

# Day care as a strategy for drowning prevention in children under 6 years of age in low- and middle-income countries

## BACKGROUND

Drowning is responsible for an estimated 320,000 deaths a year and among the 10 leading causes of death for people aged 1 to 24 years worldwide. Peak drowning rates occur among children aged 1 to 4 years, followed by children 5 to 9 years of age. Over 90% of drowning mortality occurs in low- and middle-income countries (LMICs).

Providing adequate child supervision can protect children from drowning, and organized formal day care programs could offer a way to achieve this. This systematic review therefore assessed the effectiveness of day care programs for children under 6 years of age in LMICs in preventing drowning-related mortality or morbidity, or total drowning accidents.

## REVIEW FINDINGS

### 1. Day care with additional features compared to no day care

- Compared with no day care, a day care program for children under 6 years, combined with parent education, playpens for parents, and community education, probably reduces the risk of death from drowning (moderate-certainty evidence from 1 study in 136,577 children).  
For every 100,000 children under 6 years of age who were not in the day care program, 77 children might die from drowning, compared with 14 children included in the day care program.
- Providing this day care program with additional activities was cheaper than the cost of every year lost to illness, disability, or early death by drowning (812 USD per DALY averted; moderate-certainty evidence from 1 study in 136,577 children).

### 2. Day care compared to playpen provision

- The effects of a day care program when compared with playpens provided to parents are uncertain (very low-certainty evidence from 1 study in 76,575 children).

### 3. Day care with playpen provision compared to playpen provision alone

- The effects of a day care program combined with playpens for parents, when compared with playpens alone, are uncertain (very low-certainty evidence from 1 study in 76,575 children).

## IMPLICATIONS FOR POLICY

This systematic review was commissioned by the **World Health Organization** (WHO) to the [Centre for Evidence-Based Practice of the Belgian Red Cross](#) and [Cochrane First Aid](#) to support the development of its [guideline on the prevention of drowning through provision of day care, and basic swimming and water safety skills](#). The publication of this guideline coincides with the inaugural [World Drowning Prevention Day](#) on 25 July 2021.

Based on the review's findings and the overall balance between the desirable and undesirable effects of day care provision, the WHO guideline **recommends day care for children under 6 years of age as a drowning prevention strategy in countries with a high burden of drowning (strong recommendation; moderate-certainty evidence)**.



Anyone can drown,  
no one should.

These day care programs must be developed and regulated with a main focus on quality (e.g. safety and well-being of children, involving parents, addressing nutritional needs) and other aspects (e.g. equitable staff treatment, open during periods of high drowning risk for drowning, measures to minimize the risk of spread of infectious diseases). For more information, consult the full guideline.

## DISCLAIMER

This is a one-page summary of a Cochrane Systematic review published by the Cochrane Public Health Group:

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