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Counselling of Supplementary Feeding and Nutrition

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Abstract

Background: Supplementary Feeding Programme is well known as the most common type of nutritional intervention in humanitarian response to prevent malnutrition. Another crucial intervention is nutrition education. The aims of the literature review are to asses the effectiveness of additional feed programme in increasing children growth and evaluate nutritional educational as another nutritional intervention that are able to reduce malnutrition cases in young children. Method: The MEDLINE and COCHRANE databases were accessed by searching researches that uses systematic review of all randomized controlled trials or randomized controlled trial from year 2000 until 2008. Just few journals use cohort study and case controlled study. The search was restricted to group of children less than five years old due to the largest target group in Supplementary feeding programme. Result: Food supplementation may have resulted in a modest increase in weight gain, but did not significantly improve length gain (Bhandari et al, 2001) similarly. On the other hand, based on four randomised controlled trials evaluating supplementary feeding in children aged 0-5 years old in developing countries, no firm conclusions of the benefits of supplementary feeding to the growth of pre-school children could be drawn (Sguassero et al, 2005). Malekafzali (2000) and Roy et al (2007) found that nutrition education successfully prevented malnutrition. Conclusion: Complementary feeding must be followed by educational intervention to acquire the best result. In emergency phase, it is better to give supplementary feeding to prevent children health status drop at malnourished condition due to limited food supply and risk of infection because contaminated water resources. However, it still needs accompanied by educational nutrition or counselling to mothers to make the impact more sustain.

Keywords: Supplementary Feeding, Supplementary Feeding Effectiveness, Nutritional Counselling, Education Intervention, Nutrition Status, Children Growth, And Malnutrition

INTRODUCTION

Malnutrition is a major health problem in a humanitarian emergency response since it increases vulnerability to severe diseases, and growing children are particularly vulnerable to its consequence. (Nielsen et al, 2004). Growth failure which occurs in young children is only one of the results of the common combination of inadequate child feeding, high rates of infection; and poor child care. Prevalence of on malnutrition will increase during emergency phase and happen in developing countries as well. During emergency phase, it is very difficult to have food supply and potable water. As information, out of emergency, in developing countries many parents are not able to provide nutritious food for their children, because of socio-economic reasons. Due to the reasons, many humanitarian agencies concern on children nutrition status, deliver supplementary feeding programme. Supplementary Feeding Programme is well known as the most common type of nutritional intervention in humanitarian response to prevent malnutrition. Supplementary feeding is defined as the provision of extra food to poor children or families beyond the normal ration of their home diets (Sguassero et al, 2005). The target groups of complementary food program in both emergency and non- emergency situations are considered to be most at risk**.** These groups

normally include children less than five years of age, pregnant and lactating women, and the unhealthy person. In susceptibility group the nutritional status can decrease rapidly due to lack of food and the access to get food such as in emergency situation.

Background

Supplementary Feeding Programme has been commenced since 1970, but there has been a lot of controversy on effectiveness supplementary feeding programme to increase nutrition status recently. Some agencies have viewed that complementary feeding programme has no role in emergency programmes. Unfortunately; there have been very few well-designed intervention trials to evaluate the efficacy and effectiveness of various strategies for improving complementary feeding. (Dewey,2001). This literature review will analyze carefully regarding question that often spring up : Is the supplementary feeding programme more effective rather than giving nutrition counselling to increase children growth for malnourished children? Supplementary feeding is usually necessary in a food crisis or famine situation where malnutrition rates exceed 15% and there is increased mortality or numbers of severely malnourished (MSF, 1995). The primary objective of a supplementary feeding programme is to treat moderate malnutrition and prevent further deterioration in nutritional or health status (Nielsen, J, et all, 2004). Children under five usually make up the largest target group in supplementary feeding programme. There are various explanations why a child under five years old becomes the largest target group in that programme. First, in emergency situation, the prevalence of malnutrition and mortality among malnourished children tends to increase higher than for any other age group. Sguassero et al (2005). It also reveals that under nutrition is one of the leading underlying causes of childhood morbidity and mortality in developing countries. Secondly, under nutrition can influence child development. Therefore, identifying approach to reduce the prevalence of malnutrition particularly in the vulnerable first 2 years of life is a priority in developing countries. (Bhandari et al, 2004)

