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## IS DAYCARE A SAFE PLACE FOR KIDS DURING COVID-19 PANDEMIC? OPINION OF THE LEBANESE MIDDLE TO LOW ECONOMIC STATUS MOTHERS

Souraya Domiati

*Assistant Professor of Pharmacology, PharmD coordinator, Department of Pharmacology and Therapeutics, Faculty of Pharmacy, Beirut Arab University, Beirut, Lebanon, t.domyati@bau.edu.lb*

Abir Wehbeh

*Pharmacist, UNRWA Health Department, Beirut, Lebanon, abirphone537@gmail.com*

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# IS DAYCARE A SAFE PLACE FOR KIDS DURING COVID-19 PANDEMIC? OPINION OF THE LEBANESE MIDDLE TO LOW ECONOMIC STATUS MOTHERS

## Abstract

*Purpose: COVID-19 pandemic has negatively impacted the whole society including mothers who struggled between paid work, housework, and full-time childcare. Daycare used to relieve part of this burden. Accordingly, the current study aimed to assess the mothers' acceptability of sending their children to daycare and the factors that influenced the decision.*

*Subject and Method: A cross-sectional questionnaire-based study was carried out through phone calls in November 2020. Lebanese mothers of children from 0 to 3 years were invited to participate in the study. The questionnaire included demographic data, perception of the ways of COVID-19 transmission, Snyder's Hope Scale, and acceptability of mothers to send their children to daycare. Data was analysed using SPSS-version 20. Results were considered significant at  $p$ -value  $\leq 0.05$  with a confidence interval of 95%.*

*Results: Results showed a good knowledge of the way of transmission of SARS-CoV-2. Nevertheless, food and drinks as well as pets were retrieved as a source of transmission in 66.2 and 3.1%, respectively. Mothers average hope reflects their neutrality in agreeing in quarantining and even their disagreement. Accordingly, 62% of the mothers agreed on sending their kids to daycare to overcome their confronted barriers; mainly to go to work.*

*Conclusion: All the results reflect the high burden of raising children without institutional support as well as financial one which the mothers are exposed to during the COVID-19 pandemic. Consequently, daycare must reopen their doors, with special precautions, to relieve the burden on mothers. Moreover, the government must support daycare institutions economically to be affordable to a larger sample of low to middle-income families.*

## Keywords

Daycare; COVID-19; Mother; Children; Transmission, Hope

## 1. INTRODUCTION

The emerged COVID-19 pandemic is caused by SARS-CoV-2 which is a part of the big Coronaviruses (CoVs) family genetically isolated from bats suggesting the origin of the virus. The first human cases of COVID-19 were first reported in Wuhan City, China, on December 2019, causing unidentified pneumonia (WHOa, 2020). The outbreak was announced as a Health Emergency of International Concern on January 30th, 2020. Later on, COVID-19 was distinguished by the WHO as a pandemic (WHOb, 2020).

Around 80% of the diagnosed cases were mild to moderate respiratory illness with or without pneumonia, where the mild ones recover spontaneously. The main symptoms of COVID-19 are fever, cough, fatigue, dyspnea, muscle aches, recent loss of taste or smell, nasal congestion, headache, sore throat, diarrhea, nausea, and vomiting. The serious issue of COVID-19 is pneumonia. In fact, 13.8% are represented with severe symptoms necessitating hospitalization and mechanical ventilation and 6.1% are critically diseased with severe complications like acute respiratory distress syndrome, acute kidney injury, elevated liver enzymes, sepsis, septic shock, cardiac injury, and multiple organ failure. Symptoms may appear 2 to 14 days after the exposure (Cennimo, 2020; Spinato et al, 2020). Patients with no symptoms once diagnosed are rare and their percentage is not clear but does not seem to transmit the disease (Almutairi and Al-Shamrani, 2020). Older adults and adults of any age group of conditions like cancer, immunocompromised state, chronic kidney disease, severe obesity, chronic obstructive pulmonary disease, serious heart diseases, smoking, sickle cell anemia, and type 2 diabetes mellitus are at higher risk to develop complications (Center for disease control and prevention, 2020). An infected person can transmit directly the virus to another person through respiratory secretions while talking, coughing, or sneezing or indirectly from contaminated surfaces after touching the eyes, mouth, or nose (Liu et al, 2020). Accordingly, the WHO recommends rigorously and frequently to wash hands with soap and water or rub them with sanitizers that contain alcohol, to assure social distancing of 1 meter at least with other people, and to wear a mask among people (WHOc, 2020). Up to date, there is no Food and Drug Administration (FDA)-approved treatment for COVID-19. Clinically, preventive measures and supportive therapy are applied (National Institute of Health, 2020). Regarding vaccination, the FDA, on December 11, 2020, issued the first emergency use authorization (FDA, 2020).

