

Effect of Home Quarantine Due to COVID19 Pandemic on Psychological Status and Behaviour of Under 5 years Old Children.

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ABSTRACT— Children are largely spared from the direct health effects of COVID-19, nevertheless, they are among the biggest victims because of the profound effect on their mental well-being, social development, safety, privacy, and their economic security. Studying the effect of home quarantine on the mental and psychological wellbeing of the under five years' children compared with their own status prior to the quarantine. A comparative retrospective cross sectional survey study was carried out online. A sample of 200 under-five age children was taken and their primary care giver had answered the questions. The study was done in 2020. A statistically significant difference between the mean score of the children before and after quarantine ($t = -6.8$, $p = .0001$), most of the changes were increase screen time, increase stubbornness, clinging to parents, anger and sleeping problems. Home quarantine had a significant effect on the psychological status and behaviour of under-five age children.

KEYWORDS: COVID-19, quarantine, mental wellbeing.

1. INTRODUCTION

Quarantine is the separation and restriction of movement of people who have potentially been exposed to a contagious disease [1]. Children are largely spared from the direct health effects of COVID-19 - at least to date – nevertheless, they are among the biggest victims because of the profound effect on their mental well-being, social development, safety, privacy, and their economic security [2]. Additional risks to children's safety and the violation of their rights, were the poorly planned or executed containment measures like enforced shutdowns, curfews and movement restrictions [3].

with the right support and resources, for some children, the situation will be bearable, but for others, it's not. Especially for young children who don't have the experience or vocabulary to tell what hurts, this situation is troubling [4]. Problems like anxiety, irritability, sleep disturbance, inconsolable weeping and separation anxiety were noticed in families in which the parents were stressed specially when living with elderly relatives at risk of becoming ill with COVID-19 [5].

In Iraq the lockdown of cities, public places, schools and travelling started in March 2020. It was implemented to control the spread of corona virus infection after the announcement of the first infection in February 2020. Although these measures aimed to contain the outbreak, which declared as a pandemic later

on, the psychological effect of quarantine had not been previously examined in a systematic scientific approach.

2. Objectives

Studying the effect of home quarantine on the mental, psychological wellbeing, and daily activities of the under five years' children compared with their own status prior to the quarantine.

3. Subject and method

3.1 Study design

Comparative retrospective cross sectional survey study.

3.2 Study setting

The study was carried out online using a google form and the data was collected from the 1st of May till the 1st of July 2020.

3.3 Study group

Target population: A sample of 200 under-five age children was taken and their primary care giver had answered the questions.

3.4 Inclusion criteria

-children of one year and a half to 5 years who had been in home quarantine in the last 3 months prior to the data collection.

3.5 Tool and method of data collection

The data had been collected on line using google form which was delivered to the participants through social media like Facebook groups, what's app, Emails and etc.

A modified questionnaire was developed by the researchers based on the Child Behavioral Check List. (Achenbach System of Empirically Based Assessment .2014) [6] a standard measure which is part of the Achenbach System of empirically based Assessment (ASEBA) that completed by the parent/caregiver, the selected questions where chosen according to the frequently mentioned problems by mothers in the pilot study, in addition to some sociodemographic factors of the family that may had effect on the results.

3.6 Scoring

- The form included 20 multiple choice questions.
- The total score for each participant was calculated by using likert score:
 - 0: for those who answered never or not true
 - 1: for those who answered sometimes or somewhat true
 - 2: for those who answered always or very true.
- Therefore the range of total score for each participant was from zero to 40.
- There was no clinical or psychological diagnosis for the final score of the children.
- The results of each child at the time of data collection were compared to his own score before the quarantine and the difference were calculated statistically using t test for dependent values.

3.7 Ethical consideration

The purpose and details of the study were clarified to the participants through a detailed post on the social media before sending the form. The researcher was ready to answer any question concerning the study and the participants were free to participate or not in it.

3.8 Pilot study

The pilot study was done also online to assess the questionnaire, add the relevant questions mentioned by mothers, and simplify few points for better understanding of the participants.

