



May 2017 – SUPPORT Summary of a systematic review

Is nutrition training of health workers effective in improving caregivers' feeding practices for children aged six months to two years?

Caregivers' feeding practices for children are influenced by different factors that include social and cultural issues. One method that can help overcome these issues is nutrition training of health workers. This is done through in-service training, continuing professional education, short courses, or seminars.

Key messages

- **Nutrition training of health workers increases daily energy intake of children aged six months to two years.**
- **Nutrition training of health workers increases feeding frequency of children less than two years of age.**
- **Children whose caregivers are counselled by trained health workers have a higher consumption of targeted food items compared to their counterparts.**



Who is this summary for?

People making decisions concerning child health

! This summary includes:

- **Key findings** from research based on a systematic review
- **Considerations about the relevance of this research** for low-income countries

X Not included:

- Recommendations
- Additional evidence not included in the systematic review
- Detailed descriptions of interventions or their implementation

This summary is based on the following systematic review:

Sunguya B, Poudel K, Mlunde L, et al. Effectiveness of nutrition training of health workers toward improving caregivers' feeding practices for children aged six months to two years: a systematic review. *Nutrition J* 2013; 12:66.

What is a systematic review?

A summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise the relevant research, and to collect and analyse data from the included studies

SUPPORT was an international project to support the use of policy relevant reviews and trials to inform decisions about maternal and child health in low- and middle-income countries, funded by the European Commission (FP6) and the Canadian Institutes of Health Research.

Glossary of terms used in this report:
www.supportsummaries.org/glossary-of-terms

Background references on this topic:
See back page

Background

Under nutrition is responsible for one-third of child deaths worldwide, mainly in low- and middle-income countries. Nutrition training of relevant health workers can help in reducing this problem mainly through providing frequent nutrition counseling to caregivers. Nutrition training is defined as “any formal nutrition course provided to health workers in the form of in-service training, continuing professional education, short courses, or seminars, aimed at improving the nutrition knowledge or practices of health workers.”

How this summary was prepared

After searching widely for systematic reviews that can help inform decisions about health systems, we have selected ones that provide information that is relevant to low-income countries. The methods used to assess the reliability of the review and to make judgements about its relevance are described here:

www.supportsummaries.org/how-support-summaries-are-prepared/

Knowing what's not known is important

A reliable review might not find any studies from low-income countries or might not find any well-designed studies. Although that is disappointing, it is important to know what is not known as well as what is known.

A lack of evidence does not mean a lack of effects. It means the effects are uncertain. When there is a lack of evidence, consideration should be given to monitoring and evaluating the effects of the intervention, if it is used.

About the systematic review underlying this summary

Review objective: To examine the effectiveness of nutrition training for health workers on child feeding practices among children aged 6 months to 2 years.

Types of	What the review authors searched for	What the review authors found
Study designs & Interventions	Randomised trials and cluster-randomised trials of interventions in which health workers received nutrition trainings targeting caregivers' feeding practices	Ten randomised trials and cluster-randomised trials of interventions in which health workers received nutrition training targeting caregivers' feeding practices
Participants	Health workers including doctors; nurses and nurse mid-wives; midlevel providers including assistant medical officers, clinical officers, assistant nurses, or assistant physicians; community health workers including village health workers	Nutritionists (2); doctors (1); health workers (6); community health workers (2); auxiliary nurse midwives (1)
Settings	Health facilities	Health facilities in low- and middle-income countries: India (4), Brazil (1), Peru (1), Pakistan (1), China (1), Bangladesh (1), Vietnam (1)
Outcomes	Three outcome variables: feeding frequency measured in the number of times the child was fed in the previous 24 hours; energy intake in kilojoules (kJ) per day; and dietary diversity, defined as the variety of food items that was fed to a child	Feeding frequency (5), energy intake (6); dietary diversity: consumption of targeted food items (7)

Date of most recent search: October 2012

Limitations: This is a well-conducted systematic review with only minor limitations.

Sunguya B, Poudel K, Mlunde L, et al. Effectiveness of nutrition training of health workers toward improving caregivers' feeding practices for children aged six months to two years: a systematic review. *Nutrition J* 2013; 12:66.

Summary of findings

The review included 10 studies conducted in low- and middle-income countries. The studies found that health workers receiving nutrition training for caregivers:

- Leads to better energy intake in children aged 6 months to two years. The certainty of this evidence is high.
- Leads to higher feeding frequency in children aged 6 months to two years. The certainty of this evidence is high.
- Leads to more consumption of targeted food items in children aged 6 months to two years. The certainty of this evidence is high.
- No studies reported on the cost of nutrition training or on health outcomes; e.g. the proportion of undernourished children or children with adverse health outcomes.

About the certainty of the evidence (GRADE) *

⊕⊕⊕⊕

High: This research provides a very good indication of the likely effect. The likelihood that the effect will be substantially different† is low.

⊕⊕⊕○

Moderate: This research provides a good indication of the likely effect. The likelihood that the effect will be substantially different† is moderate.

⊕⊕○○

Low: This research provides some indication of the likely effect. However, the likelihood that it will be substantially different† is high.

⊕○○○

Very low: This research does not provide a reliable indication of the likely effect. The likelihood that the effect will be substantially different† is very high.

* This is sometimes referred to as 'quality of evidence' or 'confidence in the estimate'.

† Substantially different = a large enough difference that it might affect a decision

See last page for more information.

