

## RESEARCH ARTICLE

## Parents' behaviour in individual-level prevention in children during the COVID-19 pandemic in Surabaya

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### Abstract

**Objective:** To assess parental preventive behaviour related to children related to the coronavirus disease-2019.

**Method:** The descriptive-analytical, cross-sectional study was conducted from November to December 2021 in Kalirungkut, Surabaya, Indonesia, after approval from the ethics review committee of the Faculty of Nursing, Universitas Airlangga, Surabaya. The sample comprised parents of children aged <5. Data was collected using the Indonesian version of the Champion's Health Belief Model Scale questionnaire.

**Results:** Of the 125 subjects, 57(45.6%) were mothers and 68(54.4%) were fathers. Majority 63(50.3%) were aged 26-35 years, 82(85.6%) had completed senior high school, and 64(51.2%) had 2 children. Perceived susceptibility ( $p=0.044$ ,  $\rho=0.181$ ), perceived severity ( $p=0.000$ ,  $\rho=0.363$ ), perceived benefits ( $p=0.036$ ,  $\rho=0.188$ ), cues to action ( $p=0.018$ ,  $\rho=0.211$ ) and self-efficacy ( $p=0.000$ ,  $\rho=0.345$ ) were significantly related to parental behaviour, while perceived barrier was not significantly related ( $p=0.094$ ,  $\rho=-0.150$ ).

**Conclusion:** All factors in the Health Belief Model were found to be related to parental preventive behaviour except perceived barriers.

**Keywords:** COVID-19, Children, Parental behaviour, Prevention. (JPMA 73: S-96 [Suppl. 2]; 2023)

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### Introduction

The coronavirus disease-2019 (COVID-19) is caused by the severe acute respiratory syndrome coronavirus 2 (Sars-CoV-2), which was first reported in Wuhan, China, in December 2019. On March 2, 2020, the Indonesian government for the first time announced two positive cases of COVID-19 in the country.<sup>1</sup> The pandemic affected first-level health services and referrals, where services are focussed on actions that require clinical treatment in health facilities. As a result, health services for children aged <5 got limited, necessitating a different approach to ensure the continuation of child health services. As a reference, a book was compiled by the Directorate of Family Health of the Indonesian Ministry of Health to provide guidance to health workers at the Primary health care regarding health services for toddlers during the pandemic. The guidebook stated that health workers provided socialisation to mothers of children <5 regarding COVID-19, individual-level prevention measures, how to maintain health children independently, including coordinating with cadres if there are children needing further monitoring.<sup>2</sup> Individual-level prevention was an effort to prevent COVID-19 transmission that could be done independently by individuals or families during the active phase of the pandemic.<sup>2</sup> Health workers provided their telephone numbers or the numbers of

health facilities that could be contacted for telephone consultations or appointments if the child required monitoring or further services. The implementation of this policy was supported by the behaviour of parents in carrying out individual-level prevention in children. However, despite the intervention, the positive number of COVID-19 children in East Java increased.<sup>3</sup>

The Health Belief Model (HBM) theory explains individual beliefs about preventive behaviour among parents against health threats which is reflected in the knowledge, attitudes and actions taken by them.<sup>4</sup>

The current study was planned to assess parental preventive behaviour, using HBM variables, related to children in connection with COVID-19.

### Subjects and Methods

The descriptive-analytical, cross-sectional study was conducted from November to December 2021 in Kalirungkut, Surabaya, Indonesia, after approval from the ethics review committee of the Faculty of Nursing, Universitas Airlangga, Surabaya. The sample was raised using purposive sampling technique from 3 *posyandu* in the working area of the Kalirungkut Health Centre. Those included parents of children aged <5 who were themselves aged >18 years, were able to read and write, and were providing self-care to their toddlers. Samples are taken after obtaining informed consent from all participants. Those who did not want to participate were excluded.

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Data was collected using the Indonesian version of Champion's Health Belief Model Scale (I-CHBMS) questionnaire.<sup>5</sup> The independent variables were the six HBM factors; perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. The dependent variable was parental preventive behaviour. Data was analysed using Spearman correlation test.

## Results

Of the 125 subjects, 57(45.6%) were mothers and 68(54.4%) were fathers. Majority 63(50.3%) were aged 26-35 years, 82(85.6%) had completed senior high school, and 64(51.2%) had 2 children (Table 1).

