

Evaluation of Primano: Final Report Nutrition (September 2009)

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1. Introduction

The program component on nutrition was the second module of the project primano that was implemented in day-care centers and playgroups. It included a course that was held by a nutritionist - three hours were offered for the playgroup educators and two for the day-care center staff - and a parents' meeting in all day-care centers and playgroups. Additionally, the staff was asked to keep a log (German: ein Logbuch führen) from September to November 08 about the implementation of this module. The general aim of the module was to enhance educators' and parents' knowledge and confidence about handling key issues on nutrition by introducing some few easy-to-remember messages. For the evaluation a pre-test / post-test design on the staff's level was used, without control group.

The pre-test of this program component was conducted from June to August 2008¹, the post-test in January 2009². Five day-care centers and 13 playgroups participated.³ Thus, the criterion of 70% of participating institutions was reached (see Appendix 1).

Because of the small sample size, this report will be largely descriptive. First of all, we show results from the work with the educators in the institutions, presenting results on the central aims of this program component (chapter 2). After that, we present results concerning the work with parents (chapter 3). Then we focus on the staff's evaluation and implementation of the program component on nutrition (chapter 4). Finally, we summarize the main findings of the evaluation (chapter 5).

All questionnaires that were used in the program component on nutrition can be found in Appendix 2 (day-care centers) and Appendix 3 (playgroups). Findings that are not mentioned in the report are listed in details in Appendix 4 (day-care centers) and Appendix 5 (playgroups).

¹ Interviews done by a nutritionist.

² A questionnaire.

³ At the beginning, 14 playgroups started. One playgroup left the program during the first months. Three of the playgroups are part of the Muki-Deutsch-Kurse.

2. Central aims of the program component on nutrition

The program component on nutrition was organized around five central aims (see Appendix 1). These are discussed below. All in all, it has to be stated that already at pre-test the day-care centers and playgroups were on good track to reach the fixed aims.

2.1. Self-confidence in handling nutritional issues

One of the aims of the component on nutrition was to give key information to the educators and so to increase their confidence in handling nutritional issues. At post-test, two of the heads of the day-care centers felt rather confident in handling the nutrition topic, the other three felt very confident; the respective numbers in the playgroups were eight (rather confident) and five (very confident).

2.2 Good habits around meals

One of the key issues of the program component on nutrition concerned eating habits and was threefold: 1) the children should eat regularly together with the adults; 2) eating should be accompanied by rituals, and 3) all this should happen while considering the different cultural backgrounds of the children.

1. At pre-test, in all day-care centers and in 12 of the 13 playgroups the children were used to sit at the table while eating (in one playgroup the children ate sitting in a circle, which is rather common in playgroups). The staff in all day-care centers and in 12 of the 13 playgroups ate together with the children. Because the results were nearly a 100% already at pre-test, we did not ask questions about this issue at post-test.
2. In both types of institutions the staff worked with plenty of rituals. There was only one playgroup at pre-test in which rituals were not used. At post-test new rituals had been introduced in two day-care centers (e.g. the kindergarten children played about 15 minutes in the garden and ate subsequently in the common room) and in three playgroups (e.g. the educator called out the color or the motive on the lunchbox - "Znünitäschli" - and the children called out the name of the corresponding owner).
3. In all day-care centers, the cultural background of the children was taken into consideration already at pre-test, at least to some extent. In the playgroups the picture was somewhat different. At post-test, there were still six playgroup educators who did not consider the cultural issue. This means that nearly half of the playgroups did not reach this special goal (even though we know from the program component on motor development that the children in the playgroups come from many different cultural backgrounds).

2.3 Facilitating children's experience with different foods and knowledge about nutrition

Another aim of the program component on nutrition is that children should get to know a variety of different foods (1) and that they are taught general knowledge about nutrition and healthy teeth (2).

1. Three playgroup educators did not pay attention to the issue of children's experience with a variety of different food, at pre-test. The good news is that these playgroups did consider this issue at post-test. Even if most institutions had tried out many different ways for children to learn about new food already at pre-test, educators in three day-care centers had tried out new ways of learning to know a variety of foods at post-test (e.g. the children learned about the nutritional pyramid; the children went to the market and after that sampled the bought food). Also, nearly all playgroup educators (= 10) had tried out new ways at post-test (e.g. exchange of snack - „Znüni“; offer exotic fruits; use different ways to prepare the food).
2. At post-test all day-care centers had discussed topics on nutrition and healthy teeth with the children (e.g. the children performed a play at the parents' meeting, they used books, games and posters). In seven of the playgroups, educators had discussed both topics at post-test, in four playgroups only the issue of nutrition had been addressed. In the remaining two playgroups none of the topics had been addressed. That is, in the playgroups the goal was only partly reached. The fact that educators in four playgroups did not apply new materials concerning these topics points in the same direction. All the others (also all heads of the day-care centers) evaluated the new materials as being at least “rather sensible” (they worked especially with new books and games).

