EVALUATION

EMERGENCY HUMANITARIAN NUTRITION AND HEALTH RESPONSE FOR VULNERABLE CHILDREN IN SHIJA'IA, AL DARRAJ AND RAFAH LOCALITIES IN THE GAZA STRIP

NEAR EAST COUNCIL OF CHURCHES in partnership with DanChurchAid

June 2012

Preliminary findings	
1st draft report	
2nd draft report	
Final report	√

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EXECUTIVE SUMMARY

Since its inception in 2008, the NECC Emergency Humanitarian Nutrition and Health Response for Vulnerable Children in the Gaza Strip programme, which consists of three projects in three geographical areas, has screened approximately 48.000 people, visited well over 34.000 households and assisted over 25.000 children under 5. The NECC Family Health Centres are located in some of the poorest areas in the Gaza Strip. The projects focused on various elements, chiefly on identifying, treating and following up children with malnutrition and anaemia. The first two years of the projects consisted of identifying malnourished and anaemic cases and providing them with standardized treatment had succeeded in improving children anthropometric measurements and raising the haemoglobin level among anaemic children in a timely manner[1].

The pertinent preoccupations of this evaluation include discovering perceived reasons for malnutrition, the manner in which knowledge is imparted and nutritional related practices and habits and their influence on diet.

The evaluation points to the intrinsically complex relationship between poverty, nutrition practices and malnutrition. For those interviewed the major reasons for their children's malnutrition can be found in the combination between economic status and nutritional related habits. The economic status affects quality, quantity and frequency of food and meals while family or cultural dietary practices and habits also play a major role in negatively impacting on nutritional status. The women's educational levels did not appear to play a significant role in nutritional status of the children.

The knowledge level about good nutrition is deemed high. The majority of the respondents (over 90%) are aware of more than one direct cause of malnutrition. However the economic situation in the Gaza Strip, where the blockade is still enforced, manifests itself in high levels of unemployment and aid dependency where the population can find it difficult to meet their dietary requirements.

Breastfeeding was one of the top three messages to be recalled by focus group participants and interview respondents. All the respondents connected breastfeeding with sound nutritional practices. Outreach on breastfeeding is sufficient however it is advised that health educators should remember to mention breastfeeding more often in the health education sessions. Hence it is also recommended that the NECC devise a health education standard operating procedure manual to ensure uniformity and reduce the chances of omission of important information.

The food insecurity level of many families is revealed by that a mean average of 73% of participants reported not consuming heme iron the day before the interview. The NECC has in its health education sessions encouraged families to explore alternative and cheaper sources of iron. The fact that 77% of respondents did not eat non-heme iron the day before the interview, points out the necessity to

[1] NECC. *Final Report- Emergency Humanitarian Nutrition and Health Response for Vulnerable Children in the Gaza Strip.* September 2011

reinforce the messages on alternative sources of iron. Between 20% and 30% reported changing their nutritional habits relating to tea and junk food consumption after receiving HE whilst an equivalent number reported these two habits as the most difficult to change. Poverty, appetite problems and paediatric illness were reported as main barriers to a better nutrition while lack of compliance, poor appetite and paediatric illness were offered as explanations for the difference between those families whose children have recovered from malnutrition or anaemia and those families whose children have not recovered or improved.

The main recommendations focus on altering nutritional related practices, such as alternative sources of iron rich food, alternative substitutes to tea, reduction in consumption of non-nutritious high calorie foods. Furthermore, it is crucial that families are motivated through health education and or counselling to reduce the number of defaulters and non-compliant cases. The attitude of the beneficiaries is overall very positive towards adopting sound nutritional practices. The programme is therefore encouraged to look into assisting caregivers with practical advice on food diversification, frequency of meals and tips on how to encourage children to eat (feeding practices) and improving appetite.

Since the issue of poor appetite is of great concern to a number of people and is perceived as the second main barrier to a better nutrition, it is recommended that further investigations are made in this area to determine the relationship between practice and the said phenomenon. Additionally, the programme is encouraged to assist parents and caregivers in finding ways to improve children's appetite.

The following messages require reinforcement: tea avoidance and acceptable substitutes, cheaper sources of iron, meal frequency, complimentary feeding and food variety.

The NECC plans to incorporate community mobilisation as a tool to advance the end goal and as a means to encourage ownership and participation in the programme. It is recommended to further pursue the means and methods in which community involvement can be an integral part of the services.

The programme's success in treating cases of anaemia and malnourishment may be undermined by the large number of beneficiaries the programme reaches. The high number of beneficiaries affects the quality of consultation, counselling and medical attention given to the children. The average length of consultations of 6-7 minutes may affect the quality of information and care given to patients. The programme could start investigating ways to improve the quality of the services without excluding those who might be neediest. The degree of quality, of course, relies largely on a solid budget that can support infrastructure and additional human resources.

1. PURPOSE OF THE REPORT

The evaluation is conducted on the NECC Emergency Humanitarian Nutrition and Health Response for Vulnerable Children which commenced in April 2008 in Gaza and continues to date. This evaluation

should help capture the lessons learned from the implementation of the project in order to help DCA and its partner agencies to:

- Enhance accountability to beneficiaries
- Improve clinical treatment
- Improve practices in child nutritional and health promotion activities

The evaluation is meant to fulfil the requirement of accountability to DANIDA.

The intended users of the evaluation are identified as follows: DANIDA, DCA, Partners: NECC and Ard El Insan and the Humanitarian community in Gaza.

The evaluation will be divided into two main components viz a more classical evaluation looking at relevance, effectiveness, efficiency, impact and sustainability. Secondly, an investagtion component of individual and group semi-structured interviews employing a standardised questionnaire looking at the Knowledge, Attitudes and Practices regarding child nutrition and health among mothers and caregivers

The reporting will perform a number of functions. These include –

- To contribute to a formative evaluation strategy in which preliminary reports during the course of the project serve to inform fine-tuning and modification of the project's processes.
- To assist in engaging stakeholders and in maximising their potential acceptance and use of the final findings by keeping them in touch throughout the project.
- To share key findings and experiences from the evaluation project with NECC for capacity building, learning and organisational growth.
- To demonstrate accountability for the use of resources in the project.

2. BACKGROUND ABOUT THE ORGANISATION AND THE SERVICES BEING EVALUATED

2.1 Program Description

As a response to the emergency situation in the Gaza Strip that started after the formation in March 2006 of the Palestinian Hamas-led government which resulted in an economic blockade and thus increased hardship and poverty and an additional response after the Israeli armed conflict in Gaza, the NECC launched a humanitarian nutrition project:

> The first project in Shija'ia aimed to decrease the prevalence of malnutrition and anaemia among under 5-year olds.
>
> Furthermore, the project aimed to speed up the recovery process of malnourished and anaemic children.
>
> The project utilized a comprehensive approach that incorporates carrying out house to house screening, identifying anaemic and malnourished cases, initiating treatment on spot, managing the identified cases at the NECC clinic, providing health education and counselling, provision of referral services when needed, provision of iron and enriched milk supplementation and possibly provision of social assistance through other agencies working in that field[2].

The project is implemented in the three vulnerable neighbourhoods of Shija'ia, Al Darraj and Rafah, where the NECC has a family health centre in each offering among many other services, neo-natal, ante-natal, paediatric, pharmaceutical and laboratory services. The project was each year, commencing in 2008, implemented in a specific area: in 2008/9 Shijaia, in 2009/10 Darraj, in 2010/11 Rafah, Darraj and Shijaia.

2.2 Problem statement

Description of the community need that is being met by the program and problems addressed

The economic consequences of a political problem are the deteriorating quality of life and poverty that according to various sources, from the Palestinian Central Bureau of Statistics, MoSA, UN agencies, international and national NGOs cite has affected a large segment of the Gaza population and especially poor and vulnerable families with no employment. As a result of poverty the humanitarian situation reached near crisis proportions with approximately 70% of the Gaza population depending on aid. Moderate and severe malnutrition and anaemia at NECC's health centres was recorded as rising. This was particularly true for pregnant women and young children. Other agencies offered in-patient care for severely malnourished children while the moderately affected children did not receive adequate care. Likewise, pregnant and lactating women are experiencing food shortages resulting in caloric and nutrient deficiencies, leading to anaemia and insufficient milk production.

The causes of these problems are multi-factorial including lack of food at the household level due to the collapse of the economy, eating patterns and habits, cooking practices, lack of awareness and the

[2] NECC. *Emergency Humanitarian Nutrition and Health Response for Vulnerable Children, Gaza Strip.* Final Report. September 2010.

presence of other diseases particularly infections. Current approaches to moderate malnutrition focus on identifying and addressing medical complications and educating mothers about proper early childhood nutrition. However, the management of malnutrition still requires empowerment particularly the issue of follow up and proper treatment according to the international standards[3]. This concept has been proven to have borne positive consequences for the population in Shija'ia, Darraj and Rafah. DanChurch Aid (DCA) and NECC planned to play an important role in supporting the nutritional status in Gaza by recognizing and effectively managing malnutrition and anaemia through implementing appropriate and effectively-coordinated interventions.

2.3 Overall goals

Programme Overall Objective

The overall objective of the programme implemented in three areas as separate projects in summary is to "Contributing to the reduction of children mortality and morbidity through reducing the prevalence of malnutrition and anaemia among children under 5 in Shija'ia, Al Darraj and Rafah areas".

Objective

The prevalence of malnutrition and anaemia among children under 5 reduced

Programme Objectives:

- To identify and appropriately treat the moderately and severely malnourished and anaemic children living in Rafah, Shijaia and Al- Darraj family health centres' catchment areas.
- To increase awareness of caregivers'/women living in the NECC three health centres' catchment areas about healthy nutritional and appropriate sanitary practices.
- To promote/sustain the nutritional status of children living in Darraj and Shijaia; the two areas which had benefited from the previously implemented two emergency nutrition projects in the last two years.

Specific programme objectives

- ❖ Prevalence of malnutrition and anaemia among children under 5 reduced.
- ❖ To reduce the amount of time required for moderately malnourished and anaemic children to regain their normal weight curve and haemoglobin level.
- ❖ The management practices of the malnourished and anaemic children and the medical complications arising from them (moderate malnutrition and anaemia) improved in NECC health centres.

[3] NECC/DCA. Danida Application 2008. Section 10.

- To reduce the number of patients presenting themselves at health clinics with public health-related diseases, such as gastrointestinal infections due to fecal-oral contamination, and skin infections, through increased health and hygiene education.

2.3 Activities

The project executes the following activities:

- House to house screening,
- Field testing for haemoglobin,
- Counselling or health education during home visits,
- Dissemination of material on nutrition,
- Clinical testing,
- Staff training
- Consultation with doctor and nurse,
- Counselling by medical staff,
- Provision of Fe+ supplements
- De-worming and
- Provision of fortified food.

