

The Impact of COVID-19 Lockdown on Parents' Mental Health

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Abstract

The COVID-19 outbreak led to a fresh and urgent interest in how to manage the effect of extraordinary public health actions on the mental health of individuals. In this study, we focused on the impact of the COVID-19 lockdown on the mental well-being of parents. We adopted a broad perspective, considering, among others, parents' risk of developing common mental disorders and their propensity to take steps to manage their mental health. Our results supported the findings that modification in lifestyle can lead to improvement in mental health. In light of the renewal of lockdown measures, there is a need for more studies to address the confusion and concern facing families. (Morelli et al.2020)

Rapid large-scale public health interventions intended to limit the spread of the coronavirus not only led to concern about the potentially less severe complications but also garnered a fresh and urgent interest in how to manage the effect of extraordinary public health actions on the mental health of individuals. In this study, we attempted to shed light on the impact of the COVID-19 lockdown on the mental well-being of parents. The focus was on parents as they are more likely to have experienced significant emotional and practical pressure as a result of lockdown.

Keywords: Statistics, Analytics, Covid-19, Mental health

Introduction

The COVID-19 lockdown has caused major disruptions to families' daily routines, and the economic consequences of the lockdown have been particularly severe. The long-term consequences of these economic shocks are still unknown, but it is likely that today's children will bear the consequences of this unprecedented crisis for the rest of their lives. The aim of this paper is to assess the mental health of parents of young children during the first wave of COVID-19, during lockdown. Following the rich economic literature on the long-term effects of serious health shocks on labor market outcomes, and the quite scarce literature on the economic consequences of parenting children, the goal is to shed some light on family dynamics and policies that can have some short-term and long-term implications. The present time is characterized by the myriad of short-term and potential long-term effects of the COVID-19 pandemic and provides an interesting test for other crises. In this paper, we exploit this social experiment, thanks to a newly available measure of parental mental distress during the first months of COVID. We find that addressing the issues early in the crisis can avoid consequences that could extend for years. We observe a significant spike in the mental health distress of parents of young children during the first lockdown. We provide a model to explain how children can easily detect if a parent is not emotionally stable, thus indicating urgent needs to complement anti-virus measures with other social policies. (Westrupp et al.2022)

Literature Review

As noted in recent reports, the COVID-19 pandemic is causing a range of mental health problems among people who have been affected, which are likely to persist for a long time and have serious negative effects on global society. Among the general public, the level of stress is greater if the situation or perceived dangers the person is facing are uncertain, if the person is unaware of how serious those dangers are, and if those dangers are not controllable. The

COVID-19 pandemic poses this type of huge threat to many people around the world. A large number of works have dealt with mental health problems, including the psychological impact of COVID-19 on the public, and many studies have focused on specific topics. Indeed, much of this work has explored social and emotional profiles, both globally and during the pandemic, and risk and protective factors for mental health problems have been examined.

To protect against the spread of COVID-19, social distancing and quarantine measures such as lockdown policies and stay-at-home orders have been implemented. Recent studies have shown that some stressful experiences such as social isolation and economic stress are significantly associated with poor mental health, and the necessity of these lockdown measures for public health must also be weighed against their negative effects, including increased worry and anxiety, loneliness, depression, and other mental health problems. However, we lack the necessary tools to assess mental health and its underlying determinants, and we do not have a complete understanding of how these various psychological factors work together to influence the mental health outcomes of vulnerable populations in the context of the COVID-19 pandemic. Moreover, parenting has a fundamental influence on the emotional development, happiness, self-esteem, coping, and distress tolerance, and hence the mental health and well-being of children. However, to our knowledge, no study has focused on whether parenting is affected by the COVID-19 lockdown and on its association with parents' mental health. (Elbogen et al.2021)