3.9 Statistical Analysis

Statistical analysis was performed using the Statistical Package for Social Science (SPSS 20).

P value of 0.05 was considered as a cut off point for significance.

4. Results

The study included 200 participants out of 258, 26 were excluded due to age limits (either less than 1½ or older than 5 years). The eligible participants were 232, one was a duplicate and 31 did not complete the form. The response rate was 86.15%. The mean age of the included study sample was about three years old and the majority (54.5%) was between three and five years old. Females were 51% percent. Regarding the education status of the mothers, most of them were with college and higher education degree (96%).

Table 1: Description of the participants

variable	category	number	percent
Age of children	1.5- 2.9	91	45.5%
	3- 5	109	54.5%
	Total	200	100%
	Mean of age	3.07	
gender	Male	98	49%
	Female	102	51%
	Total	200	100%
Mothers' education	Elementary	2	1%
	Intermediate& secondary	6	3%
	College	173	86.5%
	Higher education	19	9.5%
	Total	200	100%

There was a statistically significant difference between the mean score of the children before and after

quarantine. It was higher after quarantine with a mean score 14.13 and 11.7 (p- value 0.001) before the lockdown.

Table 2: dependent t test of the mean score before and after quarantine:

variable	N	mean	Sd	p- value
Before score	200	11.7	5.116	0.001
After score	200	14.13	5.51	

There was an increase in the frequency of those who reported always and sometime along all the included CBCL except for “Gets easily scared from things like animals, people or places” that showed 3% decrease (52.5% to 49.5%) in the reported data. The highest increase was 17.5% (53.5% to 71%), which was a remarked elevation in the hours of using phones and watching television. After quarantine 86.5% were stubborn and did not comply with their parents. In addition, after the application of the lockdown 87% of the participants clinged to one or both of their parents and got bored easily, 84.5% didn’t play alone or without their parents and did not want to sleep alone or in their own rooms. The majority of the included sample cried a lot (67.5% before, 77.5% after). And most of the parents complain that their children did not complete their meals nor eat in enough quantities (71% before to 75% after). Furthermore, more than half of the children were resentful, had bad mood or angry most of the time and it was affected by the city shutdown to reach 66.5%. It was noted that only minority of them 9.5% refused to go out or leave their rooms but also increased to reach 15.5%.

Table 3: the frequency of each question’s score before and after quarantine

Questions	Always or sometimes		Never	
	Before quarantine%	After quarantine%	Before quarantine%	After quarantine%
1- Aches or pains without medical cause	14%	18.5%	86%	81.5%
2- Cannot concentrate and cannot pay attention for long time	27.5%	39%	72%	61%
3- Get bored and angry quickly	76.5%	87%	23%	13%
4- Cries a lot	67.5%	77.5%	32%	22.5%
5- Does not play alone or without his parents	78%	84.5%	22%	15.5%
6- Prefer to play alone and does not want to play with others	17%	18%	83%	82%
7- Does not want to sleep alone or in his own private room	73%	84.5%	27%	15.5%
8- Does not complete his meals nor enough quantity	71%	75%	29%	25%
9- Eats a lot	26%	28.5%	74%	71.5%
10- Stubborn, does not comply to his parents	75%	86.5%	25%	13.5%
11- Gets easily scared from things like animals, people or places	52.5%	49.5% ↓	47.5%	50.5%

12- Clings to both or one of his parents	85.5%	87%	14.5%	13%
13- Disturbed sleep or nightmares	28.5%	36%	71..5%	64%
14- resentful , bad mood or angry most of the time	52%	66.5%	48%	33.5%
15- Gets himself in constant fights with his peers	34.5%	44%	65.5%	56%
16- Temper tantrum or clench his teeth	33.5%	45%	66.5%	55%
17- Complains from diarrhoea, nausea or constipation without a medical reason	12.5%	14%	87.5%	86%
18- Use phone or watch television for many hours	53.5%	71% ↑	46.5%	29%
19- Refuse to go out of the house or his room	9.5%	15.5%	90.5%	84.5%
20- Destroy his own or others' toys	23%	34%	67%	62%

5. Discussion

Families placed in quarantine had their movement restricted to control transmissible infections. This took an effect on the parents and children. In relation to the recent pandemic of COVID 19, considerable studies had been done discussing the control measures, physical wellbeing and prognostic features of the virus. Few, if any focused on the effect of quarantine on the mental and psychological well-being of the quarantined children. The objectives of this study were to capture those mental changes on the quarantined children.

