with older adults by using digital media?**

<https://doi.org/10.1093/eurpub/ckab165.371>

- a. It was shown that older adults' health literacy has deteriorated in course of the COVID-19 pandemic. Two ongoing interventions aiming to improve health and food literacy as well as self-management by regular in-person meetings with working groups for persons aged 60 and older were put on hold. To help

orientating in an information flood, to stay rooted in social networks, and to counteract intervention drop-out, a bridging program was developed. Telephone interviews with peer-moderators on technical equipment for digital communication, media literacy and relevant topics were conducted. The peer-moderators were trained in performing video and phone conferences as well as phone chains. A total number of 23 moderators leading 15 groups with 170 participants were involved in the interventions before the lockdown. It was found that the majority of participants were not able or equipped to perform video or telephone conferences. Based on these findings, health information and exercises were sent periodically by post and each group implemented a phone chain. Both measures were well-accepted by all groups. Conference calls with the moderators were conducted only twice due to low acceptance. Despite training for video conferences, none of the groups managed to use digital media alone for communication. Nevertheless, only four groups, nine moderators and 94 participants, quit the program during the lockdown. The acceptance of the moderators is key to introduce the participants to new communication channels. Due to insufficient digitalized homes, lack of digital devices or technical affinity, the distribution predominantly took place via postal dispatch. Even though the bridging program was well accepted, participants still rather waited until in-person meetings were allowed again instead of swapping to digital communication. A regular, participatory developed, multichannel intervention can help to engage older adults and maintain intervention research in times of crisis. Key messages Multichannel and participatory developed interventions can help group programs with older adults surviving a crisis. Mere digital communication, lacking knowledge and equipment can discourage older adults to stay socially active.

8. **Using social network analysis to evaluate relationships among community nutrition education partners** <https://doi.org/10.1093/eurpub/ckab165.434>
 - a. Background The Supplemental Nutrition Assistance Program - Education (SNAP-Ed) program is an evidence-based program funded by the United States Department of Agriculture (USDA) that provides direct education and multi-level interventions for low-income families about nutrition, physical activity, and making healthy choices on a limited budget. Each U.S. state is funded to administer the program. SNAP-Ed works by building partnerships with community organizations. The purpose of this study was to identify characteristics of Minnesota's community partnership network involved in the SNAP-Ed program from the federal fiscal years 2016 (FY16) to 2020 (FY20). Analysis aims include 1) mapping the growth of SNAP-Ed community partners each year, 2) identifying essential network patterns and thereby highlight potential network gaps, 3) gauging the current level of partner involvement, and 4) enabling a data-driven approach for future collaborative network improvements. Methods Social network theory and analysis (SNA) was used to examine changes in partnerships over time. The data was retrieved from Minnesota's SNAP Education Evaluation and Database System (SEEDS) where

maintained program and evaluation data;SNA metrics such as size, breadth, density, degree centralization, clusters, and modularity were calculated for each network. Results Partners of SNAP-Ed programs expanded from 869 in FY16 to 1032 in FY19. Due to COVID-19, in FY20, the number of partners decreased to 804. The network density decreased over time due to expansion of the number of partners between FY16(.0263) and FY19(.021). In FY20, the network density significantly decreased to .001 since partners were not able to be connected to each other. Network centrality will also be reported. Conclusions Our study presents a novel use of social network analysis methods to evaluate the community partnerships involved in the SNAP-Ed program. Key messages Using social network analysis to analyze the quantity and quality of the relationship among community nutrition education program partners gives practical policy recommendations. A novel use of social network analysis methods to evaluate the community partnerships involved in the SNAP-Ed program.

Worker-Safety/NIOSH

9. **COVID-19 prevention and control measures in workplace settings: a rapid review and meta-analysis** <https://doi.org/10.1093/eurpub/ckab164.300>
 - a. Workplaces are high-risk environments for SARS-CoV-2 outbreaks and subsequent community transmission. Identifying, understanding, and implementing effective workplace SARS-CoV-2 infection prevention and control (IPC) measures is critical to protect workers, their families, and communities. A rapid review and meta-analysis were conducted to synthesize evidence assessing the effectiveness of COVID-19 IPC measures implemented in global workplace settings through April 2021. Medline, Embase, PubMed, and Cochrane Library were searched for studies that quantitatively assessed the effectiveness of workplace COVID-19 IPC measures. Included studies comprised varying empirical designs and occupational settings. Measures of interest included surveillance measures, outbreak investigations, personal protective equipment (PPE), changes in work arrangements, and worker education. Sixty-three studies from international healthcare, nursing home, meatpacking, manufacturing, and office settings were included, accounting for ~280,000 employees. Meta-analyses showed that comprehensive measures (0.2% positivity;95%CI 0-0.4%) were associated with lower post-intervention employee COVID-19 positivity estimates than single measures like asymptomatic PCR testing (1.7%;95%CI 0.9-2.9%) and universal masking (24%;95%CI 3.4-55.5%). Modelling studies showed that combinations of (i) timely and widespread contact tracing and case isolation, (ii) facilitating smaller worker cohorts, and (iii) effective use of PPE can reduce workplace transmission. Comprehensive COVID-19 IPC measures incorporating swift contact tracing and case isolation, PPE, and facility zoning, can effectively prevent workplace outbreaks. Masking alone should not be considered as sufficient protection from SARS-CoV-2 outbreaks in workplace environments at high risk of virus transmission. Key messages Comprehensive contact tracing,