Another nutritional intervention that crucial as well is nutrition education. Penny et al (2005) suggested that improvement of nutrition education delivered through health services can decrease the prevalence of stunted growth in childhood in areas where access to food is not a limiting factor. Throughout nutrition counselling, improper practices such as the belated introduction of complementary foods, low energy and nutrient density of foods offered, feeding in small amounts at meals, and food restrictions due to myth or cultural beliefs can be prevented. Moreover, other contributory factors for childhood malnutrition in young children are low birth weight and high morbidity can be prohibited by educate the mothers (Bhandari et al, 2004) To evaluate children growth, a number of ways can be done. The simple practice uses mid upper arm circumstance. However, it should not be used alone because it is partly biased toward younger children. Other measurements are weight and height/length and the comparison between many variables such as height for age (HFA), weight for age (WFA) and weight for height (WFH). Weight-for- height (WFH) indicators should be taken from the NCHS/CDC reference data. The WFH Z score is the preferred indicator for reporting anthropometric survey result (Sphere, 2004). WFH ratio can help to judge whether a child is underweight or overweight. Sequential measurements are much more useful than single determination of weight and height in giving an overall picture of the child's growth pattern.

RESEARCH METHODS

The aims of the literature review are to asses the effectiveness of additional feed programme in increasing children growth and evaluate nutritional educational as another nutritional intervention that are able to reduce malnutrition cases in young children. To

achieve those aims, the MEDLINE and COCHRANE databases were accessed using the key words supplementary feeding, supplementary feeding effectiveness, nutritional counselling, education intervention, nutrition status, children growth, and malnutrition. The search was restricted to group of children less than five years old due to the largest target group in Supplementary feeding programme. To obtain the latest info on trend in complementary feeding, exploration was limited in year 2000 until 2008. With the purpose of enriching this literature review, some references were found by looking the references from journals and guiding principle in humanitarian response. According to Webster (2005), the gold standard of research design for providing evidence of effect is using systematic review of all randomized controlled trials. Since the aim of this literature review is to evaluate the intervention, some databases were accessed by searching research that uses systematic review of all randomized controlled trials or randomized controlled trial. Just few journals use cohort study and case controlled study. To get the first level of evidence in study design is difficult. Within a randomized study, the programme would be the difference between the two groups and any impact on nutritional status to beneficiaries which could be reliably attributed to the program supplement. However, ethical issues prevented randomization. It would be unethical to deprive undernourished children of the potential benefit of the supplement. A "natural experiment" was the methodological alternative adopted for assessing the Program's effectiveness (Santos et al, 2005) As already known that research using systematic review of all randomized controlled trials or randomized controlled trial as the gold standard of research design for providing evidence of effect must be accepted and consider to implement in daily practice. In addition, it important to use the review result and decide what nutritional intervention which the most effective in developing countries or during emergency phase. The intervention must be adaptable with existing condition such us limited resources, weak economies and inadequate health budgets which is frequently happen in emergency phase.

Discussion And Critique

Regarding various researches in different countries, there is no conclusion on the most effectiveness approach to enhance children growth whether using supplementary method or nutritional counselling. In this part, it will describe 2 groups which are having different opinion. i.e.: group who has opinion on extra feeding will increase children growth and group who has belief that counselling can raise the growth.