2.4 Staffing

The project employs/employed the following staff:

Table 1: Personnel in project

Position	First year	Second year	Third year
Community workers	6	6	8
Consultant (part-time)	1	1	1
Medical coordinator (part-time)	1	1	1
Nurses	1	2	3
Secretary	1	1	2
Doctor	1	1	2
Team leader/supervisor (part-time)	1	1	3
Accountant (part-time)	1	1	1
Data entry	1	1	1
IT support	1	1	1
Logistics (part-time)	1	1	1
Assistant pharmacist and pharmacist (part-time)	1	1	4
Driver	1	1	2
Lab technicians (part-time)	1	1	3
Total	**19**	**20**	**33**

2.5 Outcomes and performance measures

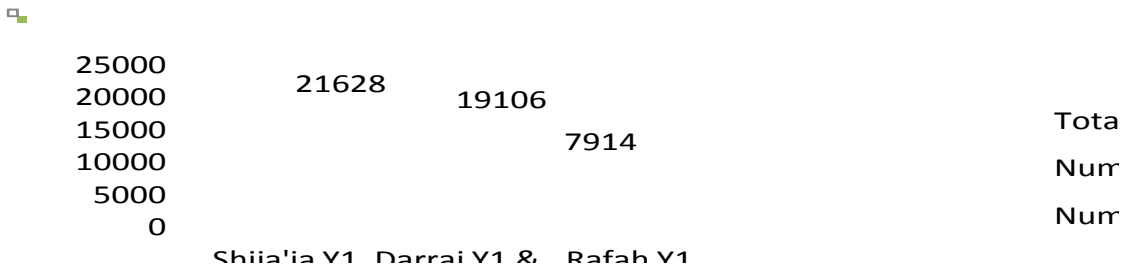
Households in NECC areas of operation were visited where all children under 5 were medically examined, tested for haemoglobin, weighed and measured. Between 2009 and 2011, over 34.000 households with an approximate population of 199.000 persons were visited.

At the end of 2011, the programme comprised of three projects, namely:

- Year one- the project was implemented in Shija'ia (April 2008- September 2009)
- Second year- the project was implemented in Darraj (2009-2010)
- Third year- the project was implemented in three localities: follow up activities in Darraj and Shija'ia and commencing new screening in Rafah (2010-2011)

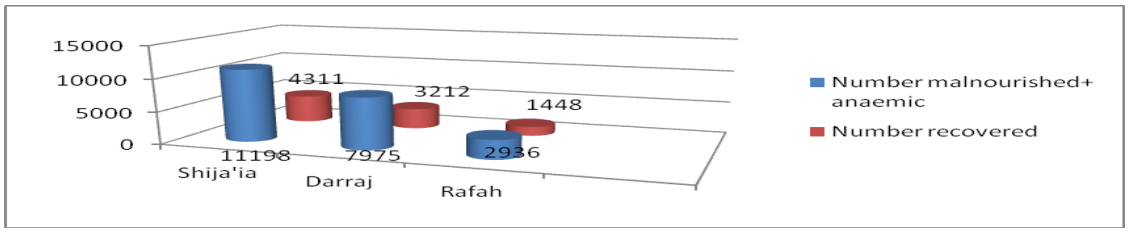
Figure 1: Malnutrition and anaemia by geographic area

The total number of anaemic children found after screening is 16527 representing 33.8% of all screened children under the age of 5. The number of malnourished children represents 11.4% of the total screened children under 5.



2.5.1 Recovery and improvement

Figure 2: Recovery within 3-4 months



The rate of recovery from malnutrition and anaemia for those who had been screened and participated in the program differs from each locality. Based on abridged statistics covering the entire period of project implementation, the overall rate (3 to 12 months) of recovery from **anaemia** is well over 70%[4] while the recovery rate is catalogued below is as follows:

Table 2: Recovery rate from anaemia

Days to recover from anaemia in %	Year 1	Year 2	Year 3
	04/2008- 07/2009	08/2009-07/2010	09/2010-10/2011
Less than 60 days	66.3	26.4	22.5
61 and 90 days	65.7	55.5	56.9

[4] Many children recovered however as they recovered after the end of the project and that treatment continued after the end of the project, statistics do not reflect this.

More than 90 days	72.5	62.8	70.7

Table 3: Recovery rate from malnutrition

Days to recover from Malnutrition in %	Year 1 04/2008- 07/2009			Year 2 08/2009-07/2010			Year 3 09/2010-10/2011		
	Ws	Uw	St						
61-90 days	62	59	30						
90-120 days	82	62	28						
121-160 days	84	86	30						
				Ws	Uw	St	Ws	Uw	St
Less than 60 days				57	25	28	62	40	36
61 and 120 days				81	47	52	85	60	44
More than 120 days				85	52	48	87	65	40

Ws- wasting. Uw- underweight, St- Stunting. Note the table does not include improvement, status quo or deterioration figures.

The following data represent changes and improvement over time for the enrolled children. Note that the statistics shown are taken directly from the NECC database and narrative reports between 2008 and 2011. The statistics for malnutrition are contained in the table above.

Table 4: Change in the status of anaemia cases per enrolment period 2008-09

Change period 04/2008 – 07/2009	***Recovered***		***Improved***		***Remained the same***		***Deteriorated***		**Total**
	No	%	No	%	No	%	No	%	
Less than 45 days	258	**33.8**	113	**14.8**	315	41.2	78	10.2	764
45 days to 60 days	352	**66.3**	23	**4.3**	120	22.6	36	6.8	531
61 days to 90 days	566	**65.7**	64	**7.4**	190	22	42	4.9	862
90 to 120 days	935	**72.5**	90	**7.0**	216	16.8	48	3.7	1289
More than 120 days	2411	72.4	239	7.2	542	16.3	137	4.1	3329

Table 5: Change in the status of anaemia cases per enrolment period 2009-10

Change period 01/08/09- 31/07/10	Recovered		Improved		Remained the same		Deteriorated		Total
	No	%	No	%	No	%	No	%	
Less than 60 days	159	**26.4**	104	17.3	298	49.5	41	6.8	**602**
61 days-90	259	**55.5**	53	11.3	138	29.6	17	3.6	**467**
More than 91 days	1208	**62.8**	185	9.6	427	22.2	104	5.4	**1924**

Table 6: Change in the status of anaemia cases per enrolment period 2010-11

Change period 09/2010- 10/2011	Recovered		Improved		Remained the same		Deteriorated		Total
	No	%	No	%	No	%	No	%	
Less than 60 days	39	**22.5**	21	**12.1**	103	59.5	10	5.8	173
61 days-90	82	**56.9**	15	**10.4**	40	27.8	7	4.9	144
More than 91 days	471	**70.7**	55	**8.3**	120	18.0	20	3.0	666

3. OVERALL EVALUATION GOAL

The evaluation's overall goal is to discover methods and strategies to improve treatment and the rate of recovery and to reduce the defaulters. The evaluation seeks to determine the factors influencing the nutritional status of children under 5 years of age (practices, knowledge, perceptions) Furthermore it addresses and explains the role of household economic status on the nutritional choices adopted and the espoused practices. Amongst other questions, the evaluation offers insights as to whether poverty is the main reason for malnutrition or whether attitudes and practices play a major role. The impact of nutritional health education is assessed to gauge the durability of messages and answer whether mothers continue with the right diet long after nutrition education.

4. METHODOLOGY

4.1 Types of Data that were collected

The evaluation was conducted through various research tools which included focus group discussions, semi-structured in-depth individual or group interviews, observations and interviews with NECC staff and other stakeholders. As the evaluation concerns itself mainly with assessing the impact and

effectiveness of the intervention largely from the beneficiaries' perspective, the bulk of the information collected is qualitative to allow for in-depth analysis. Some quantitative information was collected on nutrition knowledge and practices. A complete traditional KABP survey would suffice for assessment of actual knowledge and practices however since the evaluation included investigating qualitative elements of the programme such as perceptions and value judgements, a cross-sectional approach was adapted. It was judged that focus group discussions and individual and group interviews utilising a standardised questionnaire would be adequate to extract the required information from the beneficiaries. Secondly, since some of the evaluation's intent includes assessing impact, efficiency and sustainability, a flexible methodology had to be employed to address the pertinent questions of the evaluation.

4.2 How data was collected

Focus Group Discussions: The number of focus groups selected was 11 groups with maximum invitations to 20 participants in each group (2 groups for Rafah, 4 for Darraj, and 5 for Shija'ia). The target number of groups was not reached due to confusion by beneficiaries as to their corresponding group criteria. Home commitments also posed an obstacle in getting the correct number of people for the focus group discussions. Data were collected from 9 focus group discussions held in the NECC's family health centres in Shija'ia, Rafah and AL Darraj. The focus groups discussion were held during the period between November 28th, 2011 to December 1st, 2011. The total number of participants involved in focus group discussions was 130 people. The focus group participants were randomly selected from the beneficiary population where they were grouped according to the common characteristics of the group. In an as much as possible, participants were selected to form groups bearing similar features. Since each community the NECC serves tends to share similar economic and social conditions, the participants, who are all users of the family health centres, were thus selected not for their economic/social status but according to the children's response to the nutrition program. The three criteria were:

Group A: Households with children who have graduated from the programme (fully recovered children).

Group B: Households with two or more children with anaemia or malnourishment

Group C: Households with both a healthy child (or children) and a malnourished/anaemic child (or children)

The average length of each focus group discussion was 60 minutes with some recorded at 90 minutes. As stated prior, the interviews took place inside the NECC family clinic, either in the waiting room or any available space. Only one focus group discussion took place outside the centre in a kindergarten. In some of the group discussions, NECC staff were present, though not necessarily for the duration of the entire discussion.

Semi-Structured Interviews: Interviewees were randomly selected by the consultant and clinic staff. To reduce bias, none of the respondents were informed in advance of their possible participation in the interviews. The interviews were carried out either with a group of no more than 5 women or with individuals. A total of six semi-structured group interviews were conducted in the three localities with 23 persons. Two individual interviews were conducted in Shija'ia clinic. A quarter of the interviews were

conducted in the presence of NECC staff. The average duration of group interviews was 50 minutes and 25 minutes for individual interviews.

Observations: Observations were conducted at the different health centres focusing on information dissemination, counselling and health education between centre staff and personnel. A number of clients were followed and observed from the moment of entry into the centre, the exchange between her/him and the staff until the collection of medication at the clinic pharmacy.

Staff interviews: interviews were conducted with the staff of the NECC either at the family health centres or at the office in Gaza City. Seven staff members were interviewed in the centres while 3 members were interviewed at the main office.

Stakeholder interviews: Four interviews were conducted with various stakeholders working with child nutrition.

4.3 How was the data analysed

The evaluation focused principally on collecting qualitative information to assess impact on and knowledge and practices of the beneficiaries. Data from both the semi structured interviews and focus group interviews were analysed using thematic and content analysis. Qualitative data were grouped according to response to inquiry and ranked according to frequency of response. Data were organised into similar categories such as knowledge, practices and impact. Pattern identification has been employed where the differences in response per group are wide. For quantitative data, information was tabulated in ratings or rankings. Frequency measurement was undertaken and where appropriate average means were computed.

4.4 Limitations of the evaluation (e.g cautions about findings and how to use the findings)

The sampling procedure employed in the evaluation may have attracted only those persons who had time to complete interviews or participate in a focus group discussion.

The evaluation does not reveal detailed information on how the respondents view the contents and the effectiveness of the nutrition education pamphlets.