syndromic surveillance, regular testing, PPE, and zoning measures can prevent COVID-19 outbreaks in the workplace. Masking alone should not be considered as sufficient protection from SARS-CoV-2 outbreaks in workplace environments at high risk of virus transmission.

Child Nutrition/School Meals

10. Assessment of COVID-19 pandemic impact on guaranteeing food security in local school catering <https://doi.org/10.1093/eurpub/ckab165.278>

- a. Background The Italian National Institute of Statistics (ISTAT) highlights that in 2020 10% of the Italian population could not afford an adequate meal every 2 days. Families with several children were more affected, for these children school meals represented the only access to a healthy diet. The European Commission Farm to Fork Strategy, concerning the COVID-19 pandemic (CP), underlines the need to act to ensure access to a sufficient supply of affordable food for all. In the Province of Trieste (PT) over 90% of pupils eat in school canteens (12,000 meals per day). The aims of the project were to verify the impact of CP on the food security of public school canteens (PSC) and determine any Nutritional Critical Points (NCPs) - Corrective Actions (CAs) to guarantee healthy equity meals for all pupils. Methods The content of Public food procurement and service policies for a healthy diet (PFP) published by the WHO and the Nutrient Analysis Critical Control Points (NACCP) process as indicated by the Ministry of Health were applied. In the first quarter of 2021, all food procurement contracts (n = 6) and all of the school kitchens (n = 45) of PT PSC were verified, the University of Trieste analysed the composition of fresh desserts administered in 7 consecutive weeks. Results The NACCP process showed NCPs on the low quality of afternoon snacks and on the quantitative/qualitative fat profile of fresh desserts, with a content of 69 to 72% of saturated fat, of 5 to 7% of trans fat and of 8 to 12% oxidized fat as a “dual quality” food. CAs were activated to support all PT PSC in reformulating fresh desserts, as well as in aiding the assessment of the food procurement landscape, activating regular monitoring of compliance and designing procurements adherent to PFP. Conclusions Project outcomes highlight the importance of taking action to continuously support PSC in order to ensure healthy and equitable food environments for all and to contribute to building a resilient food system. Key messages Guarantee healthy equity school meals for all pupils by developing on going processes to address the pandemic challenge. Ensure technical assistance to school catering to overcome the impact of COVID-19.

11. Life skills training to promote health and well-being at school: an evaluation <https://doi.org/10.1093/eurpub/ckab165.411>

- a. Background In educational settings, health promotion refers to a whole-school approach to help individuals realize their potential, cope with the everyday stresses of life, work productively and fruitfully, and contribute to their

community. In these regards, it is essential to enhance a vast repertoire of knowledge, skills, attitudes, and values, a narrower set of psychosocial skills (Life Skills - LS). The Local Health Unit of Palermo, the Centre of Training and the National Institute of Health (ISS) developed the project "Life Skills and resilience: effective strategies to promote health at school". Objectives The project's general aim was to provide headteachers and teachers with methodologies and tools to develop and promote LS in educational settings. Through the participatory approach, training was structured in 5 modules of 16 hours each. The training activities began in October 2019 and ended online due to the Covid-19 emergency in July 2020. The evaluation plan provides the assessment of learning, satisfaction, monitoring and assessment of attitudes and behaviours using a validated questionnaire. The aim was to identify improvements in relationships inside and outside the school context and increase self-efficacy and job satisfaction among teachers. Data analysis is currently being processed. Results 169 Teachers, 12 Healthcare workers attended the training. The preliminary results show that: i. there is an improvement in relationships between colleagues, students and parents;ii. there is a slight improvement in the perceived self-efficacy in managing negative emotions;iii. there is an improvement in the personal and collective effectiveness perceived in the school environment and job satisfaction. Conclusions The project was designed for implementing sustainable interventions. The advent of COVID-19 has allowed further reflection on the usefulness of this approach for promoting resilience and protective factors and managing the consequences of the pandemic. Key messages The training improved personal and professional skills on design and methods to apply LS. The use of qualitative/quantitative assessment made it possible to illustrate the entire training process.