Worldwide 65,040,330 cases were confirmed positive for the disease with 3.18% deaths till December 01, 2020 (Worldometer, 2020). In Lebanon, according to the Lebanese Ministry of Health, 129,414 cases were reported with 1,033 deaths (Ministry of Public Health of Lebanon, 2020). COVID-19 pandemic resulted in the most critical health collapse across the last hundred years and the biggest opposition to humans worldwide. The entire globe is dramatically and rapidly affected not only on the health level but also on economic and social levels. A major hospitalization burden for most of the nations aroused and millions of humans lost their lives (WHOd, 2020). The psychological impact due to COVID-19 include increased levels of stress and anxiety. Lockdown is expected to add new negative consequences like depression, different substance abuse, and suicidal behavior (Pfeiferboum and North, 2020; The lancet infectious disease, 2020). According to WHO, the enormous consequences of COVID-19 on the economy and social life were destructive; pushing tens of millions of the populations into deprivation. This crisis has precipitated the problems of employment and work as well as the whole food system shortage leading to an estimated number of undernourished populations of nearly 690 million (WHOd, 2020).

On the educational level, the COVID-19 pandemic afflicted the education system resulting in the closure of the institutions which seriously impacted the socioeconomic status. Around 900 million learners have been affected according to the United Nations Educational, scientific, and cultural organization. Accordingly, different governments around the world have found alternative policies for learning which included mainly home online sessions (Nicola et al, 2020).

The society's dependence on women in this pandemic was clear whether for the front line or at home (Burki, 2020). Nevertheless, women are more likely to bear the brunt of the social and economic consequences of the pandemic. Several women lost their jobs during lockdown due to several reasons including an increase in unpaid labor such as domestic duties and child care (Power, 2020). According to the U.S. Census Bureau, household survey done in July 2020, 25.3% of women aged between 18 to 64 do not work due to COVID-19 related child care issues.

In fact, with schools and daycare closed, women are faced with challenges between balancing their time between paid work, housework, and full-time childcare. The pressure on mothers is immense. They spend on average 9 hours a day on childcare and 3 hours on housework (O'reilly, 2020; Whitfield,2020). Newborn till 3 years old children require even more hours of care. Consequently, mothers are conflicted between childcare and financial need especially middle to low-income families since their work constitute an important part of family finance. Consequently, the current study aimed to assess the acceptability of Lebanese middle to low-income mothers to send their children to daycare during the pandemic and the socioeconomic factors that influence the decision.

## 2. METHODOLOGY

A cross-sectional anonymous survey was designed in October 2020 targeting people living all over Lebanon. To minimize exposure during COVID-19, this study was conducted via landline phone calls done by a single investigator at different times during the days. Phone numbers of middle to low economic status ladies were retrieved by convenience from 5 different mayors from the 5 main Lebanese governates, namely; South, North, Beirut, Mount Lebanon, and Beqaa. All mothers having children age less than 3 years were included in the study.

The questionnaire was divided into four parts: demographic data, perception of the ways of COVID-19 transmission, 8- items Hope scale (Snyder, 1991), and mothers' acceptability to send their children to daycare. The Hope scale was used to assess the perception of successful attainment of goals, the agency concept, and the cognitive appraisal of the ability to generate ways to overcome barriers, the pathway concept. The correlation between the ability of mothers to reach their goals and their decision in sending their children to daycare was also studied. The Snyder Hope scale was previously translated to Arabic by Abdel-Khalek (Abdel-Khalek and Snyder, 2007).

The survey questionnaire was designed in English and translated into Arabic the native language in Lebanon. A preliminary phase was conducted to assess the validity of the questionnaire before its use. Two medical academic experts were asked to review the questionnaire to make sure that it reflects the study aim. To check for clarity of the questionnaire, 10 participants were questioned and all remarks were recorded. Accordingly, modifications were done after the two phases. For reliability of the Hope scale, Cronbach's alpha was used, which revealed a value of 0.823.