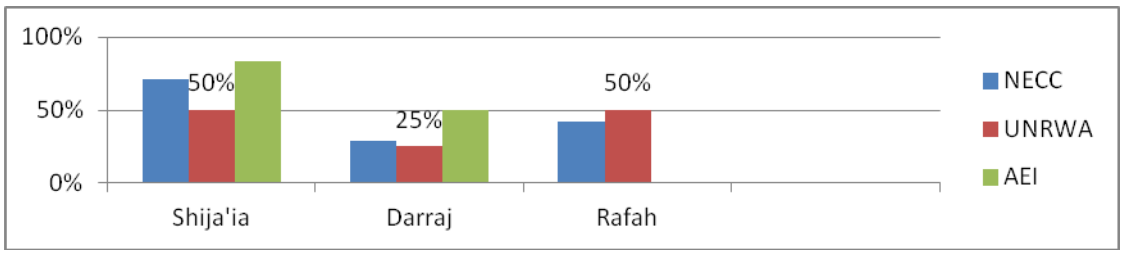
5. FINDINGS AND INTERPRETATIONS

5.1 On knowledge

5.1.1 Sources of information

The participants in the SSI recorded the following about the sources of information about malnutrition, anaemia.

Figure 3: Sources of information

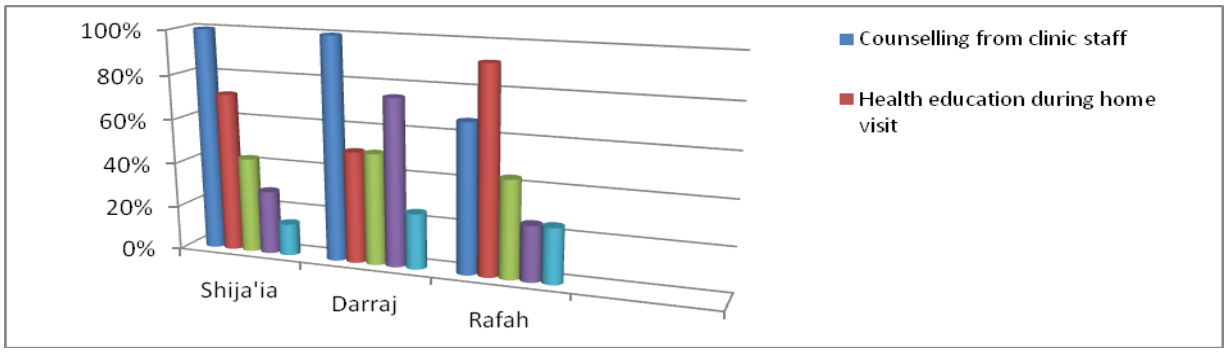


NECC is a dependable source of information on nutrition related subjects particularly for the Rafah and Shija'ia areas which are the poorest of the three in which the NECC operates. The findings also show that Darraj's sources of information are approximately equally distributed while the Rafah residents predominantly rely on the NECC as a source of information. The Shija'ia residents who participated in focus group discussions report that they also receive their nutrition related information in the NECC family health centre. Overall, the NECC is rated as a good source of information.

Over 90% of the focus group participants in various group categories reported the NECC, UNRWA clinics, MoH clinics as the main providers for information about nutrition. Vaccination cards from public health institutions carry some information about nutrition. A smaller group reported hospitals and Ard El-Insan organization as other sources. That UNRWA is cited as a source by 50% of respondents corresponds well with the social strata as, according to the NECC, 80% of the Rafah residents are refugees. Only one group in Rafah category C did not report any institution as a source for information about nutrition. This reported lack of source of information corresponds with the response on counselling from clinic staff where 16.6% of the Rafah beneficiaries claim not to have received counselling (see 5.1.2). This, perhaps, can be attributed to that Rafah is the newest of the NECC family health centres and that implies that individual counselling might be conducted on a later stage if and when recovery and/or improvement is not registered.

5.1.2 Health education inputs

Figure 4: Percentage receiving health education



A median average of 89% of respondents from semi-structured interviews report that they have received counselling from clinic staff. Some respondents mentioned that at the health centres they would receive general information on nutrition and/or counselling with specific information about their child's progress or lack of. The evaluation did not probe the number of times they have received or if

they always receive counselling at the clinic since this would not provide accurate and reliable data as they have to rely on memory. The question on health education during home visits was only posed to those who were screened in their houses where it is expected of NECC field staff to conduct education on nutrition. Some inconsistencies arise in relation to the use and dissemination of the brochure. Between 14.3% and 25% of interviewees claim not to have received brochures though brochures are distributed during all home screenings. A possible explanation is that apart from the home visits where the brochures are routinely disseminated, there is no predefined channel of distribution in the health centres thus those who might have voluntarily come to the clinic without a prior home visit might be looked over. The family centres do not appear to have a designated person to ensure that patients receive the brochure. Only 4.3% report that they read the brochure with one of the staff in the clinic. Because of infrastructure constraints, the health education those interviewed receive at the waiting halls is reported to reache between 42%-50% of centre users. So far, 600.000 copies of the brochures have been disseminated during screening, counselling or at distribution points in the centres. In the three years of the programme, 93.749 persons have received health education.

Conclusion

In view of the fact that the NECC currently has only one education kit, namely the brochures on malnutrition and anaemia though they would prefer non-traditional forms of HE such as theatre and performance, a better use of the only available tool in the clinic must be found. The dissemination of the material is standardised outside the health centres, however the organisation should decide on the channel of distribution inside the centre. Ideally, the contents of the brochure should be explained in detail during the clinic visit where a community worker or nurse reads it together with the beneficiary. The brochure must be read at the clinic or summarised for the clients since are unlikely to read it. Ideally a staff member should read the entire content of the brochure or at least summarise it. The content of the current brochures on malnutrition and anaemia has been altered once since the inception of the project. The content is relevant but the presentation could be altered to contain simple, clear, concise and user-friendly information. The table of food types containing the content of iron in the commonly consumed Palestinians food recipes is a brilliant tool for comparing iron rich food types but it does not require to contain technical information on sizes (milligrams) as this information is more relevant to health professionals. The types of food mentioned can be stratified in simple categories such as high, medium and low iron sources. The messages can be limited to four main ideas per topic (anaemia and malnutrition) that emphasise small practical steps that beneficiaries can take.

In 2012, the NECC plans to publish two brochures: on hygiene/sanitary and breastfeeding to complement the existing health programme.

Health goals for child

Between two-thirds and three-quarters of the respondents disclosed that the personnel at the health centre had set goals for the child. Moreover, the staff had also described the activities required to be conducted to ensure goals were reached. For parents of anaemic children, it was manageable to adapt the suggested activities and changes into the daily life compared to parents of malnourished children, who have to contend with a multitude of variables; height and weight gain.

Conclusion

The impact of nutrition education is difficult to separate from that of other services, especially from health care however nutrition education is highly appropriate in the Gaza Strip because according to the NECC malnutrition is most common among children between 2 and 4 years of age and thus the importance of encouraging healthy feeding practices for this age group. More resources should therefore be allocated to Health Education that focuses especially on motivating parents and changing practices.

5.1.3 Reasons for malnutrition

Most of the participants of focus groups from categories (A, B & C) from all areas (Rafah, Shija'ia & Darraj) reported that the perceived causes of malnutrition include: lack of food intake (frequency, quality and quantity); lack of selecting healthy food & eating non nutritious foods; lack of money; child's poor appetite; paediatric diseases and infections and lastly the mother's negligence of older children.

While for the causes of anaemia they reported the following, in order of importance,: lack of intake of iron rich food; lack of food intake (frequency, quality and quantity); lack of intake of iron supplementation; lack of hygiene & hand washing; child dependence on breastfeeding as main source of feeding; paediatric diseases and infections.

Table 7: Reasons of malnutrition- focus groups

Type	Lack of food intake	Lack of intake of iron rich/healthy food	Eating non nutritious food	Child's poor appetite	Failing to take supplements	Lack of money	Paediatric diseases
Malnutrition	1	2	2	4	-	3	5
Anaemia	2	1	-	-	3	-	6

(1 indicates most important reason)

The respondents after being probed reported that frequency, quality and quantity were all affected and were to be perceived as a common status relating to food as most could neither choose the type of food they want nor the amount. Both groups point to lack of intake of iron rich or healthy food as causes showing that they understand the effect of diet on their health. Since the majority of the respondents from the anaemia control group would at some point have used the family health centre, failure to comply with supplement treatment as a cause of anaemia was ranked 3rd in causes pointing to understanding that the treatment will not work without compliance to it.

Conclusion

The bulk of the beneficiaries of the project understand the direct causes of malnutrition and anaemia and more than 41% can cite two or more causes. The parents of anaemic children understood the relationship between lack of iron rich food and presence of anaemia whereas parents of malnourished children believed the consumption of non-nutritious food was one of the reasons for malnutrition. Both groups of parents point to food as the source of the problem; the quality or quantity. The very few which represent persons who did not know the cause of malnutrition were found in Shija'ia and Rafah

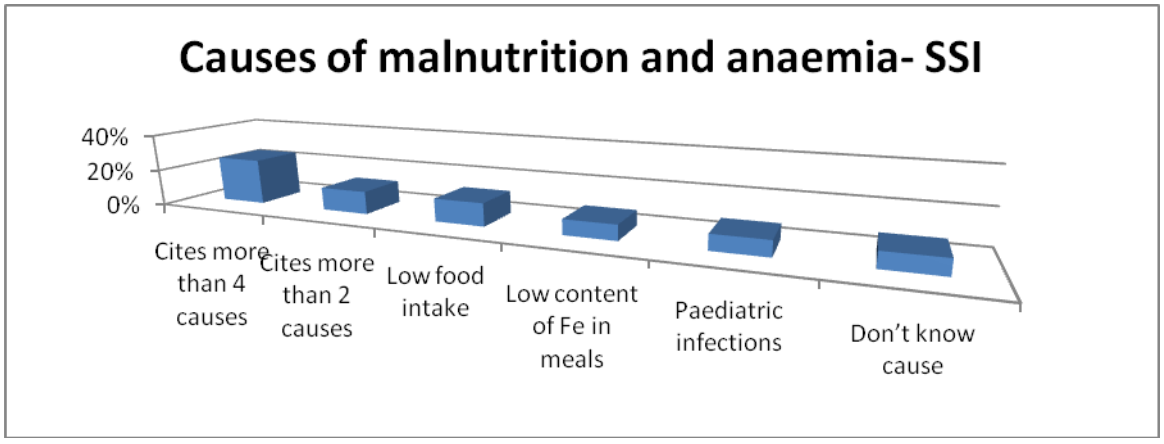
Causes of your child's or children's malnourishment/anaemia?

The response to this question provided more precise and direct answers as they were personal and not a general observation or knowledge about malnutrition or anaemia. The greater part of the participants reported the following as causes of their children's malnourishment or anaemia:

- low income,
- lack of food intake, intake of non nutritious foods like sweets,
- poor appetite,
- children's diseases, worms, low immunity,
- social practices such as lack of eating with peers in groups and
- excess intake of tea

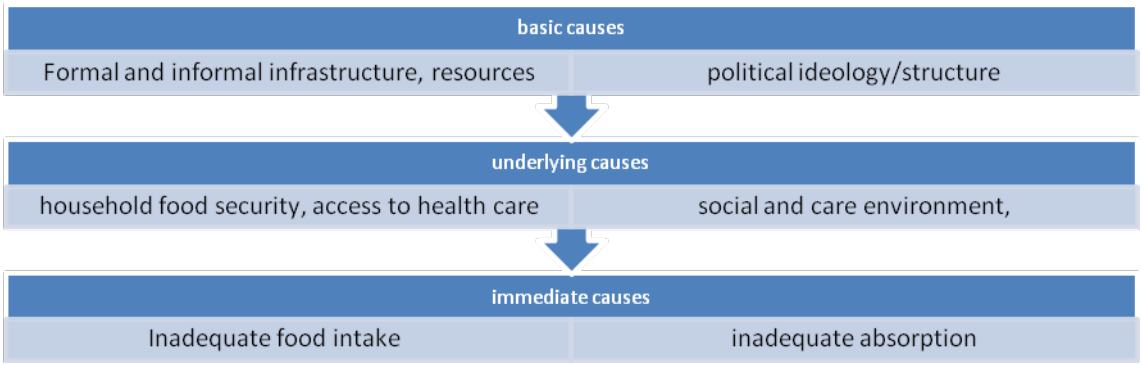
In the semi-structured interviews the majority of respondents knew the causes of malnutrition and a greater part could cite more than one cause. An overwhelming majority (91%) of respondents could cite the causes of malnutrition or anaemia.

