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Letter to the Editor

Self-assessment of pediatric basic life support among nursery teachers in a rural area of Japan

To the Editor

Nursery schools across Japan are responsible for preschool children aged between 0 and 6 years. Collectively, these facilities reported 2,347 serious injuries in 2021, the highest number ever recorded, including five deaths due to choking and other causes.[1] Childcare providers must have high-quality Pediatric Basic Life Support (PBLS) skills. The acquisition of these skills is the necessary first link in the "Chain of Survival" for preventing sequelae when injuries occur in nursery schools.

In this preliminary investigation, childcare workers in nursery schools completed a self-assessment of PBLS skills aimed at identifying specific training components in which they lacked confidence to inform the creation of effective teaching materials.

This cross-sectional study was conducted in City A, Hokkaido, Japan. Responses were obtained from 84 (40.4%) of 208 employees at 22 nursery schools who agreed to participate in the study. The participants provided information regarding their age, history of childcare provision, and confidence in choking and aspiration response procedures, which was assessed on a five-point scale ranging from "strongly agree" (5) to "strongly disagree" (1).

Of the 84 participants, 48 (57.1%) were over the age of 40, and 32 (38.1%) had more than 21 years of career experience in childcare. Fifty-eight (69.0%) participants had previously undergone PBLS training, and 13 (15.5%) responded that they did not know whether their facility had an automatic external defibrillator (AED). Details regarding the participants' responses are provided in Table 1. The participants' confidence in the protocols for handling choking and aspiration incidents was generally low, with more than 50% of the respondents selecting "disagree" (2) or "strongly disagree" (1) for all 12 items. This suggests uncertainty about the decisions made before starting cardiopulmonary resuscitation (CPR). The responses also revealed low confidence in CPR details, such as compression site and depth, and how to operate AED equipment.

The survey findings suggest that PBLS training should include both how to perform cardiac massage and how to make necessary decisions before starting cardiac massage. Nursery school teachers should also be instructed on mental preparedness so that they can act calmly in emergency situations and should be familiarized with the AED equipment in their facility.

Table 1 – Questionnaire for assessing the confidence level of childcare workers in performing pediatric primary life support procedures.

Frequencies (%)

Are you confident that you can do each of the following items? (%) Item	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)
1) Choking or Aspiration: A calm response†	0.0	8.3	25.0	52.4	14.3
2) Choking or Aspiration: Observation of the inside of the mouth	8.3	27.4	34.5	25.0	4.8
3) Resuscitation: Effective finger sweep for relieving FBAO	7.1	35.7	28.6	22.6	6.0
4) Resuscitation: Back blows for relieving FBAO	6.0	34.5	34.5	22.6	2.4
5) Resuscitation: Chest thrusts for relieving FBAO†	2.4	13.1	27.4	46.4	10.7
6) Open airway: Neutral position maneuvers and check breathing	3.6	20.2	40.5	28.6	7.1
7) Breathing is not effective, so start CPR†	1.2	6.0	23.8	41.7	27.4
8) Breathing is not effective, so you can observe the causes around you	4.8	40.5	35.7	17.9	1.2
9) Breathing is not effective, so you can observe the child without leaving the area	15.5	53.6	26.2	4.8	0.0
10) In an unconscious victim, check for consciousness	10.7	53.6	28.6	4.8	2.4
11) In an unconscious victim, do not leave the area to call other staff	17.9	60.7	17.9	3.6	0.0
12) In an unconscious victim, direct the ambulance and AED	8.3	34.5	27.4	17.9	11.9

(*continued on next page*)

Table 1 (continued)

Frequencies (%)

Are you confident that you can do each of the following items?

(%)

Item	Strongly agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)
13) Circulation: Timing to start†	0.0	8.3	26.2	41.7	23.8
14) Circulation: Depth of compression†	1.2	11.9	27.4	31.0	28.6
15) Circulation: Area to be compressed†	1.2	17.9	31.0	23.8	26.2
16) Circulation: Rhythm	1.2	26.2	23.8	26.2	22.6
17) Circulation: Implementing the right way†	0.0	6.0	29.8	31.0	33.3
18) Airway: Neutral position†	2.4	15.5	27.4	35.7	19.0
19) Respiration: Accurate implementation†	1.2	8.3	26.2	39.3	25.0
20) Circulation: Changing CPR with other staff†	1.2	11.9	33.3	31.0	22.6
21) AED: Able to follow voice commands	7.1	27.4	22.6	17.9	25.0
22) AED: It can be attached correctly†	4.8	22.6	22.6	21.4	28.6
23) Circulation: Can be continued and maintained at rest†	2.4	13.1	32.1	25.0	27.4
24) Call an ambulance by dialing 119	16.7	46.4	26.2	8.3	2.4
25) Contacting parents: Detailed description	9.5	48.8	27.4	14.3	0.0
26) Use of an injury occurrence manual	1.2	19.0	53.6	17.9	8.3
27) AED: Understanding the installation location	22.6	20.2	8.3	10.7	38.1
28) When I call an ambulance, I know the information that needs to be conveyed	6.0	31.0	29.8	25.0	8.3
29) Predicted ambulance arrival time	8.3	27.4	32.1	23.8	8.3

AED, automated external defibrillator; CPR, cardiopulmonary resuscitation; FBAO, foreign body airway obstruction.

† : Items for which the combined percentage of disagree (2) and strongly disagree (1) responses was more than 50%.

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Conflict of Interest

The authors have no conflicts of interest.

Informed consent

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