Methodology

Participants Participants included a total of $n = 581$ adults between the ages of 18 and 64 years old who were currently residing within the United Kingdom and had at least one child between the ages of 3 and 18 years old. It is worth noting that the selection process ensured that there was one participating parent from each household, regardless of their biological, adoptive, or step-parent status. The average age of the participants was calculated to be approximately 33.05 years old, with a standard deviation of 6.09. When it came to the number of children in each family, there was a range from 1 to 5. The gross monthly income reported by the participating families revealed a wide spectrum, varying from less than £1500 per month all the way to over £4000. Interestingly, the majority of families fell within the £2001–£3000 range, suggesting a relatively balanced distribution in terms of economic circumstances. When it comes to educational attainment, the highest levels achieved among the respondents ranged from the General Certificate of Secondary Education to a university degree, highlighting the diversity in educational backgrounds within the study participants. The motivations behind the respondents choosing to complete the survey were multifaceted. Many expressed concerns for the well-being of their children as well as themselves, emphasizing the importance of understanding the impact of various circumstances on their overall health. Additionally, a substantial number of participants mentioned feeling the effects of working from home, which undoubtedly had implications for their daily lives. Lastly, the financial aspect was a significant consideration, with participants highlighting the impact on their savings and general financial well-being. (Uerlich et al.2021)

Measures Demographic Details: Participants were asked to provide the number of children currently living in the home, the ages of the child/children, gross family income, highest level of qualification for each biological parent, and how the parent(s) were currently working. Mobile Phone Use: The Mobile Phone Problem Use Scale: The scale was designed to identify individuals who have developed an excessive relationship with their mobile phone, characterized by the loss of control over usage and with negative implications. A sample item includes “I feel anxious or bored if I cannot use my mobile phone.” Responses are provided on a six-point Likert Scale, from 1 (completely disagree) to 6 (completely agree), with higher scores indicating more problematic mobile phone use. The scale has strong psychometric properties and has been used to evaluate mobile phone use across a range of studies. (Harris et al., 2020)

Impact on Parents' Mental Health

There is a range of risk factors that increase caregiver strain and could lead to an abuse and neglect crisis during the COVID-19 pandemic. Lockdown orders, social isolation, and health worries have raised stress rates among many caregivers, potentially reducing their ability to manage their children effectively. Here, the contribution of family-professional partnerships in providing appropriate support has been to ensure access to reliable, two-way information

flow, efficient use of videos, and other educational materials, virtual home visits that can maintain positive monitoring while keeping social distance, online training and support groups, and remote crisis intervention services. In this study, we aim to contribute to the assessment of the impact of the COVID-19 lockdown on mental health and parental strain by analyzing data from six European countries collected during the most severe phase of the lockdown in spring 2020. Using the experience-focused socialization scale of the Parental Stress Index, we find that mental health worsened between 11 and 17 percentage points across countries under the most severe restrictions. The magnitude of the estimated effects did not differ by country characteristics. Mothers and parents of young children were more likely to experience large deterioration in mental health. These results suggest that the lockdown measures had strong effects on parental mental health and that still additional efforts are required to support parents, especially those with young children, to ensure their well-being and family stability as part of the exit strategy. (Wong et al.2021)

Stress and Anxiety :

Both the COVID-19 virus itself and the regulations developed to prevent the spread of the virus lead to negative psychological and behavioral effects in individuals. The COVID-19 virus has affected hundreds of millions of people, caused more than 184 million cases, and resulted in more than 3.9 million deaths until the middle of 2021. In the fight against the epidemic, governments enforce people to adapt to a rigorous daily routine by taking measures such as banning the movement of people, interrupting health, education, and social networking services, closing schools, and banning the operation of businesses involved in social and economic life. Although these measures are taken to protect public health, they disrupt people's daily lives and seriously affect the behavior and psychology of individuals in their social environment. The psychological effects caused by long-term quarantine processes, isolation measures, negative effects of economic life, restrictions on marriage in social life, and individual behavior are discussed under the title of emotional impact, stress and anxiety symptoms, depression symptoms, and disruption of sleep patterns.