Figure 5: Causes of malnutrition- interviews



Conclusion

All the three fundamental reasons for malnutrition are pertinent in the Gaza nutritional status of young children. The NECC points out the complexity of the causes of malnutrition.



The causes mentioned in the focus group discussions stem from a multi-spectrum of causes, from underlying, basic to immediate causes where economic status and practices relating to food are cited as the most prominent reasons for malnutrition and anaemia.

5.1.4 Main messages about nutrition

The two most common responses regarding recalled messages about good nutritional health practices reported by the focus group participants were:

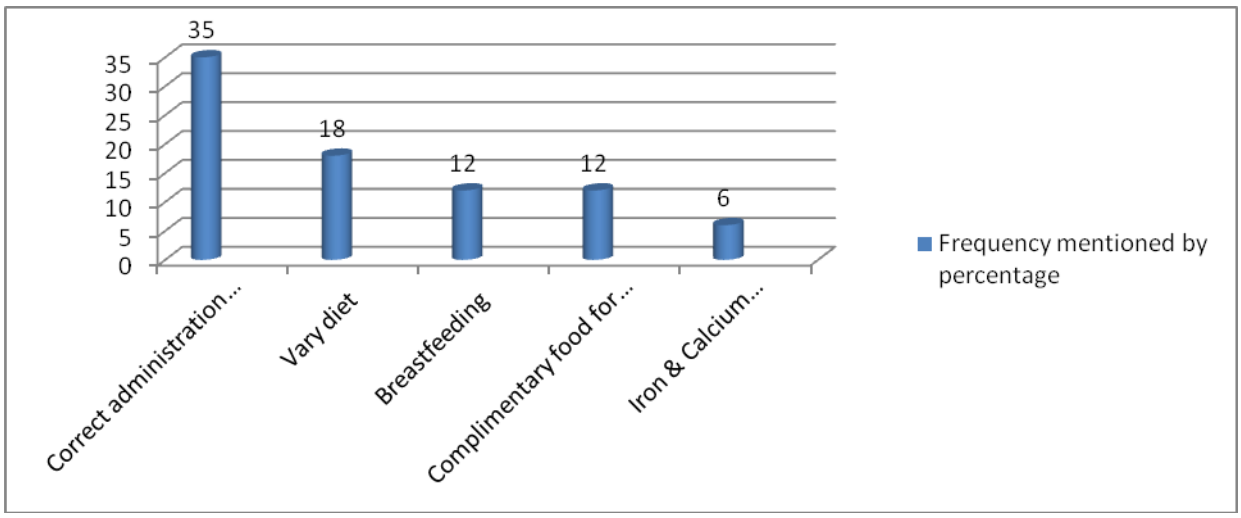
- Breastfeeding
- Not taking tea with iron supplements

The third most important message is on practice of taking iron supplements with juice. The fourth and fifth ranked are personal hygiene and varying of the diet. Only one group reported increasing the number of meals (Rafah), while none of the groups stated bottle or cup sterilisation as main nutritional health messages.

However when comparing the above referenced group to those who took part in the semi-structured interviews, iron supplementation administration is at the top whilst breastfeeding is at number 3. As regards anaemia, the best way to prevent iron deficiency is to educate the families about their iron needs and the best iron sources, and to use this knowledge to make sure dietary intake keeps pace with their body's demands.[5]

Figure 6: Nutrition health messages

[5] http://ivythesis.typepad.com/term_paper_topics/2009/04/diet-and-nutrition-case-study.html#ixzz1etj0CMNb



When reporting which messages they could remember from the health education sessions, 35.3% of the respondents from the semi-structured interviews stated they recalled messages about correct administration of Fe+ which were transmitted to them,. Under correct administration they stated three methods, namely administering iron supplements with vitamin C, not administering with tea and not with milk or dairy products. The second most frequently reported recalled nutrition education message is on varying the diet. Mild anaemia is relatively easier to treat compared to malnutrition hence it is logical that most respondents would remember the correct administration of iron as iron supplementation, next to changing the diet, is the surest way to address anaemia.

Conclusion

Certain messages are easier to transmit and comprehension thereof is attained effortlessly. This points out to the fact that because anaemia or lack of depends on one important factor of haemoglobins, it is easier to transmit health messages about anaemia. Whereas because malnutrition is a result of a multiple factors that can be related to quality and quantity of food as well as mal-absorption, and disease, it therefore poses a greater challenge to design target appropriate messages. Health messages about the effects of tea on young children are the messages that most beneficiaries recall. It is of concern that the message about increasing the frequency of meals was ranked at the bottom. Additionally this is congruent with the collected data on practices that point out that only 3% of children consume more than 4 meals a day.

The interviewed community health workers reported they emphasise six messages on nutrition:

- Increase number of meals
- No tea with meals
- Bottle hygiene
- Iron supplements with juice
- Breastfeeding

- Nutritious food

Perceived knowledge

Over 80% of respondents from the semi-structured interviews reported satisfaction with the level of comprehension they have from the health education given.

5.2 Practices

5.2.1 Food consumption

Number of meals consumed day before interview

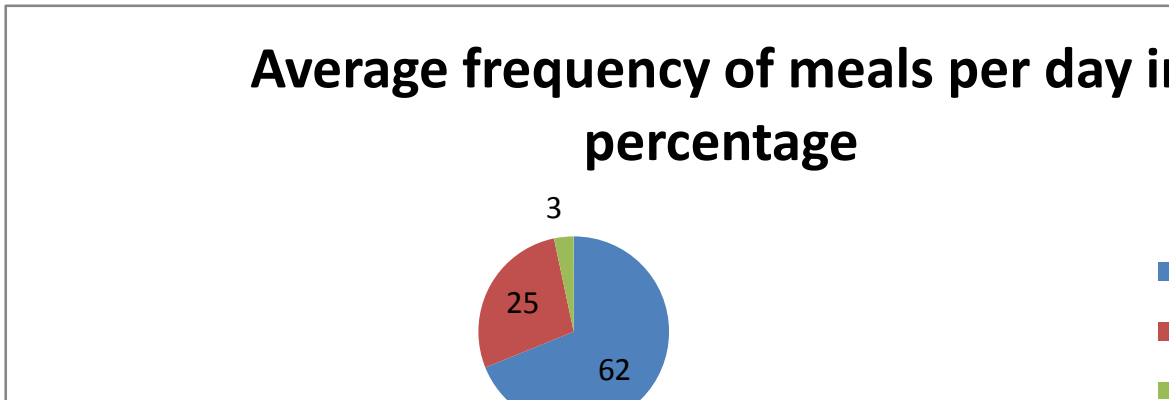
Most participants from the various categories (A, B & C) reported that their children yesterday consumed 3-4 meals (more than one half to three fourths from each group) except in one group from category A in Al-Darraj area who reported less than half of their children consumed 3-4 meals and more than half of them consumed from 0-2 meals.

Only four participants from the 9 groups reported that their children consumed 5 meals yesterday. These findings indicate that large groups of participants' children consume less meals than the recommended frequency for their age groups based on the Palestinian maternal and child nutrition protocols.

Number of meals consumed on average

There was no reported deviation from the answer supplied for meals consumed day before interview. More than one half to three quarters of the participants from the various categories (A, B & C) reported that the average number of meals their children consumed per day was 3-4 meals whilst approximately 25% reported a maximum of two meals a day).

Figure 7: Average frequency of meals per day



Those who reported 1-2 meals were less common (from one sixth to more than one third in some groups), while those who reported 5 meals as daily average were very few and only in 2 groups (Darraj B & Rafah C). The few reporting a higher meal frequency came from group B composed of participants

from households with two or more children with anaemia or malnutrition and from group C entirely consisting of households with a healthy child and a malnourished/anaemic child.

Pertaining to the number of meals consumed daily by children compared to adults, there were variations between groups. Some groups reported from one fourth to more than half of their children consume number of meals less than those for adults mainly from Shija'ia, while in other groups the opposite was reported as equal to or more than half of their children consume number of meals greater than or equal to those for adults specially in Rafah groups B & C and Darraj groups A & C.

Conclusion

Despite that the number reporting high meal frequency is miniscule, it nevertheless suggests that these two types of groups whose children are currently malnourished or anaemic report a higher meal frequency than that those whose children have recovered from malnourished or anaemia are making an effort to increase the number of meals. From the findings, it can be inferred that those whose children have recovered from malnutrition may be lapsing in good nutrition practices over time and forgetting to follow the advice from the health education sessions and counselling. A document from the UN Standing Committee on Nutrition quotes an Ard El Insan survey conducted in 2003 where it was found that 69% of the families were eating 4 meals a day whilst 22% ate two meals and 9% only one[6]. This evaluation shows that for those interviewed that the meal frequency is similar to that reported in the above mentioned study. It is evident that health education and counselling should amongst other subjects stress the importance of adequate food intake for small children. Increasing the frequency of meals may improve the nutritional status of children under 5. The findings of the comparison of adult versus child meal frequency indicate that more effort is needed by families to give their children the number of meals required and that the number of meals should be greater than adults mainly in Shija'ia and Al Darraj neighbourhoods.

5.2.2 Consumption of iron rich food

Source of Iron rich foods (heme vs non-heme iron)- Consumption of red meat, poultry or seafood day before interview

Most participants from the various categories (A, B & C) reported that their children did not eat red meat poultry or fish yesterday (from two thirds to four fifths of some groups), while in only one group C in Darraj area reported that their children ate from these heme iron sources yesterday. With a confidence interval of 7, the responses provide an accurate picture in that we can be sure that between 59% and 87% of beneficiaries did not eat red meat the day before the interviews.

Conclusion

These findings point to a required effort in all three areas with all group categories to address the need for increased intake of heme iron sources in the children's meals to help them improve their nutritional status. However, the prevailing economic and political situation in Gaza, where 38% of people live in

[6] UN Standing Committee on Nutrition. *Nutrition Information in Crisis Situations- oPt*. May 2007

poverty and 54% are food insecure whilst another 75% is aid dependent[7] makes it impossible for families to acquire sufficient heme iron sources. Availability of heme iron sources in the market is not a problem in 2011 but affordability is the obstacle for many Gaza residents.

Number of times red meat, poultry or seafood consumed in the past 7 days?

The majority of the participants from the various categories (A, B & C) reported that their children ate 0-2 times red meat poultry or fish in the last 7 days (from more than one half to four fifths of some groups), while only two C groups in Rafah & Darraj areas reported that their children ate from these heme iron sources in the last 7 days between 3-4 times. This confirms the low intake of meat and its connection to the economic hardships in the Gaza. These findings suggest that an effort is required in all areas with all the various groups to address the need for an increase intake of heme iron sources in the children daily meals to help them overcome their nutritional status & anaemia. However, as over 70% of people are dependent on aid and another 40% are without jobs and with rising food prices, the majority of Gaza residents cannot afford to purchase meat or seafood.

