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ORIGINAL ARTICLE

Strategy for implementation of school child immunization month program in covid-19 pandemic at batujajar health center

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ABSTRACT

The COVID-19 pandemic has hindered one of the government's health sector programs, School Child Immunization Month (BIAS). The complete immunization program must still follow the schedule to protect children from immunization-preventable diseases. This study sought strategies, processes, and obstacles in implementing the BIAS program during the COVID-19 pandemic at Batujajar Health Center from December 2020 to January 2021. The study design was qualitative, conducted through in-depth interviews. The informants were selected through a purposive sampling technique to obtain the information required for the study. The results showed that immunizations were only administered in safe zones, and socialization was distributed from the Community Health Centre to schools by WhatsApp (WA) application. The school used WA to deliver the socialization to parents, then recorded the students' immunizations and chose locations that met the health protocol requirements. The BIAS process during the COVID-19 pandemic involved the selection of place, time, and number of people involved in BIAS with the health protocol, monitoring by the immunization program coordinator through field officer reports, and evaluations during monthly workshops. Some problems occurring in the BIAS program were caused by external obstacles like the school's difficulty applying health protocols during the administration, some parents' resistance to children's immunization, misinformation that it was a vaccine for COVID-19 or that the vaccine was expired, and children being sick or afraid of the syringe. Better socialization and coordination in the implementation of this program were needed.

Keyword: Community Health Center, Covid-19, Pandemic, School Child Immunization Month, Strategy

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INTRODUCTION

The COVID-19 pandemic is known to have interfered with many programs in the health sector; one of the affected programs is the School Child Immunization Month (BIAS) program. The immunization program must still be completed according to its schedule to protect children from Immunization Preventable Diseases (PD3I).[1] The postponement in the implementation of the BIAS program during the COVID-19 pandemic was due to the execution of online learning in the students' homes starting on the 18th of May 2020, as stipulated by The Ministry of Education and Culture of the Republic of Indonesia (Kemendikbud RI) in order to prevent the transmission of COVID-19.[2,3] At the same time, measures to prevent other dangerous infectious diseases such as PD3I must continue through immunization to prevent Extraordinary Incidence (KLB) from happening.[4] Primary school-age children or their equivalents are the targets of the immunization program implemented in BIAS activities.[1] BIAS is a follow-up immunization program for primary school-age children that is held twice a year and is run simultaneously in all districts/cities in Indonesia. It aims to provide protection against measles, diphtheria, and tetanus.[4,5] The BIAS program has to be run as the basic immunizations obtained at infancy cannot protect children against PD3I until they reach school age. Because the level of immunity obtained through basic immunization decreases as children reach primary school age, the government administers repeat immunizations to elementary school-age children in order to maintain the level of immunity and prolong the period of protection for those who have received basic immunization.[1,5]

Even after receiving measles vaccination as babies, up to 28.3% of children aged 5–7 years are still infected by the disease. Measles is a highly contagious disease caused by a virus from the Paramyxovirus group.[1,6] If a child without immunity from immunization is exposed to measles, complications will occur in the form of lung infection (pneumonia) and inflammation of the brain (encephalitis), conditions that can be life-threatening for the child. On this basis, the Indonesian Pediatrician Association (IDAI) made recommendations for repeat immunization for the first graders in all primary schools.[1] Diphtheria-Tetanus (DT) immunization is repeated for the first graders in elementary school. DT immunization is very important as the Corynebacterium diphtheriae bacteria, which causes diphtheria, will infect the respiratory tract and can cause respiratory failure in children not protected by immunization.[1] In 2019, cases of diphtheria almost spread across Indonesia. Referring to Indonesia's 2019 health profile data released by the Ministry of Health of the Republic of Indonesia (Kemenkes RI), the number of diphtheria cases in Indonesia in 2019 was up to 529 cases with 23 deaths. An area is declared a diphtheria outbreak if one diphtheria suspect is found.[6] Diphtheria outbreak control activities are run by integrating related programs, which include the immunization program.[7] Tetanus immunization (Td) is recommended to be re-administered to the 2nd graders and 5th graders or equivalent. The reason is that the tetanus immunization injected at the age of 18–24 months will only provide protection until the child reaches the age of 6–7 years old, or equivalent to grade 2 of elementary school.[1,4] Tetanus is a serious disease because it is caused by Clostridium tetani bacteria, which can cause muscle stiffness or paralysis and even death.[6]

