

## Managing Epidemic Prevention Activities for Public Preschools' Children

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**ABSTRACT** Preschool education is an important aspect of education for all children, with a focus on improving the quality of health care and epidemic prevention for preschoolers. 247 Vietnamese preschool school respondents (21 personnel, 100 teachers 120 parents and six medical workers) participated. The participants completed a self-administered survey and examined elements for the management of epidemic prevention for children in public preschools. A survey was conducted at seven public preschools in Binh Chanh District, Ho Chi Minh City. The findings indicate that regular training and organization are essential for preventing epidemics in youngsters. It is important to note that school authorities and people outside the school, who are always mindful of the importance of infectious disease prevention for children, note this policy change's benefit for children in preschool. Because it attracts their attention and motivates young parents to make sure their children avoid disease and remain healthy while participating in school activities and extracurricular activities, like play, work, and study.

### INTRODUCTION

In human development, the preschool age is the age when children begin to grow curious, imaginative, and learn how to associate ideas. At the same time, it is the perfect time to boost children's abilities to think on their own. Besides, children in preschool are in a period of rapid physical growth, and their intellectual, emotional, and social development is also progressing rapidly. Managing and supervising preschool principals is critical for the growth and development of preschool education in the appropriate path. A preschool is a place where children can develop their entire personality, with the educator's role and the positive activities of each child having a significant impact on their development. Additionally, preschool teachers also play a critical role as the fundamental human resource of preschool education, implementing and completing caring for and educating preschool children within the national education system (Nguyen-Thi 2019).

The consensus among leaders and researchers from many countries worldwide is that education is the primary driver of socio-economic development. Human resources are a critical asset in a country's efforts to modernize and industrialize. The importance of preschool education is becoming increasingly recognized. Preschool education is the initial level of instruction in the national educational system, and it oversees providing the groundwork for the creation and development of human personalities (Nguyen-Hong 2014). According to Rajaharun et al. (2005), preschool education is critical. It forms the basis for ensuring an individual's success and is one potential opportunity to promote children's healthy development (Goldfeld et al. 2016). In the West, Weinstein and David (1987) concurred that formal preschools contribute to cognitive development among Western children, which leads to greater intellectual competence and cognitive maturity. In Asia, especially Vietnam, preschool education is becoming increasingly important in shaping children's later development. Currently, the preschool education system places a strong emphasis on guiding children through the process of learning naturally and comfortably, allowing them to discover and learn through their discoveries and experiences (Nguyen 2019b).

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Additionally, preschool education is organized diversely and richly, meeting children's needs, interests, and active activities, emphasizing the process rather than the outcome of activities, and emphasizing the importance of creating a safe and healthy environment. Morrow (2007) also stated that the importance of preschools should concentrate on lesson planning and the spatial arrangements or physical environment, which are of equal importance. Moore and Sugiyama (2007) studied that it is already well known that the quality of preschools and the like is related to the quality of the designed physical environment. Preschool education is a critical component of education for all children, emphasizing improving health care quality and epidemic prevention for preschool children.

Preschool education is responsible for nurturing, caring, and educating children aged three to six (Nguyen 2019a). This is a susceptible age, as their environment strongly influences children due to their limited capacity for self-protection. Preschool children enjoy exploring, experimenting, and actively interacting with tools and toys, as well as exchanging with peers and adults (Dau and Tran-Thi 2019). Children are, however, not conscious of personal hygiene and the prevention of epidemics at school. The young body is still immature, resistance is weak, and the learning and playing environment often have many children. All of the above factors are very likely to lead to children getting sick. According to Paediatrics and Child Health, children are extremely susceptible to infection because they are in contact with one another and play with one another, making the epidemic easily spread ("Infections in Child Care Centres" 2000). The first cross-sectional serologic study in Singapore published in 2002 reported that hand, foot and mouth disease (HFMD) infected preschool-aged children the most. It found that preschool setting such as the concentration of susceptible population in a confined space (classroom) and sharing of toys contributed to the spreading of HFMD infections (Kua and Pang 2020). In the United States, in 1986, preschool-aged children with measles represented forty percent of all cases and were the age group at highest risk for measles infection. Immunization levels to all antigens in preschool-aged children are known to be lower than those for school-aged children (Hutchins et al. 1989). WHO (2009) also showed that children in many countries still face the major traditional