Conclusion

The project cannot address the underlying cause of the malnutrition and the reasons people cannot afford to buy meat as this is beyond the mandate of the programme but it can continue to advise food insecure families people on the best accessible alternative in the current economic situation. Though health education personnel explain food alternatives, it is nevertheless important that the project stresses and reinforces messages on the cheaper alternative sources of iron that can be consumed on a daily basis. *Non-Heme iron sources consumed day before interview?*

Participants from categories (A, B & C) from Shija'ia & Darraj reported that most of their children (from one half to more than four fifths of some groups) did not eat iron rich non-meat products yesterday, while in the other 3 groups (2 Rafah- Groups B & C and 1 Darraj - Group B) reported that two thirds to more than three fourths of their children ate iron rich non-meat products e.g. lentils, spinach, beans, chick peas, cabbage, cauliflower, molasses, grains & Jewish mallow. These findings add credit to Rafah's groups of participants B & C as well as for B group in Darraj as well as extra efforts may be needed to target people at Shija'ia & Darraj. Again it the same groups with children who are still undergoing the program who show an effort in including vegetables in their diets. As Rafah is the poorest of the three areas, the findings suggest that since Rafah residents are less likely to afford meat, they may traditionally eat a more vegetable based diet. As the question does not probe the reasons for such low intake of vegetables, it is impossible to provide a reason for this tendency. When questioned in the semi-structured group interviews, a possible explanation was offered for the low intake in vegetables. 40% of the respondents believed the reasons for low intake of iron rich perishable goods could be attributed to the provisioning culture where a parent might only go once a week to the market to purchase fruit and vegetables for the week. The preference is for day fresh vegetables. When the weekly stores are depleted, the family might lack the money for transportation fees thus only making the trip once and not eat vegetables until the next trip to the market. This finding points to the interlocking of economic, logistics and applied knowledge in the question of the iron requirements of the beneficiaries.

[7] UNOCHA. *Humanitarian Situation in the Gaza Strip.* July 2011

Figure 8: Non-heme iron consumption

Comparing heme and non heme iron consumption day before interview shows that both sources of iron are not consumed. A mean average of 73% of participants reported not consuming heme iron the day before the interview whilst a surprising 77% did not eat non-heme iron.

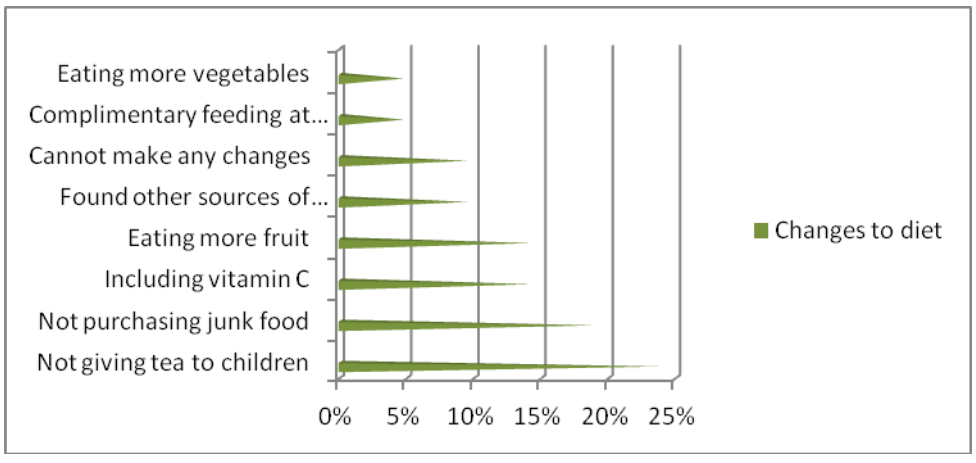
Conclusion

Intake of cheaper sources of iron should be encouraged and be recommended to be consumed daily much like iron supplements and fortified milk. When a program has less than complete success in improving intake, the impact will be reduced even further[8]. Though the NECC program combines supplementation, fortification, medication and education, it is not enough that the food and nutrients be available in the market, they must also be accessed, which depends on knowledge, motivation and resources that determine household nutrition seeking behaviours. The advantages of consuming non heme on a daily basis should be clearly communicated so as to increase the motivation levels.

5.2.3 Changes introduced in family diet after starting in the project

The most significant change introduced in the aftermath of health education and counselling is tea consumption. The other cited changes are positive additions in that the beneficiaries either found alternatives or augmented the missing elements in their diet.

Figure 9: Changes introduced to nutrition practices



Conclusion

[8] World Bank. *Methodologies to evaluate the impact of large scale nutrition projects. 2009*

The finding suggests that despite tea drinking being an entrenched part of the culture, it might still be one of the first things people can change in their children's diet. The two most common changes at both 23% and 19% for not giving tea and junk food respectively are both corrective changes. Mothers and other care takers were before receiving nutrition education, giving children tea and non-nutritious food and it is now this behaviour they are attempting to curb.

5.2.4 Most difficult practice to change

Table 8: Most difficult practice to change

Activity	Frequency
Avoiding tea	22%
Avoiding soda	22%
Avoiding chips	22%
Getting children used to Fe+ taste	11%

Approximately the same number of people who report introducing changes to their diet regarding tea and junk food also report finding it difficult to avoid having these items consumed in their homes. Tea drinking by children and junk food consumption clearly present the biggest challenges for nutrition but they are also the most apparent to target in an information campaign.

Conclusion

The consumption of high calorie and low nutrient foods is heavily associated with the practice of daily pocket money where the children buy food items of their own choice. Many parents report that this is one of their greatest challenges and admit that convincing children to buy healthy alternatives with their pocket money is a formidable task. The reason is not owed to the fact that the majority of children will buy unhealthy food times but to the availability and prices of these goods. The low prices of these goods means that many, though poor, can afford to buy crisps or soda. According to a kindergarten director in Al Darraj, approximately four fifths of lunch boxes contain a sandwich with chocolate spread, or processed meat. For liquid, most children have a fizzy drink and only 2% have juice. She pointed to the high availability of junk food as the most noticeable difference between today and a decade ago. She also noted that a number of children come to the kindergarten without eating breakfast. In a study of the nutritional status of Palestinian school children it was found that despite the health benefits of breakfast, it is the meal often skipped thus affecting concentration and performance[9].

The staff has been exceptional in explaining factors that inhibit iron absorption. The majority of interviewees are aware of the relationship between consumption of tea and inhibition of iron absorption however they point out the difficulty in limiting its consumption as well. Tea drinking should continue to be discouraged and equally important, alternatives such as tannin free tea should be suggested and encouraged.

[9] Nasser K, Awartan F & Hasan J. *Nutritional status in Palestinian schoolchildren living in West Bank and Gaza Strip.* The Lancet.com. July 2010

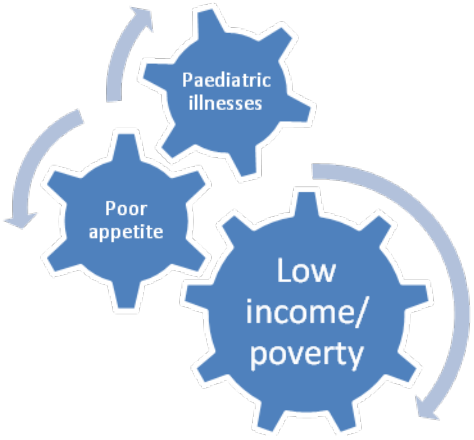
5.3 Attitudes

5.3.1 Perceived main barriers to a better nutrition

In descending order of importance, these were considered top barriers to a better nutrition: low income/poverty, child's poor appetite and children's diseases. Consumption of non nutritious foods; lack of maternal knowledge about healthy diet, mood swing of children to food intake (picky children) and absence of child's parents were also catalogued as main barriers to a better nutrition. It is evident that external to economic factors, other factors such as appetite play an important role in relation to nutrition. Evidence from the semi-structured interviews also suggested that mothers and care givers thought that a poor appetite presented an obstacle and was often mentioned as a frequent source of frustration in the family. The evaluation did not probe the causes of this reported poor appetite though inferences can be made from the available collected data which point to consumption of non nutritious food as another prime obstacle to a better nutrition. Many parents talked of the high consumption of a diet composed of carbohydrates, fat, sugar, sodium and preservative found in chips, soda and sweets which between half and three quarters of children consume with some averaging 3 days a week.

No leakage problems, where iron and fortified milk is shared between the children, were reported.

Figure 10: Barriers to better nutrition



Conclusion

The stakeholders point to the economic status as a main obstacle towards better nutrition. The experiences of a kindergarten director whose institution hosted numerous nutrition education sessions confirm that for many of the families who have children in the crèche, the most notable impediment towards good nutrition is the availability of economic resources in the family. The evaluation has found that 73% of the interviewed cannot afford to buy meat, poultry or fish on a regular basis to satisfy their dietary requirements. In 2011/12, availability of goods in the market has significantly improved compared to 24 months ago. However, the unemployed, injured, the aid dependent cannot afford to purchase luxuries such as meat. The biggest challenge emanates from the commercial products that contradict education themes.

5.3.2 Differences in reaction to the intervention

When asked to consider the reasons why some families have children who have recovered from malnutrition or anaemia while other families do not, participants offered very similar answers in that the bulk pointed to lack of compliance to treatment and poor appetite as the two main reasons between families with 'recovered' children and those without. The participants also believed that response to the treatment and children's illnesses can be attributed to the difference. As the last three, varied income of families, regular follow up of children in the program and mothers' caring for children were stated as the major differences between families whose children have recovered from malnutrition/anaemia versus those who have not.

As the beneficiaries believe that defaulting on the medication is a deciding factor for improving nutritional status, it is crucial for the project to respond accordingly by addressing the issue of compliance. In the semi- structured interviews, 11% reported that compliance is affected chiefly by the taste of the iron supplements or milk and the perceived side effects of iron supplements such as gastro-intestinal irritation.

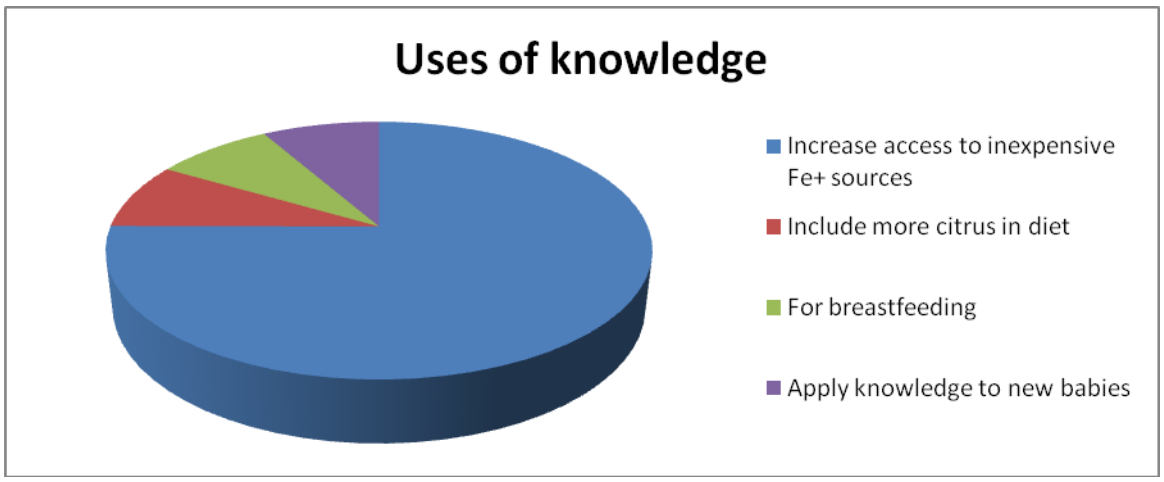
On the question of the reasons some families have two or more children under five but only one child suffering from malnutrition/anaemia most respondents believed the children's appetite variations and inconsistent compliance to treatment were the reasons. Again, paediatric illnesses were cited as well as the mother's ability to care for all her children. The participants stated that the nutritional status of older children is likely to deteriorate if the mother has younger children to take care of. The nurse and community worker in the Shija'ia centre reported that mothers believe the difference can be directly attributed to the child's diet preferences. Mothers often report problems with picky children and their inability to eat proper food.