Elementary school education institutions or the equivalent are places vulnerable to the transmission of viruses and bacteria. However, schools are also the most strategic places for preventing the spread of viruses and bacteria too.[4] Furthermore, this free immunization program has also been supported by the World Health Organization (WHO) and the

United Nations Children's Fund (UNICEF) as the program makes the effort to fight measles and rubella outbreaks, hence it can reach Sustainable Development Goals (SDGs).[5] Referring to data from the Health Center Performance Assessment (PKP), the implementation of BIAS at Batujajar Health Center in 2019 almost fulfilled the set target of 95%. The performance of the BIAS DT program in 2019 was 99.13%, the BIAS Td program was 92.4%, and the BIAS measles program was 102.55%.[8] In the PKP 2020, the performance of the BIAS program at Batujajar Health Center did not meet the set target of 95%. The performance of the BIAS DT program in 2020 was 49.28%, the BIAS Td program was 74.63%, and the measles BIAS program was 78.71%.[9] Batujajar Health Center's working area covers seven villages: West Batujajar, East Batujajar, Cangkorah, Galanggang, Giri Asih, Pangauban, and Selacau. In implementing the 2020 BIAS program, carried out in the green zone in its coverage, Batujajar Health Center included three villages, which were Selacau, Cangkorah, and Giriasih Villages. The present implementation of the BIAS program may be different from the previous one, as there is a need to follow health protocols in order to prevent the transmission of COVID-19 for both officers and immunization targets. Based on this, the researchers intended to determine the strategy required for implementing the BIAS program at Batujajar Health Center during the COVID-19 pandemic.

METHOD AND SUBJECT

This research design used a qualitative method by conducting in-depth interviews in the working area of Batujajar Health Center. The selection of informants was conducted using the purposive sampling technique. Data collection was conducted using an in-depth interview technique, which is an open question-and-answer between the interviewer and the interviewee, to obtain data on the BIAS service strategy during the COVID-19 pandemic. The key instrument in this research was the researcher. Other instruments were in-depth interviews with informants as well as informed consent sheets, tape recorders, audio and video recordings, transcripts of audio recordings, and interviewers' notes. The research procedure consisted of several stages, starting with preparation, implementation, and the preparation of research reports. The data analysis used by the researcher was descriptive data analysis, which was in the form of exposure, description, and description of the data gathered.

RESULT AND DISCUSSION

In-depth interviews were conducted with the coordinator of the immunization program as a key informant, the head of the Community Health Center, the coordinator of surveillance, the coordinator of the Community Health Efforts (UKM), the person responsible for the implementation of immunization in schools (the principal), and the parents of students who followed and did not follow the immunization.

The Characteristics of Informants

Based on the research results, the characteristics of the informants are shown in Table 1 and Table 2 below.

Table 1. The characteristics of informants running and responsible for implementing the BIAS program at Batujajar District

No	Informant	Age (Years)	Education	Position	Length of Work (years)
1	Officer A	54	D3	Immunization Program Coordinator	33
2	Officer B	49	S1	The Head of Community Health Center	7
3	Officer C	36	S1	Surveillance Coordinator and Head of Management	11
4	Officer D	40	S1	UKM Coordinator	10
5	The Principal of Elementary School 1	40	S1	Principal	5
6	The Principal of Elementary School 2	54	S1	Principal	2
7	The Principal of Elementary School 3	59	S1	Principal	3

Table 2. The characteristics of the parents of the students who followed and did not follow the immunization in the BIAS program

No	Informant	Age (Years)	Education	Occupation
1	Permitting Parent (1)	34	Diploma	Housewife
2	Permitting Parent (2)	34	Senior High School	Housewife
3	Not Permitting Parent (1)	37	Vocational School	Housewife
4	Not Permitting Parent (2)	34	Senior High School	Housewife

BIAS Program Implementation Schedule

The implementation of BIAS during the COVID-19 pandemic could not be implemented as it was scheduled for August and November. The postponement of the BIAS implementation schedule at Batujajar Health Center was decided due to concerns from the health office, the head of the Community Health Center, surveillance, and the immunization program officer. The schedule for the BIAS implementation during the COVID-19 pandemic was also grounded on the considerations of the Batujajar District COVID-19 Task Force Team and the West Bandung District Health Office after noticing an increase in confirmed COVID-19 cases in one area in Batujajar District.