Perceived susceptibility ( $p=0.044$ ,  $\rho=0.181$ ), perceived severity ( $p=0.000$ ,  $\rho=0.363$ ), perceived benefits ( $p=0.036$ ,  $\rho=0.188$ ), cues to action ( $p=0.018$ ,  $\rho=0.211$ ) and self-efficacy ( $p=0.000$ ,  $\rho=0.345$ ) were significantly related to parental behaviour, while perceived barrier was not significantly related ( $p=0.094$ ,  $\rho=-0.150$ ) (Table 2).

**Table- 1:** Demographic characteristics.

Demography Characteristic	Category	n (%)
Age (years)	17-25	19 (15.5%)
	26-35	63 (50.3%)
	36-45	33 (26.5%)
	>45	10 (8%)
	<b>Total</b>	
Education	college	15 (12.8%)
	Senior high school	82 (85.6%)
	Junior high school	18 (14.4%)
	Elementary School	9 (7.2%)
<b>Total</b>		125 (100%)
Employment	Factory workers	2 (1.6%)
	Teacher	2 (1.6%)
	Entrepreneur	24 (19.2%)
	Masseuse	1 (0.8%)
	Housewife	90 (72%)
	Qur'an teacher	2 (1.6%)
	Trader	2 (1.6%)
	Doesn't work	2 (1.6%)
Number of children	1	40 (32%)
	2	64 (51.2%)
	3	20 (16%)
	4	1 (0.8%)
	<b>Total</b>	
Child age	2	31 (24.8%)
	2.5	3 (2.4%)
	3	28 (22.4%)
	3.5	4 (3.2%)
	4	34 (27.2%)
	4.5	1 (0.8%)
	5	24 (19.2%)
Gender	Female	57 (45.6%)
	Male	68 (54.4%)

## Discussion

The perception of susceptibility felt by parents was related to individual-level prevention behaviour. The higher the perceived vulnerability, the better was the preventive behaviour. The perceived vulnerability perception is more consistent with the individual's actual risk. According to a study, groups that are vulnerable to the pandemic were those without health insurance, those with a history of chronic diseases, the children, the elderly, the poor, and the homeless.<sup>6</sup> The role of the smallest unit, the family, is very important. Control of children's lives is part of adequate parenting. As a result of the pandemic, widespread and massive psychological changes have been reported, starting from the way of thinking in understanding information about health and illness, emotional changes, such as fear, worry and anxiety, physiological and biological changes.<sup>7</sup> The physical health of the child also influences the parents' perception of vulnerability. Most of the respondents in the current study had perception of vulnerability. This was because children aged 2-5 years have high curiosity and love playing activities which has the potential to affect their physical condition in times of crisis. Most school-age children are very difficult to manage in terms of practising health protocols, such as keeping social distance, because at their age they will always like to be close to their friends<sup>8</sup>. It has also been reported that the implementation of physical distancing can cause psychological problems in children, like loneliness, stress and anxiety.<sup>9</sup>

In the current study, perceived severity and parental behaviour had a positive association; the higher the perception, the better was parental behaviour. A high perception of the threat to COVID-19 could increase the preventing behaviour.<sup>10</sup> It encouraged the parents to take individual-level prevention steps for children. In addition to having a serious perception of the consequences that may occur in the child's clinical condition, parents also had a serious perception of the social consequences that may occur if the child got infected with COVID-19, like the impact on parent's work life, family life and social relationships.<sup>11</sup> Most of the respondents stated that they had the perception that, if a child was infected with COVID-19, they would feel ashamed because society would judge the child's parents as incapable of taking care of the child, and the family will have to undergo isolation. Children with OTG (People Without Symptoms), ODP (People Under Monitoring) or PDP (Patients Under Monitoring) status with mild symptoms do not have responsible parents or caregivers with the capacity to care for children.<sup>2</sup> This encourages the parents to take individual-level prevention of children. The level of parental education is also related to their preventive behaviour.

