

Impact of coronavirus disease 2019 pandemic on parental stress and parenting practices during quarantine

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Background

Coronavirus disease 2019 (COVID-19) is a potentially fatal disease that is caused by SARS-COV2. Various types of stress have developed during the COVID-19 pandemic and have confronted many parents with challenging tasks. In aim of this study was to assess the parental stress during COVID-19 quarantine and its impact on the parenting practices during this critical period.

Patients and methods

This was a cross-sectional study in which 194 participants (parents of children aged 3–12 years) were recruited using a convenience and snowball sampling method through some Facebook and WhatsApp groups targeting parents with the required age. Cohen-Perceived Stress Scale Parenting practices during COVID-19-related questions were used to assess parenting stress and practices.

Results

More than two-thirds of participants were stressed (67%) according to the perceived stress scale. There was statistically significant difference between the age group of parents and perceived stress, *P*-value of 0.032. There was statistically significant difference between perceived stress and ways of punishment with a *P* value of 0.03. Majority of parents encouraged hobbies (71.1%) while less than half of the parents talked kindly with children, played with them, and described what happened to them (47.4, 41.8, and 46.4%, respectively).

Conclusion

Parental stress during quarantine is a significant risk factor on child abuse and maltreatment. It significantly affects the different domains of the parenting practices which consequently affect the child's behavior.

Keywords:

coronavirus disease 2019, pandemic, parenting, practices, stress

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Introduction

Coronavirus disease 2019 (COVID-19) is a potentially fatal disease that is caused by SARS-COV2. It has raised high global public health concern because of its high infectivity and serious sequelae. Implementation of extensive measures to decrease person-to-person transmission has been done to control this serious outbreak (Rothan and Byrareddy, 2020). These measures have changed the family life all over the world. There are about 138 billion children who are out of schools or nurseries, without access to outdoor sports, or playgrounds as reported by The United Nations Educational, Scientific, and Cultural Organization. The success in keeping children safe at home with fulfillment of their basic needs of food and shelter has become a challenging task especially in those who are living in low-income and crowded places (Cluver *et al.*, 2020).

Various types of stress have developed during the COVID-19 pandemic and have confronted many parents with challenging tasks. The parents are

exposed to hard life events like social isolation, grief, quitting work, and serious financial problems while caring for their children. Even going to work, buying from supermarkets, or going to the hospital for any medical reason raises the possibility of infection in children. Education and homeschooling has become the responsibility of the parents to achieve the appropriate schooling requirements in addition to their employment requirements. Moreover, caring for the elderly and to keep them safe from contamination have become, in most of cases, two opposing conflicts. Services for children with developmental delays or other health problems have become very limited while the demands have increased. All these factors have aroused great burden on parents leading to a rich environment for high parental stress (Coyne *et al.*, 2020; Tolan, 2020).

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This parental stress may consequently affect their abilities of responsive parenting during the current epidemic especially in the context that no one knows how long the situation will last. Responsive parenting can be defined as the ongoing care and support that are needed by the child in order to be able to thrive (UNICEF, 2012). It is reached through positive parenting practices that are represented to the child through early and frequent encouragement and participation in cognitively stimulating activities (like talking, reading, playing, and singing) to enhance a child's educational trajectory in addition to sensitive and responsive parent-child interactions in the everyday interactions (Britto *et al.*, 2017; Lakkis *et al.*, 2020).

Scientists in the field of child development have distinguished the difference between parenting styles and 'parenting practices.' Parenting styles are the characteristics of the parent that are almost stable over a long period of time and consequently determine the emotional context for the parenting practices. On the other hand, the parenting practices are the specific behaviors that parents use to socialize and practice frequently with their children. In reality, parenting involves both parenting styles (the stable emotional state) and specific parenting practices, which constitute the concrete behaviors (Anderson, 2011).

The effects of parenting behaviors on child development are cornerstones in this field of research. Recently, different researches have gone through main pathways that included trials of building a specific effective model, increasing the knowledge of moderating factors of child development, and investigating different parent-child interaction patterns. These studies are crucial for enriching the field and implementing new treatments to decrease negative outcomes (Bornstein *et al.*, 2013).