Results were analyzed using Statistical Package for the Social Science (SPSS®) software version 23 (IBM, New York-USA). Categorical data were expressed as frequencies (percentages) while continuous data as means  $\pm$  standard deviation (SD). Multiple logistic regression was used to assess the factors behind the mother's choice of sending their children to daycare. All results were considered "statistically significant" when the p-value was  $< 0.05$  with a confidence interval (CI) of 95%.

The study was an observational one that respects the participant's confidentiality and autonomy. Accordingly, ethical approval from the institutional review board was not recommended. The participant had the choice not to answer any question after stating to them the study aims.

## 3. RESULTS

Of 420 mothers called, 130 had children between 0 to 3 years. The majority of the participants were aged between 25 to 34 years (65.4%) with a lower than high school degree (56.9%). Seventy-eight percent of the participants were housewives. The average family income was between 750,000 and 1,500,000LL (refer to Table 1).

**Table 1: Demographic characteristics of the studied sample**

Characteristic	Frequency (%)
Age (years)	
18-24	33 (25.4)
25-34	85 (65.4)
35-44	9 (6.9)
45-54	3 (2.3)
Marital status	
Married	129 (99.2)
Divorced	1 (0.8)
Residency area	
Beirut	12 (9.2)
South	18 (13.8)
North	30 (23.1)
Beqaa	29 (22.3)
Mount Lebanon	41 (31.5)
Education	
Uneducated	3 (2.3)
Lower than high school	74 (56.9)
High school	34 (26.2)
University	19 (14.6)
Employment	
Medical field	6 (4.6)
Non-medical field	23 (17.7)
House wife	101 (77.7)
Family income per month in Lebanese Lira	
<750,000	34 (26.2)
750,000-1,500,000	63 (48.5)
1,500,001-3,000,000	26 (20.0)
3,001,000-4,500,000	3 (2.3)
>4,500,000	4 (3.1)

N=130 participants

Droplets from coughing or sneezing of an infected patient, airborne, contaminated surfaces, and contaminated foods or drinks were recognized as a source of COVID-19 transmission by 100%, 23.1%, 98.5%, and 66.2% of the participants, respectively (refer to Table 2).

**Table 2: Participant's perception of the way of transmission of COVID-19**

Way of transmission	Frequency (%)
Droplets from coughing or sneezing of an infected person	130 (100)
Airborne	30 (23.1)
Surfaces contaminated with the virus	128 (98.5)
Contaminated Foods or drinks	86 (66.2)
Pets	4 (3.1)

N=130 participants

The majority mostly think that they can get out of the jam, pursue their goals, find ways to get important things, and solve the problem with percentages of 63.1, 56.2, 80, and 60%, respectively. On the other hand, the participants mostly found that there aren't lots of ways around a problem (47.7%), they did not have enough experience to confront the future (80%), and they don't feel successful in life (57.7%). Consequently, 57.7% feel worried about something. The mean score of the 8-Items Hope scale was  $19.76 \pm 3.70$  with an almost equal subscale I and II ( $10.12 \pm 1.72$  and  $9.64 \pm 2.19$ , respectively) (refer to table 3 and 4).

**Table 3: Assessment of the participants hope according to the Synder Hope Scale**

Question	Definitely false (1)	Mostly false (2)	Mostly true (3)	Definitely true (4)
I can think of many ways to get out of a jam	0 (0)	46 (35.4)	82 (63.1)	2 (1.5)
I energetically pursue my goals even in this situation	31 (23.8)	13 (10.0)	73 (56.2)	13 (10)
There are lots of ways around any problem	52(40)	62 (47.7)	15 (11.5)	1 (0.8)
I can think of many ways to get the things in life that are important to me	1 (0.8)	7 (5.4)	104 (80.0)	18 (13.8)
Even when others get discouraged, I know I can find a way to solve the problem	4 (3.1)	42 (32.3)	78 (60.0)	6 (4.6)
My past experiences have prepared me well for my future	2 (1.5)	104 (80.0)	22 (16.9)	2 (1.5)
I have been pretty successful in life	2 (1.5)	75 (57.7)	52 (40.0)	1 (0.8)
I usually find myself worrying about something	28 (21.5)	29 (22.3)	49 (37.7)	24 (18.5)

N=130 participants

**Table 4: Total score and sub-score of the 8-items Hope scale**

Score	Items numbers included	Mean ± SD	Minimum-Maximum
Total subscale I score (Pathways) /16	Items: 1,3,4, and 5	10.12±1.72	6-15
Total subscale II score (Agency) /16	Items: 2,6,7, and 8	9.64±2.19	6-14
Total score (measure of Hope) /32	All items	19.76±3.70	13-28

Moreover, 41.5% of the mothers were slightly concerned about death caused by COVID-19 while 45.4% and 36.2% were moderately and extremely concerned, respectively about the real number of COVID-19 cases (refer to Table 5).