environmental hazards. Including unsafe water, lack of sanitation and contaminated food, injuries, indoor air pollution from solid fuel, outdoor air pollution and exposure to a myriad of toxic heavy metals, chemicals and hazardous wastes that may be brought home from the workplace.

Therefore, Dau and Tran-Thi (2019) also stated that epidemic prevention is critical in caring for preschool children's health. Epidemics pose a significant threat to countries worldwide and to society due to the harm they cause directly to life, health, and the economy, as well as the danger they pose to the lives of young children. For instance, the coronavirus disease 2019 (COVID-19) has affected the lives of children, adolescents, and young adults in various ways, brought about anxiety, distress, and fear to them and their families (Isumi et al. 2020; Pham et al. 2021). According to Zylke and DeAngelis (2009), health promotion and disease prevention in children should be a daily concern for everyone, just as it is for the parent and the child's clinician. Health promotion and epidemic prevention should be implemented effectively through the administration of care, children's education, and vaccination. The World Health Conference Alma-Ata held in 1978, introduced content related to epidemic prevention. For preschool children, including the following eight contents, that is, education concerning prevailing health problems and the methods of preventing and controlling them, promotion of food supply and proper nutrition, an adequate supply of safe water and basic sanitation, maternal and child health care, including family planning, immunization against the major infectious diseases, prevention and control of locally endemic diseases, appropriate treatment of common diseases and injuries, and provision of essential drugs (WHO 1978). In the United States, after lockdown because of COVID-19, the health and education authorities also introduced safety guidelines for preschools, that is, sick people (children, teachers, parents). They should not be in preschool, always remember good hygiene, reduce contact frequency between people, staff employed at multiple preschools must receive training and be updated on protocols at each site (Pramling-Samuelsson et al. 2020). It can be said that managing epidemic prevention activities for public preschool children are a very important and necessary task for parents, society, and especially educators. Children's health at a good preschool has a big impact on their growth.

Vietnam is located in the tropical monsoon region, with a hot and humid climate and a dense population. All the above cause an increase in the occurrence of epidemics. Numerous epidemics are occurring at the moment, including chickenpox, measles, dengue fever, HFMD, diarrhoea, and influenza A (H5N9), (H1N1), severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which is the disease caused by a new strain of coronavirus (nCoV), and is spreading rapidly throughout the world, and the situation is critical in a number of countries, including Vietnam. In addition, the Binh Chanh District, Ho Chi Minh City, is a purely agricultural district with a large population and inadequate environmental sanitation. It will result in the rapid spread of easily contagious epidemics and outbreaks, especially, large effect on preschool children. In 2009, Huynh Van Son's book series "Practicing Life Skills" stated that it is vital to include personal hygiene skills in the first article. This includes maintaining proper hand and foot hygiene and knowing how to wash hands after using the restroom, following time spent in the yard, or spent with pets (Huynh 2009). According to the Ministry of Education and Training, school health, or health care for children and students in schools, is reorganizing itself. Sanitation conditions in schools are gradually improving (MET 2020). Epidemic and disease prevention and control have received increased attention, including hygiene, proper nutrition, and food safety. The current disease prevention and control activities in Binh Chanh district preschools have contributed to protecting and improving students' health, ensuring hygiene and safety, and assisting them in developing a sense of health protection for themselves and the community, creating conditions for children to develop harmoniously and comprehensively physically and mentally. However, the issue continues to have numerous inadequacies. As a result of the foregoing, and with the goal of assisting the management teams of preschools in the area in effectively managing this activity, as well as contributing to the improvement of the quality of childcare and education in the area, as well as in the field of preschool education, the research on managing epidemic prevention activities for public preschools' children in Binh Chanh District, Ho Chi Minh City is conducted.