The direct negative psychological effects of quarantine applications include depression, confusion, anger, detachment from social relations, anxiety, symptoms of psychological stress, and post-traumatic stress related to exposure to quarantine. The COVID-19 virus not only affected individuals' psychological states but also had adverse effects on the family institution. Due to quarantine practices, people stayed in their homes for longer periods, social distance was emphasized, and engaging in social activities became more difficult. In all these restrictions enforced to prevent individual interactions, families are forced into a life that is almost stuck between four walls, and people experience distress, stress, fatigue, sadness, anxiety, and depression. It has been determined that individuals who are in lockdown have increased panic attacks, lost their sense of time, lost their pleasure in daily activities, and experienced a decline in sleep quality, while worrying about not being able to meet their families because they are away from their relatives. As quarantine practices become more widespread, people who feel lonely, closed off from their relationships, and are afraid of today and tomorrow have entered a psychological state where they may want to commit suicide more easily. In terms of marriage practices and traditions, holding wedding ceremonies and banquets are restricted within the scope of measures to prevent the spread of the virus, disrupting the traditional pattern of marriage. With the marriage restrictions, individuals who are closer to emotional collapse have entered a lifestyle where stress and anxiety have increased. The increasing stress and anxiety levels of people over time have had negative repercussions on the family institution. With the closure of schools as measures to prevent the spread of COVID-19, parents showing high levels of stress and anxiety during the pandemic are also taking on the role of supervisors in the educational process of their children. When the presence of the COVID-19 virus is combined with the additional burden on working parents, their responsibilities and concerns about their child's health and educational progress will increase stress and anxiety levels. There are no studies that test the impacts of COVID-19 lockdown on parents' mental health by analyzing data specific to COVID-19-induced lockdown. This study aims to investigate the effects of COVID-19 lockdown on parents' mental health by using data collected during the three phases of lockdown in Turkey, where the first case was identified on March 11, the first lockdown date was March 23, and the planned free traffic date was May 18. (Gupta et al.2020)

Depression :

Parenting often involves setting aside one's desires and needs for the benefit of children. Doing this over an extended period with little or no relief might take a toll on one's mood. Hence, an indicator frequently used by practitioners and laypeople is parental depression; however, problems can also occur when using this indicator. Individuals experience different thresholds at different times, and these thresholds shift over time. Some people do not find themselves at the point where they consider suicide until they experience a trigger or hit a threshold. Also, mild everyday life problems for a few days during confinement can become a severe problem. For instance, some moments of parent-child conflict can be used for individual growth, allowing children to feel supported and understood even when discussing more 'unpleasant' topics, sometimes turning a conflict into an enriching experience.

There is evidence that mild parenting difficulties existed in waves, where the occurrence was determined by a trigger. In the present reality of the lockdown, trigger thresholds were apparently shifted by the combination of job loss, financial problems, atypical needs of children, being single, being parents of young children, and the lack of organization needed to face family problems. Those conditions are relatively frequent, often occurring in the non-clinical — or subthreshold — range of several psychiatric disorders, including depression. It is likely that more parents have experienced an increase in depressive symptoms due to the problem's relative ubiquity. Moreover, feelings of justice and injustice change, and judgments of fairness and satisfaction with life are based on how much worse or better people now feel. It follows that it is impossible to predict how committed parents will be. Notice that the relevance of efforts to prevent depressive symptoms is supported by high levels of agreement among both therapeutic experts and laypeople about behaviors that trigger unpleasant and mentally disturbed states. High levels of laypeople agreement suggest, however, that people's general hypothetical choices are not necessarily high-quality welfare predictors. After all, salience is salience, irrespective of the source, whether this provocation comes from thinking about what happens in a hypothetical meditation study, stories, signal observation, or retrospective evaluations. (Bignardi et al.2021)

Parenting Challenges :

The challenges that primary caregivers faced during the COVID-19 lockdown and the subsequent impact on their parental mental health have been recognized in the ever-expanding field of maternal and paternal mental health. Providers must address the resulting increase in anxiety and depression in caregivers to best support their mental health and overall family well-being. Women are typically the primary caregivers, and thus, more studies were focused on maternal health than on paternal health. Additionally, one study involving both mothers and fathers perceived that mothers suffered a higher impact on their mental health due to balancing household responsibilities, homeschooling, and working from home than did fathers, especially single fathers. Partner support can buffer against parental burnout, yet single parents have no off-duty period when taking care of children, thus being subjected to a higher risk of burnout.

