Research Article

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Maternal Level of Knowledge and Practice Regarding Physical and Psychological Care of Children with COVID-19

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Abstract

Background: The Coronavirus Disease 2019 (COVID-19) has had a rapid global spread. All individuals of all age groups are at risk of COVID-19. During the COVID-19 outbreak, people have received a large volume of information that could lead to confusion, parents and children have experienced stress and fear, and the attitudes of parents toward COVID-19 need to be explored. Therefore, it's vital to evaluate their knowledge, directions and practices in regard to children with COVID-19.

Aim: To evaluate maternal level of knowledge attitude, and practices regarding physical and psychological care of their children with COVID-19.

Methodology: Cross sectional research design conducted in Buraidah city. The subjects were 200 mothers, through convenience sample. An online survey was conducted using Google form, which contained four parts (characteristics, knowledge, direction and practice).

Results: The mean age of studied mothers was 31.98 (6.94) years, and 93% of studied mothers had a BSN. Educational level and age was positive indicator in mothers' knowledge. The total knowledge, directions, residency, and educational level had a positive impact on mothers' practices, the total knowledge, occupation and age were positive predictors for mother' direction.

Conclusion: The current study concluded that half of studied mothers had good knowledge and more than one third had an average knowledge level. In related practice, less than two thirds of studied mothers had positive attitude. According to practice level in regard to physical and psychological care of their children around two thirds of studied mothers had satisfied practices.

Keywords: Maternal • Knowledge • Practice • Physical • Psychological care • Children • COVID-19

Introduction

In late 2019 a virus apparently closely related to the SARS coronavirus began in Wuhan, China [1]. Later, the virus termed Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), triggered an illness well-known as COVID-19, which was similar to SARS and primary characterised by respiratory symptoms and fever. The World Health Organization in March 2020 affirmed the outbreak a pandemic [2]. Coronavirus is continuing its spread over the world with nearly 80 million confirmed cases in 190 countries and more than 1.7 million deaths. As of the evening of December 26, there were 362,000 affirmed cases of COVID-19, 353,000 recovered cases and 6,168 deaths in Saudi Arabia, with a recovery rate of 97.5% [3]. The 2020 coronavirus spread in Saudi Arabia is a portion of a continuous spread over the world. The primary cause of COVID-19 in Saudi Arabia was affirmed on 2nd March 2020 [4]. The COVID-19 pandemic is putting medical teams over the world in an unprecedented state. The severity of the disease leads to a great psychological and mental burden on the medical team [5]. Parents of young children are particularly at risk for high levels of parental stress due to the current public health crisis, which can impact parenting behaviours and children's well-being. Although different initial scales have been developed to measure COVID-19-related anxiety, they have not yet been tested sufficiently in parent samples [6]. Consequently, the COVID-19 virus outbreak has led to significant changes in daily life for children, youth, and their families, with specific recommendations and restrictions varying within and between countries [7,8]. The COVID-19 pandemic and its economic and social consequences will hurt some children more than others. In particular, COVID-19 exacerbates the risks of children experiencing maltreatment, violence at home, and poor nutrition. Family support and child protection services need to maintain a presence in the homes of vulnerable children. This involves ensuring workers are informed on safe practice during COVID 19 and rethinking case managements approaches and adjusting supports. For example, in the United Kingdom, children subject to child protection plans or at risk of coming into care, or with special education needs are included in childcare and schooling provisions made available to children of essential workers [9]. Countries need to increase supports to children in out-of-home to address growing needs and avoid placement breakdowns. Measures include identifying foster families in need of respite breaks and contingency plans for older carers in case of falling ill. In New Zealand, Oranga Tamariki (the national child protection and youth justice agency) has developed online resources for carers to help them understand and respond to children's stress responses. Procedures on the absconding of young people from care placements have been updated, to reflect current risks and safe care [10]. During the COVID-19 outbreak, people have received a large volume of information that could lead to confusion, for example, contamination risks during dental appointments from announcements of administrative districts and dentist associations [11]. It is important to know if there are any misconceptions. Thus, the present study aimed to evaluate mother knowledge, attitude and practice in regard to their children with COVID-19.