## MATERIAL AND METHODS

### Participants

Two hundred and fifty-two respondents were conducted through the survey at seven preschools in the Binh Chanh district, Ho Chi Minh City, Vietnam. 21 personnel (principal and vice-principal), 100 teachers, and six medical workers among 127 people surveyed. Besides, 120 parents were also surveyed about diseases that often occur in children in preschool.

### Measure

Four groups included 24 items to measure the managing epidemic prevention activities for public preschools' children. Group 1 (3 items) measures "*The role and significance of epidemic prevention for preschool-aged children*", Group 2 (12 items) measures "*Epidemic diseases commonly affect preschool children*", Group 3 (3 items) measures "*The value of epidemic prevention in preschools*", Group 4 (4 items) measures "*Planning activities for epidemic prevention and control in preschools*", and Group 5 (5 items) measures "*Organisation epidemic prevention activities in preschools*". All participants were instructed to read the questions in the questionnaire thoroughly, and the best-presented answer was chosen. The participants' comments were offered at five different levels based on a five-point Likert scale (Croasmun and Ostrom 2011).

### Analyses

For data analysis, SPSS version 20 was used. The coding technique was carried out as follows:

Group 1 comprised the role, and significance of epidemic prevention for preschool-aged children, and Group 3, the value of epidemic prevention in preschools:

- + 1 = Unimportant
- + 2 = Slightly Important
- + 3 = Moderately Important
- + 4 = Important
- + 5 = Very Important

Group 2 comprised epidemic diseases commonly affect preschool children:

- + 1 = Never happens

- + 2 = Rarely happens
- + 3 = Sometimes happens
- + 4 = Often happens
- + 5 = Always happens

Group 4 had planning activities for epidemic prevention and control in preschools, and Group 5 had organisation epidemic prevention activities in preschools:

- + 1 = Never
- + 2 = Rarely
- + 3 = Sometimes
- + 4 = Often
- + 5 = Always

To establish the group border value for result discussions, the interval width of the 5-Likert scale should be computed (Narli 2010), wherein,

$$\text{Interval Width} = (\text{Upper value} - \text{Lower value}) / N = (5-1)/5 = 0.8$$

Based on the above interval width, group boundary values are constructed to aid in the discussion of study findings, which are appraised as follows:

- + 1.00 - 1.80 = Never happens/Unimportant/Never
- + 1.81 - 2.60 = Rarely happens/Slightly Important/Rarely
- + 2.61 - 3.40 = Sometimes happens/Moderately Important/Sometimes
- + 3.41 - 4.20 = Often happens/Important/Often
- + 4.21 - 5.00 = Always happens/Very Important/Always

**RESULTS**

For Group 1, personnel, teachers and medical workers participated in this survey. With personnel, the role and significance of epidemic prevention for preschool-aged children score, ranked from highest to lowest average point, are as follows: G1-3 (M = 4.10, SD = .89), G1-2 (M = 4.05, SD = 1.02), and G1-1 (M = 3.86, SD = .85). With teachers, they are: G1-3 (M = 3.97, SD = .92), G1-1 (M = 3.93, SD = .96), and G1-2 (M = 3.79, SD = 1.12). With medical workers, they are: G1-3 (M = 4.33, SD = .82), G1-1 and G1-2 (M = 3.83, SD = .98). Table 1 shows the descriptive statistics and also the items' ranking for Group 1.