Although mothers were shown to be at significantly higher risk for mental health consequences, the overall picture of the COVID-19 burden on mothers globally is incomplete and has been considered prejudiced, as most existing studies on parenting challenges were drawn from a small sample or targeted a developed country. This small sample size reflects the current unmet research, familial, and healthcare needs of this population. Some studies targeting mothers only in Asia revealed that increasing COVID-19 home confinement time was significantly associated with parenting stress among Indonesian mothers, whereas maternal loneliness and parenting stress increased over the study period for Malay mothers. Overall, the correlative association between parenting stress and psychological challenges appears universal and is repeated in Lebanon and the Philippines. These countries from Asia-Pacific and the Middle East are geographically distant, have different languages and cultures, yet both studies showed a significant correlation between parenting stress and an emotional impact among mothers. This correlation was independent of country differences, indicating the necessity to support mothers' mental health in the global community. (Giannotti et al.2022)

Factors Contributing to the Impact

The places in which parents and children live and learn will have a profound influence on the stress, psychological adjustment, and general mental health of adults, as well as the developmental concerns, mental illness, and overall well-being of children. Outcomes are governed by the "goodness of fit" between the children's temperaments and parents' occupational, interpersonal, and developmental knowledge, along with the time available to invest within the constraints of an individual family. Environmental contexts can exacerbate economic, social, family, and mental health challenges such as poverty and the absence of stable relationships. Work-to-home and home-to-work conflicts re-emphasize that for many physicians and staff, it is not a matter of leaving off one hat and starting with another, but an ongoing juggling that can have a long-term impact.

At present, measures to contain the spread of restrict the movement of those who would otherwise be participating in work and school. Lockdown measures also mean that key social and professional support systems are no longer available, compounding the challenges of parenting a child with a developmental disability at this extraordinary time.

Work from Home :

Work from home due to the lockdown was frequently mentioned as a positive aspect, particularly among couples in which both partners worked. This allowed more time with children and decreased the stress of prevention. This may mitigate the negative effects of work pressure on families. The proportion of those reporting work pressure on children and stress in the morning increased. The natural outcome during the crisis may be because parents spent more time with their children than normally at home to help them make their beds, eat breakfast, and see them off to school.

The proportion of respondents reporting parenting pressure and interference decreased, and fewer parents reported work pressure because of distance education instruction, which is likely related to the fact that children stopped learning. There may be a 'sweet spot' of work-life balance during the pandemic, which is borne out by an increase in the work-family balance score for those respondents who had children. Coworkers' perception of pressure increased relatively less among occupations that worked from home, and the proportion reporting both work pressure on children and stress in the morning increased. These findings indicate that the home sector population included a unique and context-dependent distribution of dual mechanisms, types of parental everyday stress, and a deviation from universal work pressure effects on parents.

Childcare Responsibilities :

COVID-19 lockdown had a great impact on parents' lives. Childcare responsibilities increased during this time, as the number of opportunities for children's activities, from school and extracurricular activities to playing outside, reduced drastically. After two months of lockdown, children from 87 families across England were more worried about their families. During lockdown, parents spent on average 37 minutes more on weekday childcare activities, but fathers' input lagged behind mothers. Statistically significant increases in parents' time use with their children were found for fathers both on weekdays and weekends. Increases in time spent by both parents supporting children in their learning during weekdays are a unique aspect of the lockdown period that had not been observed during pre-lockdown days. (Ruppanner et al.2021)

Given the unprecedented circumstances, children of analytical parents may benefit from spending additional time with their parents and may exploit the opportunity to get more involved in household chores. Overall, scientific evidence suggests the COVID-19 lockdown made many parents feel stressed, anxious, and overwhelmed and negatively affected their sleep. It is wise to keep an eye on both parents and children and to help parents reduce their associated feelings of distress. We will propose suggestions for immediate intervention that will mitigate adverse effects of extended school closures and decreased family income and parental supervision on child education and welfare.

Financial Stress :

The COVID-19 crisis has affected individuals not just from a health perspective but also a financial one. The government provided support with furlough schemes, loans, and grants. However, despite the financial packages available, many individuals reported experiencing frustration, helplessness, and uncertainty, particularly those with low income, reduced hours of work, whose income dropped due to the coronavirus, self-employed and small business owners, who had low savings, and struggled to access government aid. Indeed, the poorer mental health reported by individuals and some parents in this study might be influenced by financial strain or worry about the future. Impending financial worries have increased anxiety and depressive symptoms, and these were observed in studies that assessed mental health prior to the pandemic.