Materials and Methods

The study aimed to examine mothers' knowledge, attitude, and practices toward physical and psychological care of their children with COVID-19, through:

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Assess mothers' knowledge about COVID-19

Assess mothers' directions toward COVID-19

Assess mothers' practices toward COVID-19

Research questions

1. What is the level of mothers' knowledge, attitude, and practices toward physical and psychological care of their children with COVID-19?

2. Is there a relation between mother' characteristics and their knowledge, attitude, and practices toward physical and psychological care of their children with COVID-19?

Research design

A cross sectional research design was utilised from June -July 2020.

Research setting: The study was carried out in Buraidah City, the capital of Al-Qassim Region, kingdom of Saudi Arabia

Subjects

The convenience sample included the mothers who were available and accepted to share in online questionnaire regardless of their age, qualification, occupation and experience. The sample was 200 mothers. Related to the principles and rules of social distancing and limiting the spread of COVID-19, we used an online survey using email, Facebook, and WhatsApp services (Google form: (https://forms.gle/nxiTEM1mGW7QXafdA) to collect the data from the subjects. Google forms permit questionnaire design, collection of data, descriptive analysis of results, and download of data through excel spread sheet for extra analysis.

Instruments

The study instruments were designed based on literature review and main information that is published by the World Health Organization related to COVID-19 [12-14]. And modified by researcher and contained four parts:

Part I: Characteristics of the subjects such as age, residency, educational level, occupation, source of knowledge.

Part II: Knowledge of studied subjects on COVID-19, questions in this part included eleven questions in a MCQ form and asked participants to choose the correct answer. These questions included concept, mode of transmission, symptoms, and complications, etc. A correct answer scored one point, while an incorrect answer scored zero points. These scores were arranged in three categories; Good knowledge if the score was >70%, Average if the score was between 50 and 70%, and low if the score was <50%.

Part III: Directions of studied subjects about COVID-19, questions in this part consisted of ten questions in the form of a Likert scale which ranged from agree, neutral and disagree. Every response scored 3,2,1 for positive item and vice versa for a negative item. The total score ranged from 10 to 30 questions and considered positive if the score ranged 18 to 30 while negative if the score was less than 18.

Part IV: Practice of studied subjects toward their children with COVID-19. Questions in this part consisted of ten questions in the form of a MCQ form and asked participants to choose the correct answer. These questions included hand hygiene, use of face mask, hand washing, etc. A correct answer scored one point while an incorrect answer scored zero points. These scores were arranged in three categories: Satisfied practice if the score was equal or higher than 70% and unsatisfied if the score was <70%.

Pilot study

The pilot study was conducted with 20 mothers who represented 10% of studied sample at the previously mentioned settings in order to test the applicability of the constructed tools and the clarity of the included tools. The pilot also served to estimate the time needed for each subject to fill in the questionnaire. A group of experts in the medical surgical and paediatrics departments ascertained the content's validity; their opinions were elicited regarding the format, layout, consistency, accuracy, and relevancy of the tools.

Data collection and statistical analysis

Data collected from the studied sample was revised, coded, and entered using a Personal Computer (PC). Computerised data entry and statistical analysis were fulfilled using the Statistical Package for Social Sciences (SPSS) version 24, data as presented using descriptive statistics in the form of mean and S.D. A linear regression model is a linear approach to modelling the relationship between a scalar response and one or more explanatory variables.

Ethical consideration

Related to the principles and rules of social distancing and limiting the spread of COVID-19, we used an online survey using email, Facebook, and Whatsapp. Verbal Consent was obtained from all mothers of children before participation. In addition, participants who agreed to participate in the study were assured that all information obtained would be kept confidential and that they had the right to withdraw from the study at any time.

Results

Table 1 revealed that mean age of studied mothers was 31.98(6.94) years, 95% of them were from urban areas and 54% were from rural areas. In relation to educational level, 93% of the studied mothers had a BSN. Also, it was detected that 76.5% of studied mothers worked and 25.5% of them were housewife. Regarding residency, the study showed that 33.5% of the studied mothers were from rural areas and 66.5% of them were from urban area. In relation to source of knowledge, 24.5% of them had knowledge from Saudi Ministry of Health, and 34.5% of them had knowledge from World Health Organization, and 42.5% of them had knowledge from Social Media/Public news [3].

