

ASSESSMENT OF PERFORMANCE OF SUPPLEMENTARY FEEDING PROGRAMS FOR UNDER-FIVE CHILDREN IN THREE TEMPORARY SHELTERS IN TAK PROVINCE, THAILAND

Nita Sedhain*, Khemika Yamarat

College of Public Health Sciences, Chulalongkorn University, Bangkok 10330, Thailand

ABSTRACT: Malnutrition is frequently a predominant problem in disasters, and supplementary feeding program (SFPs) are often set up in food emergencies. The aim of the study was to assess the performance of the Supplementary Feeding program being implemented by health agencies, as well as to identify areas that needed improvements to ensure better quality service delivery implemented in three temporary shelters among under-five children of Tak province, Thailand. A cross-sectional study with mix methods including secondary data on 1,079 under five children's between 6- 59 months enrolled in SFP between 2009/2010 and in-depth interviews were conducted with health care providers and mothers/caregivers from these three shelters. Weight gain was measured using weight-for-age z-score values, calculated according to the WHO, (2007). Chi-square test was applied for the analysis with SPSS V. 16 and content analysis for the qualitative methods. There was 51.9 % were male and 48.1 % were female. Similarly 57.18 % were among 6-24 months and 42.82 % were among 25-59 months age groups. The overall cure rate was 39.2 % (SPHERE standard >75 %), defaulter rate was 15.8 % (SPHERE standard <15 %). The assessment of performance of supplementary feeding programs in three temporary shelters in Tak province has shown all outcome indicators below the SPHERE standard.

Keywords: Supplementary feeding, outcome indicators

INTRODUCTION

Historically, food distribution to vulnerable population groups is a strategy adopted to improve living and health conditions in developing countries, although the literature shows controversial debates on the effectiveness of such action. In this context, there are also supplementary feeding programs to distribute fortified foods, performed worldwide to prevent nutritional deficiencies in more vulnerable groups [1]. The program, distributing a dry take-home ration, was managed by the organization CCSDPT in three temporary shelters – Mae La, Nu Poh and Umpiem Mai.

The project CCSDPT serves 10,330 under-five children's annually through distribution of dry food rations along with basic primary health care, shelters and have been provided by various humanitarian agencies in close cooperation with Thai government [2]. Due to various reasons these refugees are residing in close monitoring. All refugees are relying on dry food rations provided by humanitarian agencies. Additional food supplementation has been provisioned for those who are considered high risk such as pregnant and lactating women, chronic medical cases, HIV/AIDS patients and moderately malnourished under five years children [3].

This paper uses the term weight- for- height means

(w/h) reflects measure current or wasting malnutrition. i.e.; low w/h = "wasting" ('acute malnutrition' or w/h equivalent to < -2 Z scores) - a child usually looks thin. If the weights for height indices will be < - 3 Z score then the case is considered acute severe malnutrition [4].

All malnourished children 6-59 months in supplementary feeding programs will receive take home dry rations and mothers/caregivers receive nutrition education from SFP program staff on a regular basis. Children are regularly monitored and records have been maintained by health agencies on a weekly basis and computed results will be compared with reference values provided by SPHERE standards [5].

The present study aim to assess the performance of the Supplementary Feeding Program being implemented by health agencies, identify the relationships between personal data factors relating to outcomes of supplementary feeding program, as well as to identify areas that needed improvements to ensure better quality service delivery implemented in three temporary shelters among under-five children of Tak province, Thailand.

METHODS

A cross-sectional study was performed including secondary data on 1,079 under five children's between 6-59 months enrolled in SFP between 2009/2010. The criteria of inclusion were moderately malnourished children, age between 6-59 months,

*Correspondence to: Nita Sedhain
E-mail: nita_self@hotmail.com

Table 1 Relationship between personal data factors related to the outcomes of the SFP of overall camps

Personal Data	Outcomes			Total	χ^2	P-value
	Discharged and cured	Defaulter	Uncured			
Sex						
Male	225 (43.6)	81 (15.7)	210 (40.7)	516 (100.0)	0.011	<0.001
Female	198 (35.2)	89 (15.8)	276 (49.0)	563 (100.0)		
Age						
6-24 months	228 (37.0)	100 (16.2)	289 (46.8)	617 (100.0)	0.214	<0.001
25-59 months	195 (42.2)	70 (15.2)	197 (42.6)	462 (100.0)		