The sample size was 200 children of the age one and a half year to five years; the mean age was 3 years. The gender distribution was almost equal and most of the parents had a college degree. Those characteristics were similar to a Spanish- Italian survey that was conducted on the quarantined children concerning gender distribution, but differs in parents' education level, where almost half of the parents were under-graduate [7].

According to this study there was a significant change in the total score during and after the quarantine, which was higher after the application of the lock down. This result shed the light on the fact that those few months affected the psychological status of the quarantined children to the worse. The most affected reported problems respectively were 1-watching television and phone usage 2- reduced compliance and increase stubbornness 3- clinging to parents 4- boredom and anger 5- sleeping problems. Those findings could be explained by the fact that there is difficulty in explaining the new situation to children less than 5 years and they may not comprehend the circumstances despite the efforts the parents were making to help them cope. In addition, stress of the parents and their worries made them focus on infection control methods and gave less attention to their mental wellbeing. Furthermore many families were affected economically; especially those who relied on daily income jobs therefore made the parents anxious and worried which could reflect on their children psychological status. Those finding were consistent with An Indian study where parents observed similar changes in their children's emotional state and behaviors during the quarantine like fear, nervousness and annoyance, insomnia, boredom and sadness [8].

There was no correlation between age of the children and the effect of the quarantine on them , this could be understood as the situation affected children in all ages in different ways, which was stated by the uniceff_ UK who declared that the quarantine effects include them all, New-born to older children ,school age and

secondary level scholars in terms of reduce health services like antenatal care ,loss of months of school teaching, Anxiety and stress from staying home and socialization respectively [3]. Also this results was consistant with Canadian study about SARS Control and Psychological Effects of Quarantine which found that age, among other factors, has no correlation with PTSD and depressive symptoms [9].

Parents with college degree observed the changes on their children more ,while those with less educational level reported less or no change ,this could be explained ,in addition to their high percentage in our sample that may affect the results, as the higher education of the parents the higher focus and monitoring of those mental and psychological parts in children .but unfortunately no changes reported doesn't mean this is the real situation because for the poor or undereducated people, with the restriction of movement, these children have increased risk of violence and abuse [10].

6. Limitations of the study

- 1-A possible drawback of the CBCL is the issue of self-report bias. A parent who is really frustrated by a child's behaviour may over-report symptoms.
- 2- Some caregivers see the forms as time-consuming to complete. An already overwhelmed parent may be reluctant to complete the forms.
- 3- It is a retrospective study therefore, recall bias is a problem in such studies among participants.

7. Conclusions

- 1- There was a statistically significant difference between the mean score of the children before and after quarantine.
- 2-The most affected reported problems respectively were: watching television and phone usage, reduced compliance and increase stubbornness, clinging to parents, boredom and anger and finally sleeping problems.

8. Recommendations

- 1- Maintenance of social contact with families and friends through social media may help to reduce anxiety. However, excessive screen time use should be under continuous check.
- 2- All children and families should have an access to psychological support services during and after lockdown. The areas of focus that social care providers must prioritize are sleeping problems, anxiety, eating problems and violence among siblings.
- 3- Authorities, Ministry of Health and schools to be more transparent in their decisions and give sufficient notice to prepare people emotionally for future plans.
- 4- Parents are advised to increase communication with their children, play collaborative games, encourage physical activity and other measures that can improve mental health.
- 5- Social and public education for observing early signs of imminent mental health issues such as a depression and anxiety.
- 6- Prospective studies are recommended for future studies to provide more solid evidence.

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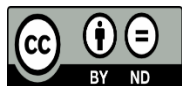
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