Another consideration for putting off the BIAS implementation schedule at Batujajar Health Center was the epidemiological situation of PD3I in the working area of Batujajar Health Center. In the previous 10 years, there were no Extraordinary Incidences (KLB) in the working area of Batujajar Health Center. The results of the study were in parallel with a study conducted in Lampung in 2020, which stated that immunization services during the COVID-19 pandemic were decided based on the local government's policies, the spread of COVID-19, and the epidemiological situation of PD3I.[10] The Indonesian Pediatrician Association (IDAI), as a professional organization, also issued guidelines for immunization services , stating that if it is not possible for one of the areas with widespread transmission of COVID-19 to implement immunization, it can be delayed for 1 month. Only when the

situation allows, it should be done immediately.[11]

BIAS Program Service Strategy

The 2020 BIAS implementation strategy at Batujajar Health Center was only implemented in areas with an increase in COVID-19 cases, which was not too high compared to other areas in the Batujajar Health Center work area. The results of this study were in parallel with the Technical Instructions for Immunization Services during the COVID-19 pandemic, which state that in deciding whether or not to do mass immunization services in an area during the COVID-19 pandemic, it is necessary to conduct an assessment based on mapping areas with a high risk of COVID-19.[4]

Cross-program and cross-sector collaboration were implemented by Batujajar Health Center in the implementation of BIAS. The cross-sectoral collaboration included collaboration with school supervisors in Batujajar District, schools, and related villages. Cross-sectoral collaboration was also made with the West Bandung Sub-District Health Office and the Batujajar District COVID-19 Task Force. The community collaboration established was a collaboration with parents and teachers.

"The Community Health Center has worked together across sectors by holding a preliminary meeting with school supervisors in Batujajar Subdistrict in the UPTD, Batujajar District." (Officer A)

"Certainly it was previously socialized for the implementation of BIAS to the village concerned that BIAS would be implemented in that village for its cross-sectoral." (Officer B)

Table 3. BIAS Program Service Strategy

No.	Strategy	Implementation	Notes
1.	BIAS Implementation	- Safe Zone Areas	- 3 out of 7 villages
		- Elementary Schools	- 6 schools in Selacau Village, 8 schools in Giriasih Village, and 6 schools in Cangkorah Village.
2.	Collaboration	Cross-program	Responsible person for Public Health Service, coordinator of immunization programs, surveillance programs, heads of Community Health Service, village midwives, and School Health programs
3.	Collaboration	Cross-sector	School supervisors, schools, villages, health services, task force teams

Measures Taken by Batujajar Health Center and School on BIAS Program Services

Table 4 describes measures taken by Batujajar Health Center and School on BIAS program services during the COVID-19 pandemic at Batujajar Health Center.

Table 4. Measures Taken by Batujajar Health Center and School on BIAS Program Services

No.	Implementation	Notes
1.	Batujajar Health Center notified the schools of the socialization of BIAS implementation.	- The socialization was spread using the WhatsApp (WA) application or by telephone . - Community Health Center asked schools to prepare health protocols.
2.	The schools informed parents of the BIAS implementation schedule.	- Notifications were distributed through WA application group messages by respective teachers directly to parents. - Collecting data on students who would be immunized. - The data on students who would be immunized would then be submitted by the school to the Community Health Center.
3.	Batujajar Health Center provided individual counseling to parents coming with students who would be immunized.	- The counseling delivered was through a presentation of the material in front of the class 15 minutes before the injection - Counseling for parents was also done by the schools.
4.	The schools' role in the implementation of BIAS	- Choosing places that complied with the health protocol guidelines, arranging the timing of immunizations to avoid crowds, making schedules, and dividing student arrivals into several sessions. - Ensuring that students were in excellent health prior to immunization, and registered students for immunization.