DFWED- Food Safety

12. How do food safety tools support the animal origin food supply chain?

<https://doi.org/10.1088/1755-1315/854/1/012021>

- a. This study gives an overview of food safety tools that have been developed recently through the perspective of the animal origin food supply chain. It introduced some expected food safety legal issues, new technological outbreaks, food safety culture outlined in latest versions of food safety management system standards and tools applicable for the entire supply chains. Finally, the paper briefly shows some incentives associated with food safety and Covid-19 as well as the role of UN Sustainable Development Goals in animal origin food.

Food/Farm/Ag/Migrant

13. Impact of COVID-19 pandemic on food supply chain: An overview

<https://doi.org/10.1088/1755-1315/854/1/012007>

- a. Since 2020, the rapid spread of the SARS-CoV-2 virus has caused the global pandemic COVID-19, generating health, economic and social impacts. The rapid spread of the infection in the human population required an accelerated adaptation to the new circumstances to protect human health and mitigate financial losses. As the ongoing pandemic has caused reported cases in the multi-millions, all stakeholders need to prevent further outbreaks and mitigate associated risks. Hence, besides government, health care systems, business stakeholders, public authorities, non-governmental organizations, and other socially responsible associations, the food sector has a crucial role in combating COVID-19. The food sector in this context is referred to as every actor in the food supply chain. This paper explores the difficulties in the entire food supply chain's reactions to the pandemic crisis and underlines the meat sector's response.

14. The Role of Migration Research in Promoting Refugee Well-Being in a Post-Pandemic Era <https://doi.org/10.1177/23315024211045629>

- a. This paper summarizes the presentations and discussions of a virtual stakeholder meeting on Refugee Resettlement in the United States which built on the foundation of the May 2019 workshop represented in this special issue. With support from the Robert Wood Johnson Foundation and the Andrew W. Mellon Foundation and hosted by the Committee on Population (CPOP) of the US National Academies of Sciences, Engineering, and Medicine on Dec 1–2, 2020, 1 the meeting convened migration researchers, representatives of US voluntary resettlement agencies, and other practitioners to consider the role of migration research in informing programs serving refugees and migrants during the COVID-19 pandemic, continuing an emphasis on bringing global learning to those on the ground working with refugees. The goal of CPOP's work in this area has always been to build bridges between communities of research and practice and to create a dialogue for a shared agenda. We present the goals and framework for the 2020 meeting, followed by a summary of each of the four sessions and themes that emerged from these discussions. The paper ends by considering effective ways of amplifying the role of research in refugee policy and programs of refugee resettlement in the United States and how demographers and population researchers might contribute to this goal.

15. Vaccinations for migrants during and beyond the COVID-19 pandemic <https://doi.org/10.1093/eurpub/ckab165.150>

- a. Issue Migrants have suboptimal vaccination coverage compared to the general population in destination countries due to several factors -administrative barriers or lack of legal entitlements to health -health system barriers (language, lack of cultural sensitivity and community engagement capacity, vaccination costs) -lack of trust in the health system and misconceptions about vaccines due to misinformation or beliefs Problem Countries should develop national policies and ensure an inclusive, free of charge and proactive vaccination offer to migrants, irrespective of their legal status; and to extend this approach beyond the current pandemic and the sole COVID-19 vaccine Results To achieve COVID-19 global herd immunity all population groups, including migrants, needs to

access vaccination. Tailored vaccination strategies, once devised, shall be applied to routine national vaccination plan to tackle health inequalities Lessons The following actions shall be implemented at national level Action 1. Develop tailored and equitable approaches for PH vaccination services targeting migrants through: -free of charge access -decentralization and outreach capacity of the health system -innovative service delivery models (mobile clinics, combined health services, mass vaccination) -health personnel and migrants participatory approach and engagement strategies Action 2. Increase staff engagement through: -increasing health personnel's difference sensitivity -strengthening health personnel's communication capacities Action 3. Increase migrants' health and vaccine literacy through: -establishing vaccine literacy education programmes and strategies -offering health promotion educational interventions Action 4. Monitor progress of inclusive vaccination offer by: -setting strategic goals, targets and indicators for national vaccination plans -expanding immunization information systems to monitor vaccination coverage, with appropriate disaggregation by migration status core variables Key messages Explicitly and proactively include migrants and displaced communities in vaccination plans and set up, test and implement new approaches in primary prevention and vaccination services. Extend this approach beyond the current pandemic and the sole COVID-19 vaccine in order to enhance preparedness to present and future health threats.