Health workers who received nutrition training versus health workers who did not receive nutrition training			
People	Health workers: nutritionists; doctors; health workers; community health workers; auxiliary nurse midwives		
Settings	Health facilities in low- and middle-income countries: India, Brazil, Peru, Pakistan, China, Bangladesh, Vietnam		
Intervention	Nutrition training		
Comparison	No nutrition training		
Outcomes	Impact*	Certainty of the evidence (GRADE)	Comments
Energy intake in kilojoules (kJ) per day	Standardized mean difference +0.76 (95% CI 0.63 to 0.88)	⊕⊕⊕⊕ High	The effect was expressed in units of standard deviations. The results indicate a moderate beneficial effect of the intervention on energy intake
Feeding frequency (number of times the child was fed in the previous 24 hours)	Standardized mean difference +0.48 (95% CI 0.38 to 0.58) Relative risk of being fed: 0.99 (0.87 to 1.13)	⊕⊕⊕⊕ High	The results indicate a moderate beneficial effect of the intervention on feeding frequency.
Consumption of targeted food items	-	⊕⊕⊕⊕ High	There were consistent findings among all included studies showing that children whose caregivers were counseled by trained health workers had a higher consumption of targeted food items compared to their counterparts.
Cost of training	No included studies	-	
Health outcomes, such as the proportion of under-nourished children or children with adverse health outcomes	No included studies	-	
GRADE: GRADE Working Group grades of evidence (see above and last page)			

Relevance of the review for low-income countries

→ Findings	▷ Interpretation*
APPLICABILITY	
→ The interventions were conducted in healthcare facilities in low- and middle-income countries.	<ul style="list-style-type: none">▷ The results are likely applicable in low-income country settings with accessible health facilities that are utilized by caregivers.▷ Nutrition training strategies may differ for different countries, depending on the setting and culture.▷ The availability and type of health professionals may differ in different areas. Methods of training and the training materials should be prepared based on the local context and a mapping of where to receive these counseling sessions and how to identify foods that are available, affordable and acceptable is crucial especially in more rural areas where resources are less available, affordable and access may present an issue.
EQUITY	
→ The systematic review did not address equity issues.	▷ Training targeted at disadvantaged and underserved populations would likely reduce inequities. However, training health workers serving less disadvantaged populations might increase inequities relative to more disadvantaged populations without access to trained health workers.
ECONOMIC CONSIDERATIONS	
→ The review did not include studies that reported economic evaluations.	▷ There may be some additional costs involved in providing nutrition training to health workers, as well as potentially increased costs associated with providing counseling to the caregivers. Future studies should include economic evaluations, and local costing would be important prior to implementation.
MONITORING & EVALUATION	
→ The certainty of the evidence was high for feeding frequency and energy intake.	▷ Delivery of the intervention and performance of health workers should be monitored when implementing a new nutrition training program. Consideration should also be given to monitoring the impact of the training on caregivers' behaviors.

*Judgements made by the authors of this summary, not necessarily those of the review authors, based on the findings of the review and consultation with researchers and policymakers in low-income countries. For additional details about how these judgments were made see: www.supportsummaries.org/methods

Additional information

Related literature

Kulwa KB, Verstraeten R, Bouckaert KP, et al. Effectiveness of a nutrition education package in improving feeding practices, dietary adequacy and growth of infants and young children in rural Tanzania: rationale, design and methods of a cluster randomised trial. *BMC Public Health* 2014; 14.

Sunguya BF, Poudel KC, Mlunde LB, et al. Nutrition training improves health workers' nutrition knowledge and competence to manage child undernutrition: a systematic review. *Frontiers Public Health* 2013; 1:37.

This summary was prepared by

Andrea Darzi, MD, MPH, Clinical Research institute- AUB GRADE Centre at the American University of Beirut, Lebanon; and Nour Hemadi, MPH, K2P, American University of Beirut, Lebanon

Conflict of interest

None declared. For details, see: www.supportsummaries.org/coi

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This review should be cited as

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The summary should be cited as

Darzi A, Hemadi N. Is nutrition training of health workers effective in improving caregivers' feeding practices for children aged six months to two years. A SUPPORT Summary of a systematic review. May 2017. www.supportsummaries.org

About certainty of the evidence (GRADE)

The "certainty of the evidence" is an assessment of how good an indication the research provides of the likely effect; i.e. the likelihood that the effect will be substantially different from what the research found. By "substantially different" we mean a large enough difference that it might affect a decision. These judgements are made using the GRADE system, and are provided for each outcome. The judgements are based on the study design (randomised trials versus observational studies), factors that reduce the certainty (risk of bias, inconsistency, indirectness, imprecision, and publication bias) and factors that increase the certainty (a large effect, a dose response relationship, and plausible confounding). For each outcome, the certainty of the evidence is rated as high, moderate, low or very low using the definitions on page 3.

For more information about GRADE: www.supportsummaries.org/grade

SUPPORT collaborators:

The Cochrane Effective Practice and Organisation of Care Group (EPOC) is part of the [Cochrane Collaboration](http://www.cochrane.org). The Norwegian EPOC satellite supports the production of Cochrane reviews relevant to health systems in low- and middle-income countries. www.epocoslo.cochrane.org

The Evidence-Informed Policy Network (EVIPNet) is an initiative to promote the use of health research in policymaking in low- and middle-income countries. www.evipnet.org

The Alliance for Health Policy and Systems Research (HPSR) is an international collaboration that promotes the generation and use of health policy and systems research in low- and middle-income countries. www.who.int/alliance-hpsr

Norad, the Norwegian Agency for Development Cooperation, supports the Norwegian EPOC satellite and the production of SUPPORT Summaries. www.norad.no

The Effective Health Care Research Consortium is an international partnership that prepares Cochrane reviews relevant to low-income countries. www.evidence4health.org

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