For Group 2, teachers, medical workers and parents participated in this survey. With teachers, the top five epidemic diseases that commonly affect

**Table 1: The role and significance of epidemic prevention for preschool-aged children**

	M	SD	R
<i>(G1-1) Effective disease prevention activities for children in epidemic prevention schools will ensure that children avoid pathogens, thereby preventing the spread of infectious diseases, will assist children in remaining healthy, and will encourage children to participate actively in activities.</i>			
Personnel	3.86	.85	3
Teacher	3.93	.96	2
Medical worker	3.83	.98	2

*(G1-2) Preschool epidemic prevention and control actions aim to increase the quality of childcare and rearing, as well as establish a safe environment for children to study and play while also raising awareness about children's and community health.*

Personnel	4.05	1.02	2
Teacher	3.79	1.12	3
Medical worker	3.83	.98	2

*(G1-3) Epidemic prevention and control actions for preschool children aim to slow the spread of the epidemic, control some of the disease's implications for the community and society, and avoid sequelae.*

Personnel	4.10	.89	1
Teacher	3.97	.92	1
Medical worker	4.33	.82	1

M: Mean, SD: Standard Deviation, R: Ranking

preschool children, ranked from highest to lowest average point, are as follows: trachoma (M = 3.99, SD = 1.07), dengue fever (M = 3.87, SD = .97), measles (M = 3.87, SD = 1.09), mumps (M = 3.80, SD = 1.01), and hand, foot and mouth disease (M = 3.72, SD = .85). With medical workers, they are: chickenpox (M = 4.50, SD = .84), influenza A, B (M = 4.17, SD = .75), swine fever (M = 4.00, SD = .63), diphtheria, measles, whooping cough, SARS-CoV-2 (M = 4.00, SD = .89), and trachoma (M = 2.50, SD = .55). With parents, the top five epidemic diseases are: swine fever (M = 4.25, SD = .94), influenza A, B (M = 4.07, SD = .91), measles (M = 3.87, SD = 1.03), whooping cough (M = 3.87, SD = 1.08), and chickenpox (M = 3.64, SD = .94). Table 2 shows the descriptive statistics and also the items' ranking for Group 2.

For Group 3, personnel and teachers participated in this survey. With personnel, the planning activities for epidemic prevention and control in preschools scores, ranked from highest to lowest average point, are as follows: G3-1 (M = 4.00, SD =

**Table 2: Epidemic diseases commonly affecting preschool children**

	<i>M</i>	<i>SD</i>	<i>R</i>
<i>Measles</i>			
Teacher	3.87	1.09	3
Medical worker	4.00	.89	4
Parent	3.87	1.03	3
<i>Hand, Foot and Mouth Disease</i>			
Teacher	3.72	.85	5
Medical worker	2.00	.89	8
Parent	2.38	1.15	9
<i>Trachoma</i>			
Teacher	3.99	1.07	1
Medical worker	2.50	.55	5
Parent	2.00	1.08	11
<i>Whooping Cough</i>			
Teacher	2.30	1.00	11
Medical worker	4.00	.89	4
Parent	3.87	1.08	4
<i>Diphtheria</i>			
Teacher	3.47	.90	6
Medical worker	4.00	.89	4
Parent	3.11	1.03	6
<i>Mumps</i>			
Teacher	3.80	1.01	4
Medical worker	2.17	.41	6
Parent	2.86	1.10	7
<i>Chickenpox</i>			
Teacher	3.16	1.02	7
Medical worker	4.50	.84	1
Parent	3.64	.94	5
<i>Influenza A, B</i>			
Teacher	2.68	1.04	8
Medical worker	4.17	.75	2
Parent	4.07	.91	2
<i>Dengue Fever</i>			
Teacher	3.87	.97	2
Medical worker	2.17	.75	7
Parent	2.17	1.07	10
<i>Swine Fever</i>			
Teacher	2.53	1.09	10
Medical worker	4.00	.63	3
Parent	4.25	.94	1
<i>Meningococcal Disease</i>			
Teacher	2.30	1.00	11
Medical worker	1.50	.55	9
Parent	2.66	1.05	8
<i>Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2)</i>			
Teacher	2.62	1.16	9
Medical worker	4.00	.89	4
Parent	3.87	1.03	3