The issue of appetite was highlighted in different sections of the focus group discussions alluding to the importance of this topic to nutrition. As aforementioned, the reasons for this lack of or varying appetite have not been investigated but it is of a major concern to parents and guardians.

5.3.3 Uses of retained knowledge

Knowledge and skills that have been gained from counselling, health education, consultation and interaction with NECC personnel was deemed useful by the beneficiaries. Most importantly 75% relate that the information they have received and discussed with the NECC has been put to use. They are slowly increasing the purchase of inexpensive sources of iron such as lentils and spinach.

Figure 11: Uses of knowledge



In order to gauge people's own strength (perceived or real) and opportunities to improve nutritional strategies, most respondents declared that to improve nutritional status in their own families, the following were important:

- diversified food
- personal hygiene
- giving child meals at regular intervals,
- increase frequency of meals,
- encourage child to eat
- preventing child from drinking tea

Conclusion

The beneficiaries are pointing to practices they can with not a great effort change in the family. This also points out to the mother's realistic abilities with the time and resources she has. The project is therefore encouraged to look into assisting the women with advice on food diversification, frequency of meals and tips on how to encourage children to eat (feeding practices).

5.4 Institutions in place to improve nutrition

Sources of fortified milk

The bulk of the interviewees had never received milk from any other organisation but the NECC. Some participants received milk from NGO's like Ard El-Insan and from Al-Aydi Almoslema (Moslems' hands), while few others from the Beach Medical Services Clinic and they received milk only once. Most participants mentioned that the majority of these organizations are not located in their area of residency and they need transportation to access them.

Sources of iron supplements

In contrast to fortified milk formula, iron supplements are widely available from different sources. Approximately all participants in Rafah area reported they previously received iron supplements from UNRWA clinics and some from MoH clinics, while in other areas (Shija'ia & Darraj) received iron from the

MoH PHC centres and some from the UNRWA centres and a few from Ard El Insan, while some others had never received the supplements prior to using the NECC family health centre.

Sources of information

In the focus group discussions, an overwhelming number of interviewed persons reported the NECC, UNRWA clinics, MoH clinics and Ard El Insan as the main providers for information about nutrition. Some reported public hospitals as other sources.

Conclusion

Undoubtedly, the NECC provides a valuable service to its beneficiary communities where prevalence of malnutrition can be as high as 10.5% of surveyed children[10] necessitating an intervention with a focus on fortification. There are however implications for being the chief provider of fortified milk because provision of such an unaffordable commodity can create a 'clientele' attitude. Program design and implementation addresses this potential problem through innovative approaches and ethical criteria. Health centre personnel are well aware of the potential problem. They reported on their efforts to prevent people viewing the health centre as a milk collection site. Beneficiaries of fortified milk are over 6 months old and are malnourished receive milk, so even if people come to the clinic because of the milk, they will only get it if they are malnourished. Sources of information on nutrition and health are diverse with NECC being the main provider in its areas of operation and the same applies to sources of iron supplements.

5.5 On impact, efficacy

Table 9: Needs met

Program since 2008	Total number of 6-59 months screened	Prevalence of anaemia	Prevalence of malnutrition	Number of children who have recovered
Shija'ia, Al Darraj, Rafah centres	48648	16527 (33.9%)	5581 (11.4%)	8971 (40.5%)

Using a simple determination of needs met equation of recovery within **120 days of treatment**, the proportion of needs met is as follows:

> Proportion of met needs = No. of malnourished children who recovered on the programme/No. of malnourished children found

8971 recovered children/22108 malnourished & anaemic children= **40% of proportion of the needs are met.**

[10] NECC. *Emergency Humanitarian Nutrition and Health Response for Vulnerable Children in the Gaza Strip,* Third Quarterly Report. September 2011.p21.

Note that 'recovery' denotes those who have recovered within the 120 days. The figure does not include those who improved and those who 'graduated' at the end of the projects. Many cases recovered after the end of the contractual period of the projects and as referrals form an essential part of activities, the proportion of met needs rises when the after programme and referrals are included. For example, over the past three years, the program has referred between 4% to 20% (according to abridged statistics) of either severe malnutrition, thalassemia cases or has made referrals for further investigation. These and other ailments which could not be treated at the centre were forwarded to specialist institutions for further examinations and treatment.

Conclusion

The strongest demonstration that the NECC nutrition intervention might have major impact on biological well-being come from its combined approach of fortification and supplementation directly to the intended biological beneficiary. With a median of 7% and a mean of 6.46% for the referrals, the intervention aids those beneficiaries whose health has deteriorated and need specialist treatment.

Outcome indicators (targets met)

Indicator 1: Percentage of malnourished and anaemic children below 5 prevented from increasing further or reduced compared to start of project start

> *In all years, more than 90-95% of anaemic and malnourished children recovered, improved or stayed the same.*

Indicator 2: Percentage of anaemic and malnourished returned to normal within the recommended recovery period.

In all years,

- *Anaemia, above 75%*
- *Wasting above 90%*
- *Underweight 70-80%*
- *Stunting 50%*

Indicator 3: Number of families in the catchment areas who received nutrition counselling and health education.

- First year 28678 received health education.
- Second year 35155 received health education
- Third year 29916 received health education

To increase impact it is crucial to invest more resources and target specific families for example those who have recurring malnutrition. A consolidated follow-up strategy and plan can be developed for the most vulnerable such as households with two or more children (or the rate that is considered high) who enrol in the nutrition program. The rate of recovery for anaemia within 120 days varies between 62.8 %

to 72.4 % for the three projects necessitating that more time and resources be spent on non-recovering cases. Despite full recovery and eventual 'graduation' from the program, there exists a high possibility of their returning to the program within 2 years because the cause of the malnutrition has not been addressed and this intervention cannot address this problem but 'alleviate the consequences of the occupation', as the NECC reported.

Consistent services and medical referral systems increase institutional credibility[11].The referral system is well entrenched however the beneficiaries felt it was necessary to be allowed to continue with examinations in the NECC clinic. The idea of post-referral examinations at the NECC clinics shows a great level of trust in the skills and services of the organisation. Some claimed though they received the appropriate medical attention, they did not receive their preferred fortified foods in the institutions to which they were referred. The evaluation did not probe this assertion as this is a matter of personal preferences and taste and not medically or health related. Some maintained they wanted to continue attendance at the NECC clinics despite referral because they appreciated the service from the NECC personnel.

5.6 Relevance

The project is relevant to the beneficiaries because it offers highly demanded services to the communities whose livelihoods have been weakened. The beneficiaries are appropriate because they reside in economically poor neighbourhoods where the majority is unemployed and dependent on aid. The services provided are unique in that the NECC has adapted a comprehensive approach that not only includes the health of the children under 5. The project takes into account the necessity of ensuring a good health for the mother as well through its natal and maternity care. Of the 21628 children screened in Shija'ia in the last three years of the project, 12.7% were found malnourished whilst 39% has anaemia. Of the three areas of operation, Darraj has the lowest number of children affected by malnutrition and Rafah has the lowest reported cases of anaemia per total number of screened children.

Table 10: Percentage of anaemic and malnourished children per area

Area	% anaemic	% malnourished
Shijaia	39	12.7
Darraj	31.7	10
Rafah	25.7	11.4

Conclusion

As the most affected, it is evident Shija'ia struggles with both malnutrition and anaemia and requires intensive and long term assistance. Shija'ia scores the highest in percentage of children still undergoing treatment therefore the intervention will continue to be relevant for the residents.

Effectiveness

[11] Harvard Institute for international development. *Nutrition intervention in developing countries*. 1981. p

Reviewing the number of children screened and treated, the number of health education sessions and the number of tests completed etc, the program can be classified as effective. The outcome in a number of areas exceeds the target whilst in a few areas falls short, for example in the rate of recovery within 3 months. With the use of a solid and comprehensive database the NECC has achieved a high administration capability and efficiency in managing the thousands of beneficiaries.

For improvement in effectiveness, project inputs can be utilised better. Among other things to consider is the channelling of educational information. The provision of information on nutrition via education sessions, counselling or brochures should be systematised.

5.7 Efficiency

Length and manner of consultation

Medical staff during interviews reported that on average they see about 50 patients a day. The clinic is mostly trafficked between the hours of 8:00 am (after the children have gone off to school) and 11.30am (before the children return from school), therefore the bulk of the patients will be seen over these 4 hours. At the rate of 50 of day, a doctor sees on average about 10 patients an hour or one every six minutes. The overall observed mean consultation length was 6 minutes. It was also observed the information beneficiaries received included counselling on medicine compliance and its administration and tips on nutrition.

Clinical consultation can be conducted more systematically. The environment in which the consultations take place is not always conducive thus reducing the chances of proper reception and comprehension of health messages.

Conclusion

Given that the majority of the beneficiaries do not on average spend longer than 6 months in the program without recovering or being referred, it is important that the transmission of knowledge, and repetition of information is carried on a regular basis and for longer intervals. Increasing the length of consultation time does not guarantee more satisfaction for either patient or doctor but it increases the chance of a higher reception of discussed material and serves to remind the patient of the activities in which she has to engage to ensure positive nutritional results are achieved. The quality of information shared during the consultation is more valuable than quantity but studies have shown that longer consultations have been linked to higher satisfaction rate[12]. A patient centred consultation should inform the medical personnel's interaction with the patients. Giving more time to consultation may improve the impact of preventative education.

5.8 Beneficiary suggestions

Most of the groups reported the following as recommendations to improve the current program:

Table 11: Beneficiary proposals

Sector	Activity	Feasibility

[12] Amani Al Hajeri. *Consultation length in primary health care.* Bahrain Medical Bulletin, Vol 31. September 2009.

	Possible to implement within current program	
Medical	Conduct examinations after discharge from nutrition project	Possible
	More follow-up	Possible
Supplementation	Extend length of Fe supplementation	Possible*
Health education	HE on healthy nutrition and feeding practices	Possible
	Group counselling – peer to peer education	Possible
	More sessions where women are specifically invited	Possible
	HE at centre and not at home	Possible
	Within program scope but may be difficult to implement	
Supplementation	Quality to be consistent	Perhaps
Fortification	Quality to be consistent	
	Provision of fortified food after referral	Perhaps
	Contrary to program principles	
Fortification	Extend period of fortified milk supplementation	Impossible
	Outside of program scope and not planned for implementation	
Financial assistance	Financial support to poor families	Impossible
Food aid	Provision of food for children and their families as aid	Impossible
	Ongoing after the start of the evaluation	
Diet	Food demonstrations of iron rich food at centre	Started as reported by NECC
Psycho-social	Effective coaxing skills for children	Started as reported by NECC

*Necessity depends on evaluation by medical staff

The green marked lines indicates the high probability that these recommendations can be incorporated into the program. The findings suggest that the beneficiaries see continuity as a challenge to the project. They consider it important to have medical examinations or support after being discharged and referred. The NECC believes strengthening this activity will have budget implications. The participants also identify extension of length of treatment as essential. If possible, a preventative dose can be given until 24-36 months as WHO and MoH Nutrition Protocol recommend.