It is important to focus on the core parenting practices and behaviors that influence later child behaviors and that have the most effect on child character. They are the behaviors that increase or decrease the likelihood that children develop behaviors according to social norms. They include parental problem solving and communication skills, behavior management skills, parent's positive outlook on the child, and responsiveness skills. Problem solving and communication can be defined by the parent's ability to resolve conflicts through appropriate and coherent communication leading to avoidance of conflictual behaviors. These include different practices such as

being fair, avoidance of any type of discrimination, ability to compromise, respecting the child's needs, appropriate anger management, and similar behaviors. Also, behavioral management is an important aspect that displays effective discipline without the need to coercion or violence. This includes the parent's ability to guide the child toward regulated socialized behaviors in a socially appropriate way and in a way that respects the child (Paul, 2019).

Another important domain that affects parenting is the parent-child relationship. This includes giving positive regard, attention to the child, appropriate quantity, and quality time to the child in addition to positive affirmation. It is also characterized by the availability, responsiveness, and family cohesion that allows positive nurturing and interaction between the parent and the child (Goldberg and Carlson, 2014). Therefore, our aim in this study is to assess the parental stress during the COVID-19 pandemic and its impact on the parenting practices during this critical period.

Patients and methods

Study participants and settings

This was a cross-sectional study in which 194 participants (parents of children aged 3–12 years old) were recruited using a convenience and snowball sampling method through some Facebook and WhatsApp groups targeting parents with the required age. The participants were asked to fill in an online survey using google forms.

Study tools

Participants self-reported their sociodemographic data that included age, sex, marital status, educational level, and occupation. They then completed the Cohen-perceived stress scale (Arabic version) and nine questions related to parenting practices during the COVID-19 quarantine period.

Cohen-perceived stress scale

This is a 14-item instrument measuring the perception of stress. Participants are asked to select how frequently they experienced each item within the past month on a five-point Likert scale ranging from 0 (never) to 4 (very often). There were four reverse-worded items (i.e. 4, 5, 7, 8), and those items (i.e. positive perception of stress) were reversed coded. Total scores are obtained by summing all ratings of 10 items, with higher scores indicating greater levels of perceived stress. The present study used the Arabic version of PSS.

Parenting practices during coronavirus disease 2019-related questions

Questions about activities were done with the child, punishment, praising and role of father during COVID-19 pandemic and quarantine. Participants were asked to choose between three choices (no difference, less than before quarantine, more than before quarantine).

Procedures

Participants provided informed consent before taking part in the study. An invitation to take part in the study was posted on Facebook and WhatsApp groups, indicating the purpose of the study, its voluntary nature, and ensuring the confidentiality of information. Further, the Facebook post offered an anonymous link to participants to participate in the survey. The survey was conducted 2 weeks after the first COVID-19 lockdown in Egypt, which lasted for 1 week from April 1 to April 7, 2020.

Ethical considerations

Respondent's confidentiality was ensured. Only responders who agreed to participate and complete the online questionnaire were included in the study. Data confidentiality was preserved according to the revised Helsinki Declaration of Biomedical Ethics.

World Medical Association (2008): the Declaration of Helsinki, available at: <http://www.wma.net/en/30publications/10policies/b3/index.html> (retrieved October, 2011).

Data analysis

Precoded data were entered on the Statistical Package of Social Science Software program, version 21 (SPSS v.21) to be statistically analyzed [IBM SPSS Statistics for Windows, version 21.0, Armonk, NY: IBM. Corp (2012) was used to analyze data]. The data were summarized using mean and SD for quantitative data, and frequency and percentage for qualitative variables. Statistical differences between groups were tested using the χ^2 test for qualitative variables. Binary logistic regression was done for predictors of dependent variables.

Results

In all, 194 participants were included in this study; their mean age was 38.85 ± 6.108 (Table 1); 67.5% were less than 40 years old while 32.5% were more than 40 years old.