Complimentary feeding to increase the growth

A randomized controlled trial study conducted in South Delhi. The urban slum of Nehru Place was designed to determine whether provision of generous amounts of a micronutrient-fortified food supplement supported by counselling or nutritional counselling alone would significantly improve physical growth between 4 and 12 mo of age. The result is the food supplementation may have, therefore, resulted in a modest increase in weight gain. This intervention did not significantly improve length gain (Bhandari et al, 2001) similarly Rivera et al (2002) also mentioned that supplementary feeding for children 6-24 months in community with lack of dietary intakes can prevent the onset of wasting. This research concerned about overweight in delivering complementary food as well. The finding shows that children above the weight-for-length reference median do not seem to benefit from nutritional supplementation. In brief, supplementation does not cause obesity. Dewey (2001) gave comment to the result of report by Bhandari et al, 2001. He concluded that the infants' energy intake from complementary foods was lower than desirable, even in the food supplementation group (compare with control group), and suggested that there are barriers

related to the amount of food offered by caregivers that need to be overcome. On the other hand, based on four Randomised controlled trials evaluating supplementary feeding in children aged 0- 5 years old in developing countries, no firm conclusions of the benefits of supplementary feeding to the growth of pre-school children could be drawn (Sguassero et al, 2005). Due to the best level of evidence, the result is very reliable. Many possible reasons for the lack of impact in the complementary feeding trials, such as targeting the intervention too early (e.g., before 6 mo) or too late (e.g., after 12 mo); methodological limitations such as small sample size, short duration of the intervention, or attrition bias; and constraints on growth response due to infections, prenatal "programming" or other factors (Dewey, 2001).

Nutrition counselling to increase the growth

A research on community-based nutritional intervention for reducing malnutrition among children under5 years of age conducted in Iran as well. The outcome showed that nutritional awareness had grown among mothers, and that the incidence of malnutrition had dropped from 6.5% to 1.8%, as measured against the weight-for-height index (Malekafzali, 2000) Similarly with Malekafzali, Roy et al (2007) found nutrition education successfully prevented malnutrition. The researcher described that the nutrition education must be culturally appropriate to achieve effective growth faltering and malnutrition prevention among young children. Guldan et al (2005) also have similar opinion. In pilot nutrition education intervention in China, they found that the Education group infants had significantly better growth in weight and length than the Control group infants. Also, an examination of the distribution of WAZ (Weight-for-age) and HAZ (height-for- age) Z scores indicated significant improvements. No significant differences were seen in the WHZ scores between the two groups. Bhandari have several researches on nutritional counseling impact. The researches discovered nutritional counselling resulted in smaller but significant increases in dietary intake. Nonetheless, periodic nutritional counselling without the food supplement did not significantly affect weight or length gain (Bhandari et al, 2001). Bhandari et al (2004) also assessed the effectiveness of an educational intervention to promote adequate complementary feeding practices that would be feasible to sustain with existing resources. The study was a cluster randomized controlled trial in communities in the state of Haryana in India. Bhandari mentioned that educational interventions were shown to improve feeding practices, but few of these studies were randomized controlled trials. Additionally there was another cluster- randomised trial of an educational intervention in a poor urban area in Peru. Enhancement of nutrition education delivered through health services can decrease the prevalence of stunted growth in childhood in areas where access to food is not a limiting factor (Penny et al, 2005).

Recommendation

Bhandari et al, (2001) found 25% of the infants were already stunted at 4 month of age, a large proportion of which was presumably due to intrauterine growth retardation (IUGR). Infants who experience IUGR usually never completely catch-up in size to their normal birth weight peers, even when raised under optimal conditions. It is likely that a combination of prenatal and postnatal approaches is the most effective strategy. In order to certify increasing of children growth, the intervention also must include mothers, pregnant and lactating women. Bhandari also suggested that nutrition counselling should be emphasized on feeding frequency, portion size and energy density of complementary foods, rather than on micronutrient density (Bhandari et al, (2001) Normally in Indonesia context, additional feeding programme is held simultaneously with growth monitoring program. Caregivers will measure children weight and sometimes height then record the indicators in growth chart.