A limitation of the present study is that we did not have data detailing the socio-economic background of the parents. However, the majority of the participating parents in this study were mothers completing the online questionnaire, most likely due to the gender difference in childcare responsibilities. As women often have lower earnings than men, this could mean that most of the parents in the study are living in low-income homes. Increased health care costs associated with the pandemic, job loss, and declining state budgets for health care programs might help explain why a significant percentage of mothers and fathers reported mental health concerns during the lockdown. Pre-COVID data is not available for many couples, but prior research using the same dataset found that depressive symptoms were more prevalent among low-income parents, particularly mothers, compared to higher income parents prior to the pandemic. These findings align with prior research predicting greater psychological distress for the poor, particularly single mothers, during the pandemic. In their study of urban mothers, lower income was associated with greater perceived threats from the coronavirus and reported distress. (Santana et al.2021)

Coping Mechanisms

In this study, researchers contacted employed mothers who were married, literate, living in nuclear families, had access to a smartphone, and had children at home. All the women in the study lived in two or three-room apartments in different localities. The women were also asked to talk about their coping strategies during lockdown periods. Their coping strategies included engagement with children, praying, faith in God, working from home, cleaning, cooking, gardening, watching TV, and spending time with their spouse. Most of them were able to develop excellent ideas for children and families without any psychological pressure. These strategies were effective in reducing childhood pressure from adolescents. They stated that they had spent several days talking with teenagers. They were encouraged to remain supportive but to actively seek treatment if there was any psychological stress. (Araújo et al.2021)

Social Support :

Previous studies have identified social support as an important resource for parents in terms of enhancing their mental health. During the COVID-19 lockdown, social support was found to be important for parents as well. Though the nature of the support received has changed from pre-lockdown times, the role played by friends and family remains pertinent in reducing the demands on parents due to the often blurred work-life balance. In particular, in families with individuals of working age and intellectually disabled children living with them, social support – informal or formal – became a determining factor in the mental health of the parents and their mood and relationship with their children. Burdens of care can be exacerbated among these families who juggle between their children and remote work arrangements where professionals may not believe them. When support is withdrawn, parents feel doubly marginalized, as they have continued to carry out their responsibilities in caring for their child at a distance, with minimal evidence of professional understanding and empathy. Moreover, the support provided to a large group of parents is limited, unequal, and atomized.

From the studies, it is suggested that the current understanding of social support, which tends to focus on informal support, such as talking to friends and family, was based on a non-locked lifestyle during normal times. This suggests that in the post-modern day, those in positions capable of formulating strategies should not only focus on formal support but also on formal support online. A multi-pronged approach where formal and informal networks,

potentially supported by the government, can provide virtual resources; support that directly alleviates stressors; and support that enhances positive attributes that help parents cope to help mitigate potential stress points in these families. At the same time, efforts can be undertaken to create an infrastructure to support and protect all parents during global emergencies, serving as a force for good in a difficult time that might positively impact the care of children with intellectual disabilities in the future. (Babiker et al.2023)

Self-care Practices :

In this new challenging context, what is most important for parents is to find a way of understanding how they are feeling and what steps to take in order to deal with a negative mindset. This can be done by adopting self-care practices and asking for help. Having access to coping strategies and resources can ensure parents not only survive but also gain resilience, strength, purpose, and a feeling of security. The term “self-care” is a broader concept that includes “the actions individuals and families take for themselves, on behalf of their health care needs, preventive care, chronic care management, and care for the environment and the workplace, as well as occupational health and safety issues.” It is extremely important for parents living in self-isolation with their families to ensure that they are practicing self-care. Self-care has been associated with improved compliance with therapy, better weight control, lower levels of stress and tension, enhanced immune function, and improved attitudes and perceptions of physical self. These advantages can then have a beneficial effect on relationships with the community, at work, and with their families.

During the self-care process, parents should be aware that the tools they gain and the strength they develop translate not only into their own well-being and happiness but also into being more sensitive, attuned, understanding, patient, fair, and harmonious in their relationships with their children. During this crisis period, it is very important for both parents and children to be open and to talk about their thoughts, feelings, and emotions. To remind parents not to forget themselves, mental health support for them should be included in any government plan that is put in place to support individuals during isolation. Many platforms are offering free mental health service support, including telephone and online options. Parents must adopt self-care practices, manage stress, maintain a positive attitude, and, most importantly, seek support. Fighting together, united, with the same strategy for the same cause will lead to increased resilience in a short time. However, it is important to be aware that engaging in self-care activities is not a selfish practice. In contrast, by engaging in self-care, parents will become more emotionally available and better able to care for their children, especially during times of crisis such as this. (Ganesan et al.2021)