**Table-2:** Relationship between independent and dependent variables.

Independent variables	Category	Parents' behaviour				p-value	r-value
		Less n (%)	Enough n (%)	Good n (%)	Total n (%)		
<b>Perceived susceptibility</b>	Low	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0,044	0,181
	Middle	8 (6.4%)	10 (12,5%)	6 (4,8%)	24 (19,2%)		
	High	19 (18.8%)	51 (50,5%)	31 (30,7%)	101 (80,8%)		
<b>Perceived severity</b>	Low	5 (4%)	3 (2,4%)	2 (1,6%)	10 (8%)	0,000	0,363
	Middle	19 (15.2%)	35 (28%)	21 (16,8%)	75 (60%)		
	High	3 (2.4%)	23 (18,4%)	14 (11,2%)	40 (32%)		
<b>Perceived benefits</b>	Low	0 (0%)	3 (2,4%)	1 (0,8%)	4 (3,2%)	0,036	0,188
	Middle	22 (17.6%)	35 (28%)	18 (14,4%)	75 (60%)		
	High	5 (4%)	23 (18,4%)	18 (14,4%)	46 (36,8%)		
<b>Perceived barriers</b>	Low	27 (21.6%)	60 (48%)	36 (28,8%)	123 (98,4%)	0,094	-0,150
	Middle	0 (0%)	1 (0,8%)	1 (0,8%)	2 (1,6%)		
	High	0 (0%)	0 (0%)	0 (0%)	0 (0%)		
<b>Cues to action</b>	Low	0 (0%)	3 (2,4%)	2 (1,6%)	5 (4%)	0,018	0,211
	Middle	23 (18.4%)	41 (32,8%)	21 (16,8%)	85 (68%)		
	High	4 (3.2%)	17 (13,6%)	14 (11,2%)	35 (28%)		
<b>Self efficacy</b>	Low	1 (0.8%)	1 (0,8%)	0 (0%)	2 (1,6%)	0,000	0,345
	Middle	21 (16.8%)	45 (36%)	19 (15,2%)	85 (68%)		
	High	5 (3.2%)	17 (13,6%)	14 (11,2%)	35 (28%)		

Respondents who had a low perception of seriousness but still had good behaviour were due to regulations and appeals from the government as well as social support from the health cadres. Most respondents in the current study agreed that health workers always provided counselling related to individual-level prevention measures for children.

The perception of the benefits felt by parents in the current study was related to their preventive behaviour; the higher the perceived benefits, the better was the preventive behaviour. This has been reported as a driving force for parents to take precautions and increase parental awareness in carrying out clean and healthy living.<sup>12</sup> The pandemic caused confusion, anxiety and fear among the general population, and keeping their children safe by taking preventive steps reduced the level of parental anxiety.<sup>7</sup>

In the current study, there was no significant relationship between perceived barriers and parental behaviour. Almost all the respondents stated that they could do prevention without any obstacles. This may have been influenced by the fact that most of the respondents were housewives, so they had time to focus more on raising children at home. Government regulations that required the public to comply with health protocols made parents aware of the steps to prevent a transmission. A supportive environment encourages parents to take precautions at the individual level, and the level of education had an impact in this regard. This is in line with earlier study.<sup>13</sup> Most of the respondents in the current study had completed education up to high school, so it was not difficult to understand individual-level

prevention measures for children. This is in accordance with earlier findings.<sup>14,15</sup>

In the current study, action cues had a significant relationship with parental behaviour. Almost all the respondents stated that they knew about individual-level prevention for children on the basis of information they received from social media. This is in line with the Dunning-Kruger effect theory, which states that people who have sufficient knowledge and literature references will be able to comply with and carry out government recommendations properly and maximally.<sup>12</sup> Notification of COVID-19 on social media also affected public discipline in complying with applicable health protocols, as was reported previously.<sup>16</sup> In addition, regulations set by the government for handling COVID-19 required the public to comply with health protocols. Community behaviour and health protocol management education increased people's knowledge.<sup>17</sup> The role of other family members in helping to keep the children safe also affects parental behaviour. According to Green's theory, social support affects a person's health behaviour.<sup>18</sup> Social support is the presence of information and feedback from others which shows that a person is valued, cared for, respected and involved in communication networks.<sup>19</sup> Sources of social support include surrounding individuals, but can be classified into professional relationships, like counsellors, doctors, psychologists, and other health workers, and non-professionals, like friends, family and others.<sup>19</sup>

In the current study, self-efficacy and parental behaviour were inter-related; the higher the self-efficacy of parents, the better

was the preventive behaviour. The factors that can affect parenting self-efficacy include age, education level, parity, support, childhood experience, level of cognitive readiness, and child characteristics<sup>20</sup>. According to an earlier study, there is a relationship of parents' self-confidence and competence in caring for children with parents' work; low parenting self-efficacy in working mothers increases the tendency of stress related to the demands of their roles as working mothers, which can reduce parenting self-efficacy because mothers have dual roles.<sup>21</sup> In the current study, most of the respondents were housewives, so they had moderate self-efficacy, and only 2 respondents had low self-efficacy.

The current study did not calculate the sample size, which is a limitation, because it could have influenced the power of the study.

## Conclusion

HBP variables perceived susceptibility, perceived severity, perceived benefits, cues to action and self-efficacy were found to be significantly related to parental preventive behaviour. The only exception was the variable of perceived barriers which did not have a significant association with parental preventive behaviour

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