Participants reported that more than half of the fathers were not involved with their children (56.2%) during the pandemic. Regarding the effect of the pandemic on parents working hours, for mothers, nearly half of the

mothers had no difference in their working hours (46.9%), one-third reported they had a decrease in their working hours (33.5%), 13.4% had an increase in their working hours, and 6.2% had left work. For fathers, 32.5% had no difference in their working hours, 40.2% had fewer working hours, 20.5% had more working hours, and 6.7% had left work.

More than two-thirds of participants were stressed (67%) according to the perceived stress scale (Table 2).

There was statistically significant difference between age group of parents and perceived stress ($P=0.032$) (Table 3). There were no statistically significant difference between mother's occupation, father's occupation, and perceived stress ($P=0.0561$ and 0.551 , respectively). Also, there was no statistically significant difference between mother's education, father's education, and perceived stress ($P=0.505$ and

Table 1 Sociodemographic characteristics of the studied participants

	N=194 [n (%)]
Female	184 (94.8)
Male	10 (5.2)
Social status	
Married	183 (94.3)
Divorced/ widows	11 (5.7)
Father's occupation	
No work	8 (4.1)
Governmental work	57 (29.4)
Private	99 (51.0)
Free work	30 (15.5)
Mother's occupation	
No work	80 (41.2)
Governmental work	73 (37.6)
Private	28 (14.4)
Free work	13 (6.7)

Mean age= 38.85 ± 6.108 .

Table 2 Perceived stress scale among parents

Perceived stress scale	Frequency	Percent
Stress	130	67.0
No stress	64	33.0
Total	194	100.0

Table 3 Effect of parent's age on perceived stress scale

Age group	Perceived stress scale [n (%)]		P value
	No stress	Stress	
Age group			
Less than 40 years	37 (28.2)	94 (71.8)	0.032*
More than 40 years	27 (42.9)	36 (57.1)	

* χ^2 test.

0.075, respectively). By linear regression analysis, age group was a predictor for perceived stress with a *P* value of 0.044 (Table 4).

Regarding punishment, nearly half of the parents punished their children according to their emotional state rather than doing that according to the child's behavior (44.8%). Punishment was shown in different forms as reported by the parents, which included corporal punishment, taking lovely things from them, shouting, and ignoring them (26.3, 21.6, 18.6, 8.2%, respectively) (Table 5).

On the other hand, 71.1% of parents reported an increase in their trials of encouraging new hobbies during the quarantine. Nearly half of the parents reported an increase in the positive involvement with their children in the form of talk with children as intelligent, thanking them, giving them hugs more than before pandemic (51.1, 51, 51%, respectively). Less than half of parents talk kindly with children, play with them, describe what happened to them (47.4, 41.8, and 46.4, respectively), and nearly one-third of parents follow their homework (33.5%).

Discussion

COVID is rapidly changing family life. It brought significant stress for different parents around the

Table 4 Binary logistic regression predictor of age group and perceived stress

	<i>B</i>	Significance	Exp(<i>B</i>)
Step 1 ^a			
Age group	-0.645	0.044	0.525

^aVariable entered in step 1: age group.

Table 5 Parenting practices during the coronavirus disease 2019 pandemic

Parenting practices	No difference [n (%)]	Less than before [n (%)]	More than before [n (%)]
Talk kindly with children	64 (33)	38 (19.6)	92 (47.4)
Play with children	68 (35.1)	45 (23.2)	81 (41.8)
Talk to child as intelligent	68 (35.1)	26 (13.4)	100 (51.5)
Giving hugs to children	63 (32.5)	32 (16.5)	99 (51)
Thank child	84 (43.3)	11 (5.7)	99 (51)
Follow homework	69 (35.6)	60 (30.9)	65 (33.5)
Tell them about punishment	112 (57.7)	25 (12.9)	57 (29.4)
Describe what has happened	72 (37.1)	32 (16.5)	90 (46.4)
Encourage hobbies	7 (3.6)	49 (25.3)	138 (71.1)

world (Coyne *et al.*, 2020). The United Nations Educational, Scientific, and Cultural Organization estimated 138 billion children to be at risk during the COVID-19 era. These children became suddenly out of school or childcare, without access to sports or group activities. Parents and caregivers are facing major challenges trying to work remotely or suffering from work loss while caring for children, with no clear vision on how long the situation will last. Financial stressors, health-related stressors, and educational and social burdens were developing especially in the low-income and crowded areas leading to an increase in parental stress (Cluver *et al.*, 2020).