It is possible to conduct more health education lessons focusing on healthy nutrition habits and feeding practices. It was the expressed wish of the NECC to conduct more HE as stated in their original proposal but the organisation views budget limitations as a main obstacles to expand health education.. In the semi-structured interviews mothers often cited the reason for malnourishment was the child's pickiness. The mothers and health workers agree that they need to help mothers find ways to convince their children to eat the right food.

Beneficiary priorities

Of all the topics discussed during the semi-structured interviews and focus group discussions, these were ranked as important in order of appearance:

i. practices on nutrition,

ii. health education on tailored and specific information about nutrition and causes of malnutrition (i.e. detailed information on that specific child's nutritional concerns) and

iii. iron supplements.

Concerning the question of post referral help, beneficiaries expressed the importance of continuing on the fortification program (i.e. fortified formula). The evaluation has not investigated whether the referred cases receive fortified foods at the clinics or hospitals to which they are referred. If the referred persons do not receive fortified food, logically the NECC would continue supporting them if this does not contradict the instructions of the current place of treatment.

The lines marked in red indicate the impossibility of implementing or incorporating this into the existing program. The scope of the program does not allow it and as there are already a number of organisations engaged with food aid and financial assistance, adding these elements would distort the purpose of the project, namely good health and good nutrition and not direct aid.

The orange line indicates that some mitigation can be found by for example referring long-distance patients to other clinics. A mobile clinic, a possible solution discussed with the NECC was deemed costly and inefficient as a means of reaching persons residing in the peripheral areas of the health centres since most Gaza residents would be able to access a clinic in their vicinity.

About 8.69% of the respondents from the semi-structured interviews mentioned the importance of palatable supplementation and fortification such as the family health centre stocking more than one type of fortified formula.

The issue of accessibility was raised a number of times and the NECC has three family health centres covering a population of 215000 people. All the family centres are situated in densely populated areas and are accessible from the major roads for the greater part of the local inhabitants. Earlier reports suggest that the cost of transportation is sometimes cited as a cause for defaulting and during interviews a few mentioned the cost of transport. However NECC centres reach the majority of their target population as they are appropriately situated in relation to residences. Geographical accessibility is therefore not considered to play a major role in defaulting or being unable to attend the health centre but in a few cases affordability of transportation might play a role.

6. RECOMMENDATIONS

6.1 Project direction

6.1.1 Strengthen preventative aspect, improve stunting recovery

NECC should decide how to best combine and maximize a preventative and curative form of the project. Preventative forms, for example a healthy and nutrient rich diet, good nutrition practices ought to be re-

emphasised. The curative element of the programme is effective in that it has proved to reduce malnutrition. This programme aims to address moderate and severe malnutrition in individuals which means there will be a decrease in the number of cases of moderate malnutrition (because they are cured). This does not necessarily mean that all the moderate malnutrition will disappear since the programme is only meant to cure people who become malnourished, not prevent new cases from developing. New policies could and will develop until the root causes are addressed and policy is developed to protect vulnerable populations. However, an effective targeted SFP should prevent any new cases of severe malnutrition from developing and should decrease mortality from moderate malnutrition[13]. Since malnutrition is complex, environmental, contextual, political etc, the NECC cannot and should not tackle all these related issues but its long term plans could include strategies to address the further development of preventative methods.

The intervention has realised a major part of its indicators in that nutritional status for those in the project improved.

Indicator 1: Percentage of malnourished and anaemic children below 5 prevented from increasing further or reduced compared to start of project start.

The NECC reports that since project inception, more than 90-95% of anaemic and malnourished children recovered, improved or stayed the same. According to the NECC proposal the target was 50%.

The indicator as stated in the project proposal contained three variables namely recovery, improvement and status quo. To be able to determine with precision the extent of the impact, it is recommended that the NECC reports individually for the three factors contained in the indicator. This allows for better targeting of slow recovery and no improvement cases since the staff will be able to adjust and correct strategies and activities according to the specific requirements of each group. It also provides a useful monitoring tool that will assist in designing and planning the activities of the project.

Indicator 2: Percentage of anaemic and malnourished returned to normal within the recommended recovery period

It is reported that recovery within the recommended period of 90 days[14] is as follows for the years 2009, 2010, 2011:

- Anaemia recovery- 65.7%, 55.5%, 56.9%

By the end of 120 days, the recovery rate for anaemia improved by 6.7%, 7.3%, 13.4%.

The recovery period of 60-120 days for the years 2010, 2011 for malnutrition was reported in NECC narratives as:

- Wasting - 80.7%, 85.3%
- Underweight – 47.4%, 59.5%

[13] http://www.ennonline.net/pool/files/ife/enncidasfpreport.pdf

[14] As reported in Final Narrative 2008-2009

- Stunting- 52.7%, 44.3%

After 120 days the recovery rate for malnutrition for 2010 and 2011 had reached:

- Wasting –85.2%, 87.2%
- Underweight – 51.6%, 64.8%
- Stunting- 47.9%, 39.4%

The final recovery rate (including the period after the official end of a project) is at 50% for stunting and above 90% for wasting and anaemia.

These figures suggest the high possibility of recovery from wasting and anaemia and that stunting and underweight requires more time for recovery as it is a reflection of chronic exposure to malnutrition. In fact, stunting recovery rates dropped by 4% and 5% from 2010-2011. Though the target was 50% for weight, the highest recovery rate was reported at 65%. The NECC could attempt to increase the recovery rate by a few percentage points over the current rate.

6.1.2 Community mobilisation

The involvement of the community is crucial for improving impact of the input. The NECC wishes to introduce new elements to the intervention and acknowledges that a focus on community mobilisation. Funding restrictions are cited as an obstacle to developing a community mobility strategy that promotes civil participation. Despite the current funding situation, the organisation is able, albeit to a limited degree, to pilot the idea through the use of community and public institutions such as schools and kindergartens. A community health approach uses many different strategies to improve the health status of the its targeted beneficiaries. As institutions, kindergartens and school are optimal platforms from which to target two groups, namely the mothers and the children. The NECC can use this resource more frequently.

6.1.3 Follow-up

The NECC reported that the follow-up and exit strategies were developed by the end of 2009. Although the NECC has been implementing a new communication method since November 2011 such as texting or telephoning mothers who miss their appointment, there is a need to develop a goal oriented follow-up strategy for both successful and non-recovered cases. The nutrition intervention would benefit from a follow-up strategy with a well defined justification and criteria of those beneficiaries who will be followed up as well as goals that are to be accomplished.

6.1.4 Reduction of defaulters

Respondents largely indicated that failure to comply with treatment, lack of motivation and transportation costs are the principal causes of defaulting. The respondents of the semi-structured interviews have different education levels, with the mean average having completed the 9th grade. They all use the family health centres for various services and the prevalence of anaemia and malnutrition in the interviewees' under 5 children is 55% and 22.5% respectively. The common feature of the interviewed is the high frequency of repeated malnutrition or anaemia in the family where two children or more of different ages under 5 show micronutrient deficiency. Of those interviewed, 56.25% have two or more children suffering from malnutrition and anaemia. The typical length of time they had used

the family health centre services was a year. To lower the rate of defaulting, several options can be explored: to improve the existing medical services and to motivate families to continue with the treatment. Motivation is seen as one of the deciding factors in remaining with the programme and providing families with the reasons for keeping their children enrolled. This in turn will improve the cost-effectiveness of the project and increase impact. The project can focus motivation efforts on those with recurring malnutrition/anaemia in the household and those whose children do not respond to the treatment.

On reduction of recurring malnutrition- The mothers often explained the difference in their children having anaemia or malnutrition or not as an issue of appetite and each child's temperament to food. "She did not want to eat or he preferred only one type of food," was a common statement. To reduce the number of mothers who return to the health centre with their next child experiencing malnutrition as his/her older sibling, education on habits and treatment compliance can address this issue. The nutrition education to influence the practices, particularly feeding practices if very young children are concerned and full compliance to treatment should ensure an above average recovery.

As the beneficiaries believe that defaulting on the medication is a deciding factor for improving nutritional status, it is crucial for the project to respond accordingly by addressing the issue of compliance. In the semi- structured interviews, 11% reported that compliance is affected chiefly by the taste of the iron supplements or milk and the perceived side effects of iron supplements such as gastro-intestinal irritation.

Sector	Activity	Feasibility
Medical	Conduct medical examination after discharge from nutrition project	Possible
	More follow-up	Possible
Supplementation	Extend length of Fe supplementation	Possible*

These proposed activities are possible to implement within current project period with NECC's wishes for community mobilisation, more follow-up and screening. The NECC reports that input poses a problem in that the intervention requires more personnel than currently engaged. *The NECC currently dispenses 3 months of iron supplementation subsequent to recovery from anaemia.

Furthermore the NECC believes that a greater impact will be achieved if new elements are integrated into the existing one. It is widely accepted that vitamin A supplementation has a positive impact on the mortality of children aged 6 months to 5 years[15]. The staff of the NECC concurred as well that introducing Vitamins A and D supplements would boost the impact of the project and they point to the possible high prevalence in Gaza of these types of micro-nutrient deficiencies.

[15] ENN. *Review of published literature for the impact and cost effectiveness of six nutrition related emergency interventions*. 2004

6.2 On nutrition education

6.2.1 Methods proposed by beneficiaries

The following methods proposed by the beneficiaries during the interviews are compatible with project requirements and may improve the reception of health education.

Sector	Activity as proposed by beneficiaries	Feasibility
Health education	HE at centre and not at home	Possible
	HE on healthy nutrition and feeding practices	Possible
	Group counselling – peer to peer education	Possible
	More HE sessions where women are personally invited	Possible

6.2.2 Family oriented nutrition education

During home visits, disseminate nutrition information and education to all interested adult caregivers. To ensure the impact affects the entire family, fathers and particularly mothers-in-law are essential to include in nutrition education aiming at introducing good nutrition practices. Health messages should target husbands and mothers-in-law especially of those of younger women since they are decision makers in the family and might be responsible for marketing or food preparation. 30% of the interviewed mentioned that often the new practices they had adopted were contradicted by other adults in the family in for example instances where the mother-in-law offers tea to children. The family inclusive nutrition education can be targeted specifically to non-recovering cases.

6.2.3 Messaging

Message framing on nutrition should produce clear concise messages with targets. The messages on anaemia should be concise. Future health education sessions could include ideas on different food types to put together to ensure minimum iron requirements of child are met. For example a message suggesting or depicting 3-a-day list of affordable iron food types easier to understand and attempt to incorporate as a new practice in the family diet. High food insecurity renders some families unable to afford the minimum dietary requirements for iron however some are likely to respond positively to the message.

Message reinforcement: The following messages require reinforcement: tea avoidance and acceptable substitutes, cheaper sources of iron, meal frequency, complimentary feeding and food variety.