*M: Mean, SD: Standard Deviation, R: Ranking*

1.00), G3-3 ( $M = 3.86, SD = .96$ ), G3-2 ( $M = 2.19, SD = .68$ ), and G3-4 ( $M = 2.14, SD = .73$ ). With teachers, they are: G3-3 ( $M = 4.06, SD = .83$ ), G3-1 ( $M = 3.99, SD = .93$ ), G3-2 ( $M = 2.42, SD = .76$ ), and G3-4 ( $M =$

$2.05, SD = 1.03$ ). Table 3 shows the descriptive statistics and also the items' ranking of Group 3.

**Table 3: Planning activities for epidemic prevention and control in preschools**

	<i>M</i>	<i>SD</i>	<i>R</i>
<i>(G3-1) Develop a plan to prevent an epidemic among children</i>			
Personnel	4.00	1.00	1
Teacher	3.99	.93	2
<i>(G3-2) Develop an environmental sanitation plan in the school</i>			
Personnel	2.19	.68	3
Teacher	2.42	.76	3
<i>(G3-3) Develop a plan for personal hygiene education for children</i>			
Personnel	3.86	.96	2
Teacher	4.06	.83	1
<i>(G3-4) The school has a plan to train and cultivate teachers on knowledge and skills to prevent epidemic for children</i>			
Personnel	2.14	.73	4
Teacher	2.05	1.03	4

*M: Mean, SD: Standard Deviation, R: Ranking*

For Group 4, personnel and teachers participated in this survey. With personnel, the organisation epidemic prevention activities in preschools scores, ranked from highest to lowest average point, are as follow: G4-1 ( $M = 4.38, SD = .59$ ), G4-3 ( $M = 2.33, SD = .97$ ), G4-2 ( $M = 2.24, SD = .63$ ), G4-4 ( $M = 2.19, SD = .51$ ), and G4-5 ( $M = 2.14, SD = .57$ ). With teachers, they are: G4-1 ( $M = 3.93, SD = 1.05$ ), G4-2 ( $M = 3.74, SD = 1.13$ ), G4-5 ( $M = 2.46, SD = .81$ ), G4-3 ( $M = 2.43, SD = .94$ ), and G4-4 ( $M = 2.17, SD = 1.05$ ). Table 4 shows the descriptive statistics and also the items' ranking for Group 4.

## DISCUSSION

According to the research, understanding the role and significance of disease prevention for preschool children is an important foundation for developing a plan to organize epidemic prevention activities for children in appropriate preschools, which is then implemented. After conducting a survey, the researchers discovered that the personnel's, teachers', and medical workers'

**Table 4: Organization epidemic prevention activities in preschools**

	<i>M</i>	<i>SD</i>	<i>R</i>
<i>((G4-1) Implement the disease prevention plan with each personnel, teacher, and staff in the school</i>			
Personnel	4.38	.59	1
Teacher	3.93	1.05	1
<i>(G4-2) Every day, week, and month, observe and assist teachers in executing hygiene and disease prevention programs for children</i>			
Personnel	2.24	.63	3
Teacher	3.74	1.13	2
<i>(G4-3) Motivating, encouraging, and rewarding individuals to complete the plan's implementation as quickly as possible</i>			
Personnel	2.33	.97	2
Teacher	2.43	.94	4
<i>(G4-4) Cultivating knowledge about epidemic prevention and control and collaborating with medical professionals to disseminate information about epidemic prevention</i>			
Personnel	2.19	.51	4
Teacher	2.17	1.05	5
<i>(G4-5) Keep track of children who are absent from school due to infectious diseases and report them promptly</i>			
Personnel	2.14	.57	5
Teacher	2.46	.81	3

*M*: Mean, *SD*: Standard Deviation, *R*: Ranking.