Table 1. Distribution of studied mothers related their characteristics (n=200).

Items	n	%	
Age			
Less than 20 years	1	0.5	
From 20-30 years	79	39.5	
From 31-40 years	86	43	
More than 40 years	34	17	
Mean SD	31.98 (6.94)		
Residency			
Rural	67	33.5	
Urban	133	66.5	
Occupation			
Working	89	44.5	
Non-working	111	55.5	
Educational level			
Illiterate or read and	17	8.5	
write	23	11.5	
Primary & Secondary	112	56	
BSN	48	24	
Postgraduate			
Mean SD	8.61 (4.71)		
Source of your knowledge about the			
COVID-19	46	23	
Saudi Ministry of Health			
World Health Organization	69	34.5	
Social Media/Public news	85	42.5	

Table 2 stated that 50% of studied mothers had good knowledge and 34% had an average knowledge level. In related their attitude, 61% of studied mothers had positive attitude. According to their practice, 66% of studied mothers had satisfied practices.

Table 3 stated that high significant model detected through F test value was 92.810 with a p value of .000. The model explains 71% of the change in mothers' knowledge score detected through R2 value of 0.426. The educational level was identified as the main positive indicator of the change in mothers' knowledge score; age was another positive predictor, Variables excluded by the model: level of education, occupation, and source of knowledge.

Table 4 stated that high significant model detected through F test value was 65.48 with p value 0.000. The model explains 78% of the change in mothers' practice score detected through R2 value 0.787. The total knowledge was identified as the main positive indicator of the change in mothers' practice score. Additionally, total direction and occupation was other positive indicator. Practice area also had positive indicator. Finally, educational level was identified as the least positive predictor of the change in mothers' practice score, during entering data working was 1 and non-

working was 0. Variables excluded by the model: age, occupation, and source of knowledge.

Table 5 stated that high significant model detected through F test value was 12.30 with p value .002. The model explains 52% of the change in mothers' attitude score detected through R2 value 0.521. The total knowledge was identified as the main positive indicator of the change in mothers' attitude score. Also, occupation was a positive indicator, additionally; age and residency was other positive indicator.

In summary, the functioning of artificial intelligence systems in Schizophrenia is limited; however its greater advancements and applications are expected in near future. Lastly! The author hoping with hope that the artificial intelligence systems framework can be set to aid in making the current medical treatment more efficient and accessible as far as Schizophrenia is concerned.

Table 2. Distribution of studied mothers regarding their total knowledge, practice and directions (n=200).

Items	n	%	
Knowledge			
Good	100	50	
Average	68	34	
Poor	32	16	
Directions			
Positive	122	61	
Negative	78	39	
Practice			
Satisfied	112	66	
Unsatisfied	88	44	

Table 3. Best fitting multiple linear regressions model for total knowledge.

	Unstandardized coefficient		Standardised coefficient T-test		P value
	В	Std. Error			
Educational level	23.865	5.040	0.405	4.736	0.000
Age	2.036	0.396	0.131	5.141	0.000
Occupation	-18.455	3.041	-0.313	-6.068	0.000
Total practice	.587	0.163	0.290	3.604	0.004

 Table 4. Best fitting multiple linear regressions model for total practice.

	Unstandardized coefficient		Standardised coefficient T-test		P value
	В	Std. Error			
Total knowledge	19.88	3.199	0.892	9.887	0.000
Total attitude	15.07	2.103	0.567	6.112	0.000
Occupation	3.962	0.940	0.289	5.723	0.001
Educational level	1.879	0.210	0.230	4.900	0.002

Note: Dependent variables: Total attitude R square 0.787, Model ANOVA 65.48 p value .000**

Table 5. Best fitting multiple linear regressions model for total attitude.