Ashworth, et al (2008) mentioned there is evidence from India and Bangladesh that growth monitoring has little or no effect on nutritional status in large-scale programmes with weak nutrition counselling. To acquire the best result, complementary feeding must be followed by educational intervention. Good nutrition counselling is paramount for growth promotion and is often done badly. Remembering growth monitoring also can provide an entry point to preventive and curative health care and was an integral part of programmes that were associated with significant reductions in malnutrition and mortality. (Ashworth et al, 2008). It is in line with previous paragraph that educational intervention must be done concurrently with supplementary feeding to get optimal result. In Indonesia and other developing countries, nutritional intervention including good nutrition counselling may be preferable to ensure the growth of childhood compare with additional food programme. Growth monitoring may not be the best way in countries with limited resources, weak economies and inadequate health budgets, analogous with Ashworth et al, (2008) suggestion. Certainly, nutrition counselling also can be utilized in disaster or another emergencies episode.

Ashworth, et al (2008) also recommended where growth monitoring and promotion programmes currently exist, there must be potential plan for improvement and maximize the potential the nutrition counselling elements and combine growth monitoring with other health intervention channels such as immunization for the convenience of caregivers, and ensure consistent message delivery. It is parallel with what Edejer (2005) suggested that strengthen the nutrition counselling elements is better to combine growth monitoring with other health intervention channels. Edejer found that provision of supplementary food and counselling on nutrition were the least cost effective strategies for child health intervention in developing countries. The most cost effective intervention is fortification with zinc or vitamin A. Between these were oral rehydration therapy, case management of pneumonia and measles immunisation. Data sources came from published systematic reviews and before and after evaluations of programmes. One thing that should not be forgotten during emergency phase and disaster occasion, supplementary feeding should be reckon to deliverer due to possibility limited food supply and bad quality of water. However, humanitarian aids or others provider must concern on how long they want to give complimentary feeding, which is should be discontinued as soon as possible. Consider to not always give ‘caritative” aids (beneficiaries only received the aid, not participate in process supplementary feeding). It is very essential to ensure the long term impact of children growth. As soon as the communities are involved at the programme, in no doubt the sustainability will be occurred

CONCLUSION

Malnutrition is the underlying cause of half of child mortality. Many programmes attempt to remedy this issue but there is a lack of evidence on effective ways to decrease child malnutrition (Penny, 2005) The success of interventions to reduce under nutrition depends on the ability of programmes to promote improved child feeding behaviours. These include the use of messages that are clearly understood, feasible to adopt within available resources, and not in contradiction with prevailing beliefs. This literature review reveals that there is first level evidence which was said improvement of nutrition education delivered through health services can decrease the prevalence of stunted growth in childhood. As well as Sguassero (2005) said that no firm conclusions of the benefits of supplementary feeding to the growth of pre-school children could be drawn, with also use a cluster randomized controlled trial as the gold standard of research design for providing evidence. Thus supplementary feeding programme should not be certified as the most effective way to increase growth in childhood. Improvement of nutrition education delivered through health

services must be use as approach to make sure decreasing the prevalence of stunted growth in childhood. In emergency phase, it is better to give supplementary feeding to prevent children health status drop at malnourished condition due to limited food supply and risk of infection because contaminated water resources. However, it still needs accompanied by educational nutrition or counselling to mothers to make the impact more sustain. Moreover, the topics that health practitioners can give in nutritional counselling not only about food (type, frequencies, problem and how to solve the problem) but also about diseases, hygiene personal etc which all of them can make children healthier. For the reason that the relatively small number of trials, it indicates a need for further research in this area. The Issues of research design such as blinding and sample size calculation need to be addressed in future studies (Sguassero et al, 2005). Another concern that needs to be explored is first; frequently health personnel just give attention to children growth rather than children development. Second, always try to find the way involving the community to participate the programme so the programme will sustain. Third, according the research of Cost effectiveness analysis of strategies for child health in developing countries, there must be highlight about fortification with zinc or vitamin A as the most cost effective intervention for improve children health status in developing countries.

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