**Table 5: factors affecting the mothers worries**

Concern	Not at all concerned	Slightly concerned	Somewhat concerned	Moderately concerned	Extremely concerned
Death due to COVID-19	50 (38.5)	54 (41.5)	25 (19.2)	1 (0.8)	0 (0)
Real number of COVID-19 cases	9 (6.9)	8 (6.2)	7 (5.4)	59 (45.4)	47 (36.2)

N=130 participants

Twenty-six percent of the mothers strongly agree /agree that lockdown prevents the spreading of COVID-19 (refer to Figure 1).

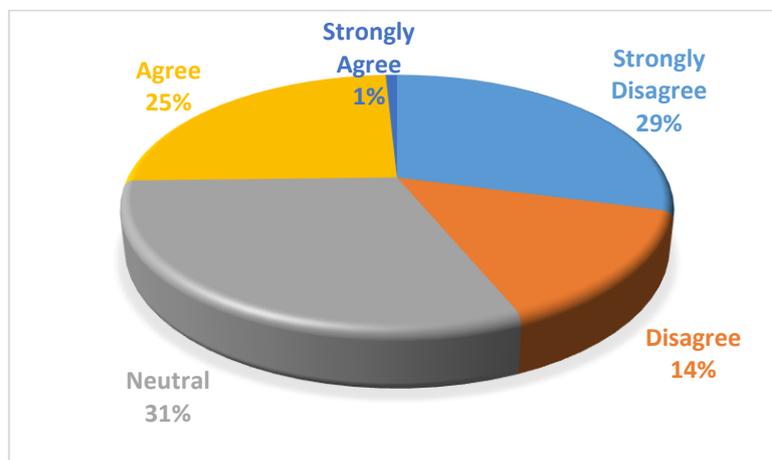


Fig.1: Agreement of mothers on preventing the spreading of COVID-19 by quarantining

Sixty-two percent of the mothers accept to send their kids to a daycare during the COVID-19 pandemic (refer to figure 2).

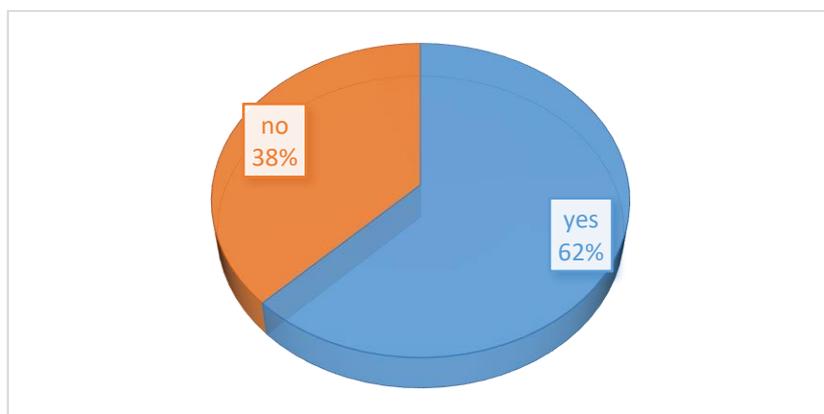


Fig.2: Mother acceptability to send their kids to daycare during COVID-19

Multiple logistic regression showed an increase in resistance against sending the kids to daycare with the increase in worries of the numbers of COVID-19 cases (OR=6.24; CI: 1.13-36.56; p=0.036). Neither demographic data nor hope score or death worries affected the decision of the participants (p>0.05).

The announced reasons for sending the kids to daycare center were work of the mother, protection in the daycare, and no reason with percentages of 20%, 19.2%, and 46.9%, respectively. On the other hand, the main reasons behind not accepting to send their kids to daycare were financial reasons, mothers not working, and young children with percentages of 13.1%, 7.7%, and 8.5%, respectively (refer to Table 6).