	Unstandardized coefficient		Standardised coefficient T-test		P value	
	В	Std. Error				
Total knowledge		0.475	0.387	4.231	0.005	
Total practice	2.311	0.399	0.335	3.956	0.009	
Age	1.975	0.140	0.211	5.192	0.001	
Occupation	1.203	0.119	0.225	4.007	0.006	

Discussion

Parents are a special group. Even though children are the main subjects of many medical or educational activities, the behaviour of the parents is almost equally important. Parents act as the primary implementers or supervisors of children's care [15]. Our study conducted to assess the knowledge, attitude, and practices of mothers towards physical and psychological care of their children with COVID-19. In this study, most of the respondents were postgraduate and had a BSN; more than half were from urban areas and the average number of years of occupation was 8.61(4.71). After analysing and interpretation the collected data, the current study mentioned that half of the studied mothers had good knowledge and more than one third had an average knowledge level. In related directions, less than two thirds of studied mothers had positive direction. According to their practice, around two thirds of studied mothers had satisfied practices. These results may be due to the fact that most of them had a BSN and postgraduate, more than two thirds were worked, and about two thirds of them had reliable sources of information such as WHO Saudi Ministry of Health and social media [3]. In concordance with the Report of the WHO-China Joint Mission on COVID-19, the results of this study revealed that more than two-thirds of the mothers have been able to identify that COVID-19 could be transmitted by sneezing, and a high proportion believed that shaking hands could be a cause. Around one-quarter indicated that touching surfaces could transmit infection, and so when dealing with animals. Furthermore, most mothers could identify some indications for being tested for COVID-19, including contact with infected individuals, travel to areas of infection, development of respiratory symptoms, and pyrexia. These findings are reassuring to an extent, albeit need further reinforcement [16]. Due to unknown reasons, children with COVID-19 appear to have a milder clinical course compared to adults, and reports of death are scarce [17]. However, the paediatric population may play a major role in the community spread of SARS-CoV-2. In addition to viral shedding in nasal secretions, there is evidence of fecal shedding for several weeks after diagnosis, which poses a challenge for infection control [9]. These results cohort with the study by Ribeiro Luísa Mota, et al. who reported that more than half of the studied mothers had good knowledge related definition, sources, symptoms and transmission of COVID-19 [10]. Also stated that less than two thirds of the studied subject used social media to obtain information, and had poor knowledge of COVID-19 transmission [18,19]. The reference revealed that the results of this study verified an intermediate level of knowledge of family in relation to COVID-19 [20]. Also, this study was supported by the study performed by who reported that most studied subjects felt that they had satisfactory knowledge regarding COVID-19 [21,22]. Asemahagn reported that around 279 (70%) health care workers had good knowledge followed by 247 (62%) with good prevention practices. In agreement with who detected that the majority of studied subjects followed correct practices regarding COVID-19. This was consistent with the study by who stated that the majority presented a good preventive practice and attitude related to COVID-19. Kassie et al. stated that frequency of attitude towards COVID-19 established to be 65.7% (95%CI: 61.5, 70.1). Wahed et al. reported that a positive attitude for COVID-19 was noticed among care givers. The current results also showed that educational level and age were identified as the main positive indicator of the change in mothers' knowledge score [23-27]. The total knowledge, attitude, residency and educational level were identified as the main positive indicator of the change in mothers' practice score. The total knowledge, occupation, and age were identified as the main positive indicator of the change in mothers' attitude score. These results are irregular with the study performed by Almutairi Khalid, et al. who detected that experience of COVID-19 was found to explain 29.1% of mothers' knowledge level and in cohort with who revealed that residence and lack of PPE were factors restricting prevention practices [18]. The study by Centres for disease control and prevention, 2020 reported that work experience and job category influenced subjects' practice and attitude concerning COVID-19 [20]. This is similar to the study performed by who showed that more frequent prevention practice factors were associated with older age. higher education and positive attitudes in regard physical and psychological care, and who demonstrated that mothers' attitudes were significantly linked with their occupation and knowledge level [19,28,29].

Conclusion

To conclude our study, half of the studied mothers had good knowledge and more than one third had an average knowledge level. In related attitude, less than two thirds of studied mothers had positive attitude. According to practice level, around two thirds of studied mothers had satisfied practice. Also, residency, educational level and age were positive indicator on mothers' knowledge. The total knowledge, attitude, occupation, and educational level had a positive impact mothers' practice. The total knowledge, age and occupation were positive indicator of physical and psychological care of their children.

Conflict of Interest

Not present any conflict

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