The notification time from the Community Health Center to each school was different; some received a notification a week before the BIAS activity, while some others received a notification two days before the BIAS implementation. After receiving the notification from the Community Health Center, the school immediately informed parents of the BIAS implementation. The school also reminded parents one day before the event. The results of this study met the guidelines for regular immunization of children during the COVID-19 pandemic in Indonesia based on the perception of parents and caregivers, according to the Ministry of Health of the Republic of Indonesia and UNICEF Indonesia, that the information is provided through different social media (in particular WA) and local media, as well as other platforms such as notifications, containing the benefits of immunization in BIAS activities and the date of its implementation. Furthermore, the school helped provide counseling to parents/ guardians/ students.[12]

The Community Health Center asked schools to prepare health protocols. The intended health protocols were the provision of a sink, soap, hand sanitizer, and rules that BIAS implementation could only be done by keeping a safe distance. The Community Health Center also informed schools regarding the schedule and officers in charge of BIAS in each school.

> "*Before the implementation, we give counseling directly to the children and their parents, as sometimes the students come with their parents. 15 minutes before the implementation, we provide counseling regarding this injection, especially during this outbreak*." (Officer A)

This was in line with a 2016 study conducted in Padang, which stated that individual counseling could be delivered during immunization activities.[13] The Technical Instructions for the Implementation of School Child Immunization Month (BIAS) stipulated by the Directorate General of Disease

Prevention and Control of the Ministry of Health of the Republic of Indonesia in 2018 stated that immunization socialization and counseling can be delivered to teachers, parents, and targets. The counseling materials to deliver were the reasons for administering immunizations, benefits, what would happen if not immunized, complaints that might occur after immunization, and what to do with the schedule for the next immunization. [4,14]

The measure taken by the schools was to inform parents of the schedule of the BIAS implementation. The data on students who would be immunized would then be submitted by the school to the Community Health Center. This data was used to determine the number of vaccines to be brought in during BIAS implementation. This was in accordance with the Regulation of the Minister of Health of the Republic of Indonesia Number 12 of 2017 regarding the Implementation of Immunization, which states that the need for vaccines is determined by calculating the number of targets and determining targets.[15]

> *"Usually, one session lasts approximately 10 minutes and serves five individuals. We group the hours so that the attendance numbers are divided according to their numerical order.*
> *" (Principal of Elementary School 3)*

Other roles of the schools were to ensure that students were in excellent health prior to immunization and to register students for immunization. The results of this study were in line with the statement in the Immunization Textbook circulated by the Ministry of Health in 2014 that the target number of schoolchildren is obtained directly from schools.16 According to the Ministry of Health's Regulation No. 12 of 2017 on the Implementation of Immunization, the data collection of students to immunize is used for the calculation of the number of vaccines needed. [15]

Batujajar Health Center's Measure To Continue Implementing the BIAS Program

The results of the study stated that out of four informants implementing the BIAS program at the Community Health Center, three stated that there was no specific strategy in place to continue implementing the BIAS program during the COVID-19 pandemic. Some measures taken by Batujajar Health Center were to conduct socialization and counseling. Such counseling can be done through cross-program collaborations, for example, with the Health Promotion program and with village midwives.

This was consistent with the findings of a 2016 study in Padang, which suggested that health workers, particularly immunization program officers, increase counseling either individually or in groups. The results of this study were also in keeping with the Technical Guidelines for Immunization Services during the COVID-19 pandemic, which state that health workers at any level are expected to increase knowledge and understanding, build trust and credibility, and encourage the creation of appropriate attitudes, behaviors, and trusts for routine immunization information during the COVID-19 pandemic. One of the measures to be taken is socialization and counseling, both through the mass media and directly with the target. [13]

The Process of Implementing the BIAS Program During the COVID-19 Pandemic at Batujajar Health Center for the Period of December 2020 and January 2021

Table 5 describes the process of implementing the BIAS program during the COVID-19 pandemic at Batujajar Health Center for the period of December 2020 and January 2021.

Table 5. BIAS Program Implementation Process

No.	Activity steps	Activity details	Responsible Persons
1.	Preparation	- Scheduling - Vaccine taking	- All program coordinators - Immunization Coordinator
2.	Implementation	BIAS implementation followed the health protocol	Midwives and Nurses
		Monitoring and evaluation	- Immunization program Coordinator - Village caretaker of village midwives

The preparation for BIAS implementation at Batujajar Health Center was well planned, which was based on the statement of an informant who said that BIAS implementation had been planned in the previous year's Proposed Activity Plan (RUK), including technical and budgetary matters. The preparation of the RUK was compiled in January of the running year (H), based on the results of the study on the achievement of the previous year's activities (H-1), and the RUK composed was the next year's RUK (H+1).