Table 6: Reasons behind accepting or rejecting daycare visits

Reasons behind accepting	Frequency (percentage)
Work of the mother	26 (20)
Kids in day care are protected	25 (19.2)
For no reason	61 (46.9)
Others	4 (3.1)
Reasons behind not accepting	
Doesn't work	10 (7.7)
Child less than 1 year	11 (8.5)
Risk to catch corona virus	9 (6.9)
Risk of any infection	3 (2.3)
Presence of an elderly at home	4 (3.1)
Parents with chronic disease	6 (4.6)
Financial reason	17 (13.1)
Others	2 (1.5)

N=130 participants

#### 4. DISCUSSION

COVID-19 crisis has a drastic change on parents' life affecting them professionally and socially. Some parents are newly working remotely from home while others are obliged to go physically to work which exposes them to more pressure and risk of acquiring the virus. Moreover, childcare closure has added to the burden especially on mothers. Motherhood penalty of extra 6 hours of childcare has made her struggle between her home duties and financial dispute (Andrew et al, 2020; Staniscuaski et al., 2020; Khodabakhshi-Koolae et al., 2020). Moreover, several women, particularly the ones without a college degree, have lost their jobs and bared the load of childcare responsibilities.

The current study highlights the burden of childcare on these women who belong to the low to middle income (96.9% with income < 4,500,000 LL per month) and who don't have a college degree (85.4% of the studied sample).

The knowledge of the way of transmission of SARS-CoV-2 is essential for mothers to decrease the spreading of the disease. According to the CDC, the virus spreads mainly through respiratory droplets from infected patients by sneezing, coughing, or even talking in the boundary of approximately one meter. In the current study, 100% of the participants knew this fact. Moreover, it was found that airborne particles formed by an infected person when sneezing or coughing may be also the cause of spreading. This information was acknowledged by only 23.5% of the mothers. On the other hand, even though the droplets can land on the surfaces and be transferred by touch, the CDC declared that it is not the main way of spreading. Nevertheless, 98.5% of the mothers declared that it is a source of transmission. Food or drinks and domestic pets were not found to be the source of contamination, yet 66.2% and 3.1% found them as a source of transmission, respectively (Almutairi and Al-Shamrani, 2020).

Anxiety and depression among mothers of 0 to 8 years old children have increased as a consequence of the pandemic (Cameron et al., 2020). This reflects the burden on the mothers and conflicts that they are exposed to. To face this pandemic, hope is a requirement. In fact, according to Snyder et al, 2003, high hope individuals consider obstacles as challenges that should be defeated and accordingly draw a substitutional way to reach their goals (Snyder et al, 2003). In the current study, the 4 agency items of Snyder Hope scale revealed an average perception of mothers' successful determination to their goals. In fact, 57.7% acknowledge that they were mostly unsuccessful in life during the past. Pursuing energetically their goals in COVID-19 pandemic was mostly accepted by 56.2% of the participants despite that 37.7% worries about the situation. Moreover, 80% were mostly unprepared by their past experience to confront the future. The 4 pathways items of the hope scale highlight that not all mothers can generate ways to overcome COVID-19 barriers. Consequently, mothers did not have a high hope. Even though they are slightly concerned (41.5%) about death, they are moderately to extremely concerned about the number of COVID-19 cases (45.4% and 36.2%, respectively).

Their average hope reflects their neutrality in agreeing in quarantining and even their disagreement. Accordingly, 62% of the mothers agreed on sending their kids to daycare to overcome their confronted barriers; mainly to go to work or do daily duties. All the results reflect the high burden of raising children without institutional support as well as financial one which mothers are exposed to during the COVID-19 pandemic.

Concerning daycare institutions, mothers found that their kids are protected there. They are not only protected from COVID-19 but also from their anxious behavior. According to the Rhode Island experience of reopening childcare programs, possible secondary transmission was identified in four out of 666 programs. The absence of transmission in the 662 childcare programs was attributed to the safety requirements adherence which include use of face mask, decreasing classes capacities, enhanced cleaning and disinfecting, daily children and adult screening of symptoms, and others (Link-Gelles et al., 2020). Furthermore, Peter Walger et al showed that daycare closure has a narrow impact on the spreading of COVID-19. Children at this age do not play a prominent role in the transmission of the disease (Walger et al., 2020).

## 5. CONCLUSION

Since daycare does not increase the spreading of COVID-19 and mothers are willing to send their kids, it is highly recommended to reopen the daycares' doors to relieve the burden on mothers. Special precautions must be taken by daycare staff such as wearing a mask, disinfecting, and case screening to avoid dramatic consequences. Moreover, the government must support daycare institutions economically to be affordable to a larger sample of low to middle-income families.

## 6. LIMITATIONS

The study was carried out over phone calls due to the COVID-19 pandemic, which affected the selection and size of the sample studied.

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