Table 2 SFP data with time variables from three temporary shelters

Variables	Temporary shelters			Total	χ^2	P-value
	Mae-La	Nu-Poh	Umpiem-Mai			
Years						
2009	172 (30.4)	166 (29.4)	227 (40.2)	565 (100.0)	48.65	<0.001
2010	241 (47.1)	160 (31.1)	112 (21.8)	514 (100.0)		
Seasons						
Dry cool seasons	43 (16.9)	93 (36.5)	119 (46.7)	255 (100.0)	1.060	<0.001
Dry hot seasons	132 (34.6)	139 (36.5)	110 (28.9)	381 (100.0)		
Rainy seasons	239 (54.0)	94 (21.1)	110 (24.8)	443 (100.0)		

and enrolling into SFPs as a first visit during 2009/10 from three temporary shelters named, Mae La, Nu Poh and Umpiem Mai in Tak province, Thailand.

Among total 1,079 quantitative study population from registration there was 414 from Mae La, 339 from Umpiem-Mai and 326 from Nu-Poh in 2009/10 of under-five children's. And for the qualitative the study populations were mothers/care takers of under-five year's children enrolled into SFPs as well as health service providers involved in SFPs. In each camp, health service providers who involve in SFP are 5 nurses, 3 medics and 2 CHW.

Quantitative data were collected from the SFP registration such as age, sex and seasonal times from all three temporary shelters. Qualitative data were collected through interviews of both service providers and clients in order to examine contextual factors influencing outcomes of the SFPs. Mothers/care takers of under-five year's children enrolled into SFPs as well as health service providers of refugee camps who involve in SFPs will be purposively selected and approached as key informants of interview.

After reviewing the data for completeness then encoded and processed for statistical analysis using SPSS version 16. And data analyses were done by using Chi-square test to identify the categorical variables like, comparison between gender and outcome of the SFP programs. Qualitative data from interviews were analyzed through content analysis process.

The present study was approved by the Research Ethics Committee of College of Public Health Sciences, Chulalongkorn University, Bangkok, Thailand (17th March 2011).

RESULTS

Total 1,079 under-five years children's was enrolled and out of them 565 were enrolled in 2009 and 514 were in 2010. While looking at gender ratio 51.9 % was male and 48.1% were female. 57.1 % was among 6-24 months and 42.8 % were among 25-59 months age groups. The result of the performance bivariate analysis was conducted for the relationship between the personal factors related to the outcomes of the SFP in overall camps of outcome shows that female had the higher rate of uncured rate (49.0%) than male (40.7%) and there was also higher rate of discharged rate among male (43.6%) than female. There was also high association between the age distribution and outcomes among the under-five year's children ($p < 0.01$) in Table 1.

The susceptibility and severity of getting malnutrition with seasonal pattern is statistical significant at the 0.05 level ($P = < 0.001$). This means there is higher chance of malnutrition case of under-five years children in rainy seasons (54.0%) cases was seen in Mae-La and (24.8%) cases in Umpiem-Mai than compare to other seasons, as described in Table 2.

SFP data was analyzed to look at length of stay of children enrolled into feeding programs to enable comparison with set SPHERE standard. Out of 1079 children enrolled into SFP programs in three temporary shelters, 374 were discharges within 1-8 weeks and remaining 705 children were discharged between 9-12 weeks after admission. Only 34.6 percent children met the SPHERE standard in regard to length of stay. Majority of children (65.4 %) had more than 8 weeks of stay as shown in Table 3.

Table 3 Length of stay of children enrolled into SFP in three temporary shelters in Tak province

Variables	Temporary shelters			Total
	Mae-La	Nu-Poh	Umpiem-Mai	
Length of stay				
1-8 weeks	84 (20.3)	144 (43.8)	146 (43.0)	374(100.0)
9-12 weeks	329 (79.7)	183 (56.0)	193 (57.0)	705(100.0)
Total	326(100.0)	339 (100.0)	413 (100.0)	

Table 4 Outcomes of supplementary feeding programs in three temporary shelters in Tak province

Variables	Outcomes			Total	χ^2	P-value
	Discharged and cured	Defaulter	Uncured			
Temporary shelters						
Mae- La	75 (18.1)	84 (20.3)	255 (61.6)	414 (100.0)	1.64	0.00
NU-Poh	201 (61.7)	17 (5.2)	108 (33.1)	326 (100.0)		
Umpiem- Mai	147 (43.4)	69 (20.4)	123 (36.3)	339 (100.0)		

There was a high association between outcomes and three temporary shelters ($p < 0.01$). Nu Poh temporary shelter showed highest cure rate (61.7%) where as Mae la temporary shelter has lowest cure rate (18.1 %) among children enrolled into supplementary feeding programs shown in Table 4.