References for the implementation of the BIAS program during the COVID-19 pandemic at Batujajar Health Center were following health protocols, arranging places for immunization, providing handwashing facilities, soaps, or hand sanitizers, wearing Personal Protective Equipment (PPE), setting a safe distance of 1-2 meters, regulating the flow of entry and exit, dividing the arrival of students into several sessions, and arranging the briefest implementation possible of each session and for the parents' waiting outside the vaccination room. The results of this study were in accordance with the Technical Instructions for Immunization Services during the COVID-19 Pandemic, which state that the provisions for the room/place for immunization services are done with the principles of Infection Prevention and Control (PPI).[4]

Based on research conducted in Ciamis, the mechanism for recording and reporting on the implementation of routine immunization is as stipulated in Regulation of the Minister of Health Number 12 of 2017. The evaluation carried out included the facilities and infrastructure in accordance with the provisions in the technical guidelines that had been made by the Ministry of Health; nonetheless, the availability of face shields and hazmat was still not adequate. Evaluations that were considered good in terms of availability, function, logistics, equipment, and vaccine conditions include auto-disposable vaccine syringes, vaccine carriers, vaccine refrigerators, cool packs, and safety boxes. [17]

The officers involved in the BIAS implementation at Batujajar Health Center were divided into several teams. Each team consisted of one or two officers: a midwife and a nurse. Each team vaccinated one school in one day. Prior to providing immunization services, the health workers at Batujajar Health Center should have ascertained that they were in good health. The same applied to children who were immunized; their parents had to ensure that the child was in good health. The results of this study were in keeping with the instructions on the implementation of immunization during the COVID-19 pandemic stipulated by the Directorate of Health Surveillance and Quarantine of the Minister of Health

2020. [4]

The BIAS program monitoring services were carried out through the immunization of the program coordinator, who was directly involved in BIAS implementation, as well as reports from field immunization officers. Another informant also said that the monitoring was done by village supervisors or village midwives, as well as BIAS implementing officers who went directly to schools. Monitoring results would be submitted to the head of the Community Health Center and the surveillance coordinator.

Evaluation of BIAS activities was made in formal and non-formal forms. The non-formal evaluation was made following each activity. The evaluation included data on immunized and non-immunized students and reports on the incidence of KIPI. Formal evaluations were set at monthly workshops (lokbul). The monthly workshop discussed the targets, achievements, and problems encountered in each program in the previous month.

The role of Parents in the Implementation of BIAS Program Services

In this study, the role of parents was to grant consent for participation in BIAS. Only students whose parents had given their permission received the BIAS vaccination. The permission was distributed through a WhatsApp group message to the respective teacher a few days prior to the BIAS implementation. The parents did not need to make a statement if they did not allow their children to participate in the immunizations.

Parents who allowed their children to be immunized in BIAS had to ensure that their children were in good health, referring to the indicators provided by the school. The children would not be allowed to be immunized if they had a fever, cough, runny nose, or were taking medication. The results of this study were in line with the guidelines on the implementation of immunization during the COVID-19 pandemic released by the Directorate of Health Surveillance and Quarantine of the Minister of Health 2020, which state that children to immunize must be in good health.[4]

Parents could take their children, who would be immunized, to school. They were asked to wait outside the classroom to prevent crowds from happening. Next, the parents were suggested to follow health protocols while in the school area.

Parents also played a role in monitoring Post-Immunization Adverse Incidence (KIPI), reporting them to schools in the event that KIPIs occurred. The school would then report it to the Community Health Center. Monitoring of KIPI cases conducted by Batujajar Health Center was done by requiring the children to wait 30 minutes after immunization. After observation, the students were allowed to go home if there were no complaints. Each student who took BIAS was given 1 Paracetamol tablet with a dose of half a tablet for the first and second graders and one tablet for the fifth graders. All types of immunization in the BIAS program were supplemented with paracetamol, which functions as an antipyretic and analgesic.

Measures taken for Children Who Had Not Been Immunized in the BIAS Program

In the BIAS activity during the COVID-19 pandemic at Batujajar Health Center, no sweeping was carried out. Sweeping on BIAS during the COVID-19 pandemic was not done in order to avoid the spread of COVID-19 in the working area of Batujajar Health Center.