awareness of the significance of disease prevention activities for children in public preschools in Binh Chanh district has a high average score, indicating that personnel, teachers, and medical workers are aware of the role and significance of disease prevention activities for children in preschools in Binh Chanh district. This demonstrates that personnel, teachers, and medical workers are all in agreement that disease prevention for children is essential for the smooth operation of the childcare centres, wherein the first rank is given to the effective implementation of epidemic prevention and control

actions for preschool children are aimed at slowing the spread of the epidemic, controlling some of the disease's implications for the community and society, and avoiding sequelae, showing that awareness of disease prevention for children in preschool is very necessary. This study is distinct from Dau and Tran-Thi's (2019) previous investigation. According to the survey results by Dau and Tran-Thi (2019), preschool teachers in District 11 of Ho Chi Minh City did not have a good awareness of the role of teachers in epidemic prevention and control activities for preschool children.

In a survey conducted to determine the level of awareness about diseases that are considered epidemics are easily spread and frequently occur in preschools, results revealed that the diseases listed above, such as chickenpox, measles, dengue fever, HFMD, influenza A (H5N9), influenza A (H1N1), etc. are frequently encountered and easily spread in preschools. Besides, according to the research findings of Hutchins et al. (1989), the incidence of measles has been steadily increasing in recent years, with some outbreaks involving preschool-aged children. According to survey data from preschool teachers, who received average scores ranging from 2.3 to 3.99, teachers' knowledge of infectious diseases is not extensive. As a result, disease prevention at schools will not be thorough or highly effective. Then, with the survey results with average scores ranging from 4 to 4.5 points, it can be said that medical workers at preschools are knowledgeable about epidemics. However, meningococcal diseases caused by the meningococcal virus, mumps, and rubella have low average scores ranging from 1.5 to 2.5 points, despite the fact that these diseases are very common and spread in preschools. For parents, the survey results ranged from 2 to 4.25 points, indicating that some parents were unable to distinguish between diseases that are considered epidemics and easily spread and those that are not. Dengue prevention, for example, receives a low overall average score of 2.17 points. This demonstrates that parents are uninterested in dengue prevention efforts. According to Kua and Pang (2020), the majority of HFMD cases occur in preschool children under the age of five, with the highest age-specific annual incidence rate occurring in children aged 0 to 4 years old, and ages 3-3.9 years had the highest risk of HFMD, followed by 4-4.9 years. Parents' implementation of disease prevention for

children is therefore low, and parents have not paid much attention to their children's vaccination as a result. Thus, a lack of agreement in the treatment and prevention process for children between the family and the school results in unexpected outcomes. For these issues, the school must find solutions in the near future.

### CONCLUSION

Although the prevention of epidemics in public preschools in Binh Chanh District has been implemented, some epidemics have not been properly implemented, particularly those relating to haemorrhagic diseases, mumps, flu, and other contagious diseases. Respiratory infections, particularly measles, require increased attention from schools as well as improved prevention strategies. Currently, in addition to the diseases listed above, there is also SARS-CoV-2, which has had a significant impact on people all over the world, with children and the elderly being the most vulnerable groups who require special attention and disease prevention measures. It is important to note that the prevention of epidemics for children in preschools attracts the attention of school authorities and forces outside the school, primarily young parents. Who are always mindful of the importance of epidemic prevention for children, ensuring that children avoid infectious diseases and remain healthy while participating in school activities and activities such as play, work and study. However, training should be provided to raise awareness among teachers, medical workers at preschools, and parents about the importance of disease prevention activities for preschool children to fully comprehend the significance of disease prevention activities for children in this setting.

### RECOMMENDATIONS

The study's findings assisted in developing critical recommendations for enhancing the management of epidemic prevention activities for children in public preschools. According to the findings, regular training and organization are required to prevent epidemics in children and adolescents. Preschool education is a critical component of education for all children, emphasizing the quality of health care and epidemic prevention for preschoolers and other young children.

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