In-depth interview

In-depth interview was carried out amongst mother's/care taker and health workers. The aim of the interview was to find out the contextual factors influencing outcomes of the SFP. The interview was carried out for 40-45 minutes. A total of 11 health care providers and 17 mothers and caregivers from three temporary shelters were interviewed by researcher assistant using standard questionnaire guidelines prepared by the researcher.

In-depth interviews were conducted to determine the provider's perceptions to capacity in providing services, assessment of nutritional status of children, recording of data into service registers, food distributions, and nutrition education. Question was asked to health workers about possible reasons of high defaulter rate in three temporary shelters.

"Frequent movement of families outside of camps and ongoing third country resettlement were the main causes of high defaulter according to health workers".

Regarding the lowest cure rate in Mae-La compared than others shelters. They mention

"Sharing of SFP foods with other family members, particularly children, not feeding supplementary food to the child as prescribed by health workers, sale of food in market or exchange for other foods, children are habitual to snacks available in market".

In-depth interviews were conducted with mothers and caregivers to determine the recipient's perceptions and behavioral response to food distribution, cultural acceptability of foods.

Question asked regarding their response of SFP food and cultural acceptability some of them said

"It contained all nutrients" and that it "caused weight gain in a few months". "Every time when I bring my child for SFP, I ask about weight gain and I myself can know about the progress of my child since he is playing and look happy".

Some also said

"My child does not like Asiamix but likes snacks bought from market". "I have three children and food is provided only for one child. I give food to all children and it is not enough to them".

So they have mixture of both positive and negative view point regarding SFP food.

DISCUSSIONS

First performance evaluation of SFP programs of these CCSDPT organizations. Study done by the Vivaleite Project shows there is effectiveness for weight gain in children younger than two years [6]. But results show that there is 42.2% Of children was discharged and cured than less than 2 years. Study done in Ethiopian refugees in Sudan reported a weight gain in 54% of children enrolled SFPs in 1981 [7]. This study results shows that SFP in three temporary shelters documented that outcomes of supplementary feeding program do not meet SPHERE standard.

While malnutrition is influenced by a various

combination of long-term food deficiency, poor quality diet, and low economic status, acute malnutrition is mainly attributable to illness and/or shortage of food [3] SFPs can rapidly cure a large number of malnourished children in camp as well as rural populations.

CONCLUSIONS

As we know malnutrition remains a major public health problem throughout the developing world and is an underlying factor in over 50% of the 10-11 million children under 5 years who die each year of preventable causes [8]. The secondary data provided by the organization CCSDPT of under-five year's children who were enrolled in the supplementary feeding programs from this study was collected in Tak province of Thailand in March 2011. The main purpose of this study was to identify the outcomes assessment for children supplementary feeding programs implemented in three temporary shelters in Tak province. The assessment results has revealed that outcomes of supplementary feeding program implemented in three temporary shelters in Tak province do not meet the standards as stipulated in the SPHERE manual.

RECOMMENDATIONS

Based on the results of this assessment and new development practices regarding supplementary feeding programs, following recommendations are made for improving outcomes of supplementary feeding programs : Training to health workers on case management, nutrition education and recording would strengthen supplementary feeding program, Changes in recording system particularly for those children going for resettlement should not be considered as defaulter, Periodic review of outcomes on a monthly basis would help health care providers about the status of outcomes of supplementary feeding programs and Replacement of currently used Asiamix by ready-to-use-food (RUTF) could have better results due to high energy density and easy to use by mothers and caregivers [9].

LIMITATIONS OF THE STUDY

The results of this study should not be generalized to other temporary shelters due to limitation of data particularly secondary data generated from supplementary feeding programs of three temporary shelters in Tak province. Thus the results are limited to describe the outcomes of SFP of the areas where this study was conducted.

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