> "*In the past, we used to sweep; during this pandemic, we do not sweep as we are concerned with the spread of COVID-19*." (Officer B)

The results of this study were not in line with the Technical Guidelines for Immunization Services during the COVID-19 pandemic released by the Directorate of Health Surveillance and Quarantine of the Ministry of Health in 2020, which state that health workers need to record and track (defaulter tracking) children who postponed their immunization due to the COVID-19 pandemic to plan intervention activities (catch up) as soon as the situation allowed.[4]

Obstacles to the Implementation of the BIAS Program During the COVID-19 Pandemic at Batujajar Health Center

Table 6 describes the obstacles encountered in the implementation of BIAS at Batujajar Health Center.

Table 6. Obstacles to BIAS Implementation

No.	Obstacles	Note
1.	Internal	Difficulty in applying health protocols.
2.	External	- Some parents doubted the efficacy of vaccines. - Parents were not allowing their kids to leave home during the COVID-19 pandemic - Students who were afraid of the syringe made their escape from the immunization activity.

According to the school, BIAS was a routine program run every year, thus there were no technical obstacles to its implementation. However, according to another informant, the obstacle faced by the school was the difficulty of regulating health protocols for children while at school. There was difficulty in managing health protocols as, during BIAS implementation, children played with their friends, making it difficult to keep their distance without wearing masks.

Parental Considerations in terms of allowing or not allowing their children to follow BIAS

In this study, two informants allowed their children to join BIAS, while two others did not allow their children to follow BIAS during the pandemic. Parents' considerations in allowing their children to take BIAS were that the child's immune system increased so that the child stayed healthy and did not get sick easily, while the considerations of parents not allowing their child to be immunized were because the child was sick, worried about the increasing condition of COVID-19 cases, infected with COVID-19, worried that the vaccine used in the BIAS program was the COVID-19 vaccine, and worried that the vaccine used had expired. Although they did not allow it, the two informants were aware of the importance of BIAS immunization.

Based on the finding of in-depth interviews with parents of students, there was no reason to prevent their children to follow BIAS because of anti-vaccine sentiment. This was different from the results of in-depth interviews with BIAS program officers at Batujajar Health Center. The results of this study were also different from the study done by Irawati (2020), which stated that one of the reasons why people do not allow their children to take immunizations is the belief that immunization is not allowed/ haram to do. [10]

In a systematic review, factors that were associated with missed vaccinations during mass immunization campaigns were studied. One of them was caregivers' incorrect knowledge about vaccines or mass campaigns.[18] Perceptions regarding the campaign have differed; those who did not vaccinate their children reported not doing so because either they were not around during the campaign or they were not aware of it, and caregivers reported that they did not see the necessity of taking their children for another shot since they had already been vaccinated in the routine clinic visits and believed that vaccines would make their children infertile.[19] According to the Indonesian Ministry of Health and UNICEF Indonesia in Routine Immunization of Children During the COVID-19 Pandemic in Indonesia: The Perceptions of Parents and Caregivers are the factors that contribute to parents deciding to immunize during the COVID-19 pandemic, including the level of understanding of the benefits of immunization and the risk of being infected by COVID-19 in health care facilities, both of which are regarded as important considerations.[16] Some studies have looked into parents' reasons for refusing, delaying, or being hesitant to vaccinate their child(ren). These reasons vary widely among parents, but they can be encompassed in 4 overarching categories: religious reasons, personal beliefs or philosophical reasons, safety concerns, and a desire for more information from healthcare providers.[20] The results of the study in Jambi showed that 63% of respondents had poor knowledge regarding immunization. Respondents' poor knowledge was influenced by low education and a lack of information about giving immunizations to schoolchildren. The active role of parents is a form of social support that determines children's health.[21]

CONCLUSION

The implementation of BIAS during the pandemic has still not covered all areas, and there were obstacles to the implementation of BIAS, including the problem of applying health protocols and the doubt from parents about the contents of the vaccine. Health centers should provide socialization and education in schools for parents so that they can broaden their knowledge and understanding, build trust and credibility, and encourage the creation of appropriate parental attitudes, behaviors, and trusts concerning BIAS information during the COVID-19 pandemic.

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DECLARATION OF INTEREST

In this study the authors declare no conflict of interest.

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