The message on black tea consumption is generally well comprehended but requires reinforcing because some respondents believed that tea was only not to be given whilst giving iron supplements. The message that tea for children should be avoided at all costs not just when taking iron supplements should be made clear. Since it is culturally difficult to change the practice of tea consumption, it should be made clear when tea consumption will have the least effect on the body's iron depot. On recommended practice change on tea, refer to section *Practices*.

As evidence suggests the consumption of both heme and non-heme iron rich foods is low despite the enormous differences in the price of these goods. 60% of the respondents reported not consuming iron rich vegetables in the preceding week. In the prevailing economic situation, one realistic alternative is to

seek cheaper sources of iron rich foods, thus intake of iron rich vegetables as a substitute should be encouraged. It is therefore important that the project stresses the importance of economical alternative sources of iron that can be consumed on a daily basis. This message requires highlighting because children should not rely on supplements as a major source of their iron. A long-term sustainable strategy is to focus on increasing the intake of iron rich food whilst avoiding food that depletes iron stores. Furthermore if it is agreed theory that three meals a day should be sufficient to cover paediatric dietary needs and reduce the chances of malnutrition, then the fact that between one half and three quarters of focus group participants reported their children consuming between 3 and 4 meals a day suggests meal frequency might not the overwhelming problem but the quality of the food. Excluding the obvious factor of purchasing power, the quality is amongst other things affected by the type of raw food acquired and its subsequent preparation. Interviewed parents mentioned that they recognise the importance of meal frequency and that this knowledge has been acquired through health education sessions (see section 5.3.3).

Although complimentary feeding was the fourth frequently mentioned message on nutrition and that for many beneficiaries this was the message reported as 'new information', evidence suggests it is the one of the areas where much work needs to be done. Most beneficiaries recounted that they were either commencing complimentary feeding too early or too late and the content of the food was inappropriate for their children's developmental stage. Aside from information on the effects of tea consumption on young children, complimentary feeding is one of the major confounding practices the NECC is managing to redress. Since the beneficiaries are receptive to practice changing information because of perceived health gains for the children, the message on complimentary feeding should be reinforced so as to improve the number of people reporting changes in their diet or practices. Currently, only 5% of those interviewed report having introduced this change as opposed to the 12% who report that they recall messages on complimentary feeding. The dissonance between knowledge and practice requires attention through education.

Tailored messaging: When teaching about nutrition, food can be divided into groups according to the function they perform for the body. When offering HE at home, inquire about the family diet and advice accordingly instead of giving broad advices or impractical information such as calorie requirements.

6.2.4 Increase role of public institutions

The majority of the respondents found the health education sessions in public institutions such as kindergartens highly relevant. The project has made an effort in finding alternative platforms to carry out health and nutrition education activities. The necessity of well organised and themed health education sessions conducted in public institutions was ranked the fourth highest priority by the beneficiaries. It is thus recommended to increase the frequency of education sessions held in public appropriate locations with a learning conducive environment to conduct HE classes.

Continue with developing strategies to educate children where you can find ways of including them as active participants in their education.

6.2.5 Nutrition education tools

On the brochures

A more effective use of brochures in the clinic can be found. Previous research has pointed to the concept of illusion of knowing showing that individuals think they read and understand better than they actually do[16]. It is therefore important that the brochure's content be explained at the clinic or in the home as over 40% of the SSI respondents declared that they have either only perused through the brochure or have never read it. The content of the brochure should be clarified in detail during the clinic visit where a community worker or nurse reads it together or summarises the salient points with beneficiary participation since a number of beneficiaries report they are unlikely to read it. The distribution of the brochure during home visits is an effective strategy as it likely to make families with malnourished children aware of nutrition related problems and can thus prevent them. A clear channel of distribution in the health centres will facilitate staff-beneficiary communication on the brochure content.

On text density and coherence: Furthermore, it is recommended that the project invests in designing more practical and user-friendly brochures. The text in the brochure can be reduced and interspersed with pictorial images messages to be limited to a few concepts that help identify key information.

Sessions of group counselling for sharing advice between the women should be organised. This form of peer-to-peer education was perceived by beneficiaries as an effective method for this type of education as they will be sharing experiences and learning from each other.

The NECC prefers to utilise non-traditional methods of education such as theatre and games but they mention that no budget has been allocated to those types of activities.

The project has developed guidelines for field work and the effectiveness of this tool will be strengthened by developing a manual containing a checklist for field health education content. A standard simple manual on health education methodology and content will ensure that the field staff will implement a uniform practice and beneficiaries will hear the same messages and chances of omission will be reduced. A standard operating procedures' manual ensures consistency in message transmission and uniformity. In instances of public education, it is considered valuable. Some of the health centre community workers report using the brochure for health education classes. Although this can be a good tool, a brochure has limited space to convey a message thus a checklist cataloguing all the salient points would improve the effectiveness of the education effort.

6.2.6 Targeting

Target high risk group- 6 months to 1,5 years. This group characterised by high frequency in anaemia should be targeted specifically to prevent that they become anaemic or malnourished. Weaning exposes this group of babies to possible anaemia as complimentary food does not carry sufficient micro-nutrients to ensure a healthy diet. Advice on diet and food for each developmental stage of child should be emphasised. As the highest prevalence of anaemia is found in the 6-12 month age group, advise on very specific iron rich food as complimentary food. This group is susceptible to exposure to poor nutrition as a large part would have not been exclusively breastfeeding; complimentary feeding would

[16] Designing effective health education material. Refer to her/oxfordjournals.org/content/23/3/414

have already been introduced and some would have been weaned. Numerous studies have shown the connection between the weaning age and a high prevalence of malnutrition.

6.3 On knowledge

Assessment tools -Pre and post tests : Pre and post assessment of knowledge should be conducted with a reasonable lapse of time between them. Currently, the pre- test is administered before education sessions and the post test immediately after. Given that it requires time to absorb and use information and that to form a reasonable estimate of the level of knowledge requires the beneficiaries to have at least gone through the entire program, it is recommended that the tests be administered with a minimum period of three months between them. Without spacing, it becomes difficult for the project to determine whether the knowledge level results can be maintained over a longer period. Post assessment can be conducted at the clinic during consultation or during HE and thus does not require major resources.

6.4 Practices

Only 10% of respondents declare they cannot change anything in their diet or nutritional practices. The reasons for this lack of change are attributed not to the mother's capabilities but to the social and economic circumstances of her household which restrict her choices in either quality/quantity of food or the type of care she can provide to her children. Evidence implies, therefore, that sound nutritional habits can be adopted by approximately 80% of the target population.

The beneficiaries are pointing to practices which they can, without great effort, change in the family. This also points out to the mother's realistic abilities with the time and resources she has. The project is therefore encouraged to look into assisting the women with practical advice on food diversification, frequency of meals and tips on how to encourage children to eat (feeding practices) and improving appetite.

Child and or adult practices- lack of compliance to medication and poor appetite are seen as problems. lack of compliance to treatment and poor appetite as the two main reasons between families with 'recovered' children and those without. Compliance will only be observed if the mother sees the benefit of continuing with the treatment. The project will have a greater impact when actively engaging the parents and convincing them of the benefits of completing the treatment.

Since it requires time to change entrenched social norms, especially those considered benign, the NECC can focus on retaining the current form of the norm but changing the content. For those families who find it difficult to avoid giving tea to children, the project can encourage the consumption of tannin free tea as suggested by some interviewees.

Most families are confronted by nutritional health problems on two fronts: the inability to afford healthy nutritious food and the massive availability of cheap unhealthy snacks. Junk food consumption clearly present a significant challenge for nutrition, however since it is an easier concept to grasp (the effect of these foods on health), it is also the most apparent to target in an information campaign. The majority of respondents were also aware of the negative effects of this food on their children's nutritional status and they noted the difficulty in controlling its consumption. Community workers

should continue to encourage women to attempt reduction in consumption of nutritionally deficient foods.

On sustainability

The findings suggest that the beneficiaries see continuity as a challenge to the project. They consider it important to have medical examinations or support after being discharged and referred. The participants also identify extension of length of treatment as essential. If possible, a preventative dose can be given until 24-36 months as WHO and MoH Nutrition Protocol recommend. The NECC already gives a prophylactic dose for three months as per Palestinian Nutrition Protocol.

On causes of anaemia

The discussion of the immediate causes of anaemia has been limited in Gaza leaving many nutrition interventions ineffective in targeting the correct cause of the problem. Though literature agrees that malnutrition in general cannot be attributed to a singular cause, it is recommended for the agency to determine whether intake or mal-absorption is the reason. UNICEF will in 2012 publish a study of the causes of micro-nutrient deficiency.

Reinforcing health education through counselling: To efficiently use the project resources, it is recommended to lengthen the consultation time particularly for families whose children are slow in recovery or are not improving. Giving more time to consultation can improve the impact of preventative education. Continuing with strengthening knowledge in different forums using the different project inputs can attribute to finally changing family nutrition practices.

7. CONCLUDING REMARKS

The NECC intervention has a positive impact on the targeted population. The project has improved young children's nutritional status, their parents' knowledge and practices and their mother's health. This evaluation confirms the difficulty in redressing nutritional health because of its connectivity character where both economic and social factors play major roles in determining health. The majority of the respondents note that their economic status prevents their children having a healthy nutritional status but other factors such as feeding practices, food choices and preparation play an equally significant role. They also point out the nutritional outcome as a result of participating in the curative element of the project is affected by lack of compliance with medication. The greatest challenge facing the intervention is to find ways to convince beneficiaries of the benefits of adhering to the regime of the nutritional programme.

The current NECC intervention is capable of changing some of the factors that influence nutritional status but certainly not all. Some of the determinants of health status include income, personal health practices, supportive physical and social environment and education etc. The NECC is able to influence the practices and education and to a limited extent income through their vocational training program. The NECC approach is an attempt to invest resources in actions that tackle elements that are perceived to have the greatest impact on nutrition status. Economic, social and environmental factors are

considered to be the underlying causes of malnutrition. The NECC's nutrition response has invested in addressing social and environmental factors on which the project can in its current capacity continue to expand and improve.

One of the most commonly mentioned problems was children's appetite. Many parents reported inconsistent appetite as a major barrier to good nutrition. Appetite is not only an issue relating to the individual's taste preferences. Family norms, paediatric illnesses and consumption of unhealthy food all play a role in determining a decent or poor appetite. The community health workers are encouraged to include in their future health education sessions a theme on appetite, habits that reduce or improve it and persuasion skills for the mothers.

The NECC reports that for any changes to be adapted in the current programme, budgetary considerations will have to be taken into account. Relating to the expressed suggestions by the beneficiaries (refer to section 5.8) on continuity of examinations, extending periods of some of the activities, the NECC states resource and funding as the major constraint to implementing these suggestions. For improving and introducing new elements into health education, the NECC conveys an aspiration to advance and augment current health education tools but it states that to achieve this would have budget implications. During the course of the evaluation, the NECC has introduced changes in : communication tools with defaulters. In the second half of 2012, the NECC plans to publish two new brochures on health education.

The beneficiaries of the NECC nutrition improvement intervention report that the project has produced positive impact and results. The NECC has based its program on a solid theory that takes into account the role of the bio-medical aspects and the social and economic factors which influence child nutritional status in the Gaza Strip.

END

Appendices

A- Workshop Report

B- Focus Group Discussion Script

C- Semi-structured Interview Questionnaire

D- Staff Interview Questionnaire