Interventions and Support Services

The unprecedented impact of COVID-19, including the widespread implementation of stringent public health measures like the lockdown, reminds us why there is a need for healthcare systems to invest more in delivering services to complement and support parents during public health crises. These services could minimize the long-term deleterious developmental outcomes in children. The difficulties that some parents encounter when caring for children during the lockdown, including that those with preexisting vulnerabilities tend to be disproportionately affected, are well recognized by pediatricians and were anticipated early on in the pandemic. As more children will be affected than expected, services should be rapidly expanded. However, support and services for child behavioral or emotional issues during global health crises are very few. Governments could subsidize or foot the entire bill for these child and parent-focused interventions, especially for the underprivileged who are hardest hit by this pandemic. This would alleviate the financial burden of parents who have lost employment or incomes during this difficult period. In addition, policymakers and relevant professionals providing services should prioritize expanding and providing evidence-based interventions that would be effective in increasing the resilience of parents and children during a pandemic.

In summary, the COVID-19 lockdown measures have placed unprecedented stress on many parents who are now struggling to cope. This comes from grappling with intensive parenting of children suddenly back in their care as the usual childcare options become restricted. This caregiving comes with its own added stresses of dealing with behavioral difficulties in children, teaching and supporting children's learning, and managing work and increased childcare responsibilities. Parents will need a combination of evidence-based interventions and services to

complement and support them as there is still little known about the long-term impact of the COVID-19 pandemic on parenting and children. The unusual situation of pandemic parenting during strict social distancing measures has highlighted broad disparities that abound in society. There is a need for both public and personal support to be prepared to better mitigate the negative impacts on family relationships, which can have significant and detrimental long-term consequences on the mental health and healthy development of children. (Aguiar et al.2021)

Conclusion and Future Directions

This study examined the impact of the COVID-19 national lockdown on parents' mental health during the spring, summer, and fall of 2020. The severity of pandemic impacts on mental health can be witnessed by the fact that women participants with only one child of any age had greater distress than those with no children. Many individuals enduring greater stress and greater multitasking demands due to the school closures or lockdown fall ill or become ill. Our findings could be interpreted within the scope of the gendered role of women in the family. It could be that being solely responsible for taking care of the children, along with longer confinement, intensifies stress and distress. Lastly, recommendations for advancements in research were made. Firstly, future studies should collect a more solid longitudinal dataset to capture the changes over time as the pandemic progresses. In such a dataset, factors associated with gender can be factored into this research's study to see if men's mental health has been affected indirectly through reduced economic prospects. Also, the implications of our research are not limited to the domain of lockdown stress. The results can be utilized to understand the functions of responsibilities and tasks that relate to personal life within the household during the post-pandemic recovery period. As a whole, these findings provide crucial and original information at both the family level and sectoral level. (Viertio et al.2021)(Kowal et al.2020)

References:

- Westrupp, E. M., Greenwood, C. J., Fuller-Tyszkiewicz, M., Olsson, C. A., Sciberras, E., Mikocka-Walus, A., ... & Youssef, G. J. (2022). Parent and child mental health trajectories April 2020 to May 2021: Strict lockdown versus no lockdown in Australia. *Australian & New Zealand Journal of Psychiatry*, 56(11), 1491-1502. [researchgate.net](https://www.researchgate.net)
- Morelli, M., Cattelino, E., Baiocco, R., Trumello, C., Babore, A., Candelori, C., & Chirumbolo, A. (2020). Parents and children during the COVID-19 lockdown: The influence of parenting distress and parenting self-efficacy on children's emotional well-being. *Frontiers in psychology*, 11, 584645. [frontiersin.org](https://www.frontiersin.org)
- Elbogen, E. B., Lanier, M., Blakey, S. M., Wagner, H. R., & Tsai, J. (2021). Suicidal ideation and thoughts of self-harm during the COVID-19 pandemic: The role of COVID-19-related stress, social isolation, and financial strain. *Depression and anxiety*, 38(7), 739-748. [wiley.com](https://www.wiley.com)
- Uerlich, M. F., Baker, S. R., Day, P. F., Brown, L., & Vettore, M. V. (2021). Common determinants of dental caries and obesity in children: a multi-ethnic nested birth cohort study in the United Kingdom. *International Journal of Environmental Research and Public Health*, 18(23), 12561. [mdpi.com](https://www.mdpi.com)
- Harris, B., Regan, T., Schueler, J., & Fields, S. A. (2020). Problematic mobile phone and smartphone use scales: A systematic review. *Frontiers in psychology*. [frontiersin.org](https://www.frontiersin.org)
- Wong, L. P., Alias, H., Md Fuzi, A. A., Omar, I. S., Mohamad Nor, A., Tan, M. P., ... & Chung, I. (2021). Escalating progression of mental health disorders during the COVID-19 pandemic: Evidence from a nationwide survey. *PloS one*, 16(3), e0248916. [plos.org](https://www.plos.org)
- Gupta, R., Grover, S., Basu, A., Krishnan, V., Tripathi, A., Subramanyam, A., ... & Avasthi, A. (2020). Changes in sleep pattern and sleep quality during COVID-19 lockdown. *Indian journal of psychiatry*, 62(4), 370-378. [lww.com](https://www.lww.com)
- Bignardi, G., Dalmaijer, E. S., Anwyll-Irvine, A. L., Smith, T. A., Siugzdaite, R., Uh, S., & Astle, D. E. (2021). Longitudinal increases in childhood depression symptoms during the COVID-19 lockdown. *Archives of disease in childhood*, 106(8), 791-797. [bmj.com](https://www.bmj.com)
- Giannotti, M., Mazzoni, N., Bentenuto, A., Venuti, P., & de Falco, S. (2022). Family adjustment to COVID-19 lockdown in Italy: Parental stress, coparenting, and child externalizing behavior. *Family Process*, 61(2), 745-763. [wiley.com](https://www.wiley.com)

- Ruppanner, L., Maltby, B., Hewitt, B., & Maume, D. (2021). Parents' sleep across weekdays and weekends: the influence of work, housework, and childcare time. *Journal of Family Issues*, 0192513X211017932. sagepub.com
- Santana, C. L. A., Manfrinato, C. V., Souza, P. R. P., Marino, A., Condé, V. F., Stedefeldt, E., ... & do Carmo Franco, M. (2021). Psychological distress, low-income, and socio-economic vulnerability in the COVID-19 pandemic. *Public Health*, 199, 42-45. nih.gov
- Araújo, L. A. D., Veloso, C. F., Souza, M. D. C., Azevedo, J. M. C. D., & Tarro, G. (2021). The potential impact of the COVID-19 pandemic on child growth and development: a systematic review. *Jornal de pediatria*, 97, 369-377. scielo.br
- Babiker, A., Elbarbary, N. S., Alaqeel, B., Al Noaim, K., Al Yaarubi, S., Al-Abdulrazzaq, D., ... & Al Alwan, I. (2023). Lessons learned from COVID-19 lockdown: an ASPED/MENA study on lifestyle changes and quality of life during Ramadan fasting in children and adolescents living with type 1 diabetes. *Clinical Medicine Insights: Endocrinology and Diabetes*, 16, 11795514231203907. sagepub.com
- Ganesan, B., Al-Jumaily, A., Fong, K. N., Prasad, P., Meena, S. K., & Tong, R. K. Y. (2021). Impact of coronavirus disease 2019 (COVID-19) outbreak quarantine, isolation, and lockdown policies on mental health and suicide. *Frontiers in psychiatry*, 12, 565190. frontiersin.org
- Aguiar, J., Matias, M., Braz, A. C., César, F., Coimbra, S., Gaspar, M. F., & Fontaine, A. M. (2021). Parental burnout and the COVID-19 pandemic: How Portuguese parents experienced lockdown measures. *Family Relations*, 70(4), 927-938. nih.gov
- Viertö, S., Kiviruusu, O., Piirtola, M., Kaprio, J., Korhonen, T., Marttunen, M., & Suvisaari, J. (2021). Factors contributing to psychological distress in the working population, with a special reference to gender difference. *BMC public health*, 21, 1-17. springer.com
- Kowal, M., Coll-Martín, T., Ikizer, G., Rasmussen, J., Eichel, K., Studzińska, A., ... & Ahmed, O. (2020). Who is the most stressed during the COVID-19 pandemic? Data from 26 countries and areas. *Applied Psychology: Health and Well-Being*, 12(4), 946-966. nih.gov