In our study, it was shown that 67% of parents perceived higher levels of stress during the pandemic, which was reflected through the high perceived stress scale scores. This was consistent with a study conducted in the United States on 183 parents, which showed higher parental perceived stress associated with COVID-19-related stressors (Brown *et al.*, 2020). Another study on 318 parents of 2–12-year old children showed that there was high COVID-19-specific parental stress (Jansen *et al.*, 2021).

Our main concern was the effect of this on the parenting practices and consequently on the children during this important period of time. The most vulnerable group as shown in our study was parents less than 40 years old in which 71.8% showed a high level of stress. This was consistent with different papers that showed that the scores on the PSS and GAD-7 scales were highest in the younger population, especially those who are less than or equal to 25 years and lowest in the elder population especially those aged more than 60 years (Nwachukwu *et al.*, 2020) and that older adults reported lower anxiety and sadness than other age groups (Losada-Baltar *et al.*, 2020). However, the geriatric vulnerability is still an important point in research. In this study, we observed the change in some of the main parenting domains during lockdown during the COVID-19 pandemic, including the positive involvement with children, supervision and monitoring, discipline techniques, and consistency in using such discipline. Of the parents in our sample, 23.6% reported that there was an increase in punishing their children during the periods of lockdown more than before. This was accompanied by lack of consistent discipline, which was manifested by an increase in threatening to punish without the presence of positive disciplinary technique (29.2% of parents) and also was evident through the answers of 44.6% of parents, who reported that it

depends on their mood rather than the child's behavior itself. Moreover, 11.3% reported an increase in using corporal punishment with their children and about half of the sample (49.7%) use shouting as a response to their children's behavior leading to negative way of communication. This is reflected by increasing the oppositional attitude in which 39% of parents reported that their children refuse to obey them more than before. This explains the effect of parental stress on children during this critical period and the potential of increasing child abuse.

This was also shown in a recent paper published in 2020, which described child abuse as a hidden crisis during COVID-19 quarantine (Storz, 2020). Many parents had experienced parental burnout because of COVID-19-related stressors leading to more engagement in child abuse and neglect (Griffith, 2020). Another aspect was the decrease of supervision in 28.7% of our sample, who reported that their children used to play online with people that they do not know during the COVID lockdown more than before. Throughout the last year, research reported a significant increase in the problematic online gaming, which poses the risk of social isolation and unhealthy lifestyle pattern (King et al., 2020). This was associated with manipulation and child abuse resulting from the inappropriate use of social media, especially with the decrease in parental supervision (Ferrara et al., 2020).

In spite of the lack of consistency in using disciplinary techniques in nearly half of parents during the pandemic, there was a positive observation that was shown in some parents' trials for positive involvement with their children through friendly talking, sharing activities with them, and encouraging new activities (47.7, 41.5, and 72.7%, respectively). The presence of these contradictory observations such as the lack of consistent discipline and poor supervision from one side and the increase in trials of positive involvement with children during the periods of lockdown describe many families in Egypt. During COVID-19 lockdown, many parents tried to care and engage more with their children especially with increase in time spent together, but the lack of the knowledge for appropriate disciplinary techniques and supervision and the increase in parental stress led to the appearance of this contradictory parenting practices. It also reflects the inability for positive coping with stress.

Conclusion

Parental stress during quarantine is significant risk factor on child abuse and maltreatment. It

significantly affects different domains of the parenting practices which consequently affect the child's behavior.

Recommendations

It is necessary to highlight the importance of giving more attention to the parents in this critical period. Psychoeducation of parents for better coping mechanisms and positive parenting practices is important in COVID-19 pandemic. This will reduce the risk of abuse or neglect or child maltreatment.

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The manuscript has been read and approved by all the authors, the requirements for authorship as stated have been met, and each author believes that the manuscript represents honest work.

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Conflicts of interest

There are no conflicts of interest.

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