2.4 Activities around food – preparing meals

A further aim of the program component on nutrition was that children should be involved in activities around the preparation of meals. Already at pre-test, the children in all day-care centers were involved in the preparation of food. This opportunity was also given in all but one of the playgroups at both pre- and post-test. At post-test, educators in two day-care centers and in four playgroups tried out new ways to include the children in the preparation of food (e.g. prepare the table; cooking together; cutting fruits together).

2.5 Healthy drinking habits

A very important message of the program component on nutrition was to offer the children (only) tap water to drink. The criterion that should have been reached was fixed at 90%. That is, ninety per cent of all institutions should only offer tap water for drinking. We already noticed in a preliminary report, that all day-care centers and most of the playgroups were offering tap water already at pre-test (see Table 1⁴ for the actualized data). The good news is that at post-test also all playgroups offered tap water and none of them offered syrup anymore (pre-test: 3 nominations for syrup).⁵ Beside this, unsweetened tea was still very popular in the day-care centers (unsweetened tea is less often offered in the playgroups; 3 nominations only). None of the day-care centers offered only tap water; nine playgroups or 69% offered only tap water at post-test. It may be that the criterion that was set (90%) is too high, as unsweetened tea and mineral water also belong to the recommended drinks. At post-test, only one playgroup offered sweetened tea, a drink that is not recommended at all.

Table 1. Drinks staff of the day-care centers and the playgroups offered to the children (multiple nominations possible).

	Day-care centers				Playgroups			
	Pre-test		Post-test		Pre-test		Post-test	
	n	%	n	%	n	%	n	%
Tap water	5	100.00	5	100.00	10	83.33	13	100.00
Mineral water	0	0.00	0	0.00	1	8.33	0	0.00
Unsweetened tea	4	80.00	5	100.00	3	25.00	3	23.08
Sweetened tea	0	0.00	0	0.00	0	0.00	1	7.69
Syrup	0	0.00	0	00.00	3	25.00	0	0.00
N	5		5		12		13	

Before we present the results from the parents' meetings (including information about what the children drink at home), we first show data from those playgroups where the children were allowed to bring along their own drinks. At pre-test, this was only the case in three of the playgroups. The children in these three playgroups brought along tap water (nominations in two playgroups), sweetened tea (2), sweet drinks (2), syrup (2), and unsweetened tea (1).

⁴ Milk and fruit juice are kinds of food (information by Dr. med. A. Tschumper). Therefore they are not discussed here.

⁵ At no time, no institution offered sweet drinks and calory reduced soft-drinks.

Surprisingly, at post-test the number of playgroups allowing children to bring their own drinks had increased up to four playgroups. Unsweetened tea was reported in three playgroups, sweetened tea in two playgroups, and finally tap water, mineral water, sweet drinks and calorie reduced soft-drinks were reported in one playgroup each. From this perspective, it seems that the parents of these playgroups were not more sensitized at post-test than at pre-test.

► **Conclusions:** It seems that already before the program component on nutrition started, the educators in day-care centers were more sensitized to topics on nutrition and health than those in the playgroups. As the topics offered within the course were the same in both types of institutions, the question has to be raised whether the inputs were sufficient for the playgroups and/or the time of the implementation was too short for them, or if they would need some specific coaching.

As drinks brought from home too often belong to “not-recommended” categories, the question should be raised, whether children in playgroups should be allowed to bring drinks from home or not.

3. Work with parents

The institutions had chosen different ways to inform parents about the topic of nutrition. All day-care centers and all playgroups carried out different forms of parents’ meetings (e.g. a meeting in the evening, a snack with the parents in the morning or in the afternoon, an information-desk). One of the day-care centers and two of the playgroups had gotten help from a nutritionist. At all of these meetings, parents were informed about five key messages of the program component on nutrition: 1) to eat together with an adult, 2) to eat regularly, 3) to get to know a variety of different foods, 4) adults decide what to eat – children decide how much, and 5) drinking tap water is healthy. Additionally, four of the day-care centers carried out one-to-one conversations with parents about nutrition (e.g. a staff member spoke with a mother because her child did not drink enough in the day-care center). The number of these conversations per day-care center varied from a minimum of 3, to a maximum of 12. Also in seven of the 13 playgroups educators had carried out such one-to-one conversations. In one day-care center and one playgroup there were some information about the topic displayed on the notice-board. And finally, one playgroup educator held a cooking-course for parents.

3.1 Participation rate at the parents' meetings

► Excursus: We asked the heads of the day-care centers and the playgroup educators what they had chosen to do to motivate parents to join the meetings. Most of the heads of the day-care centers verbally informed the parents about the meeting and focused especially on their motivation to join in. Answers from the playgroup educators did not result in a clear pattern (e.g. general information about the project primano, written information about nutrition ahead, information about the presence of a nutritionist and translators).

One day-care center had to be excluded from this part of the analyses reported below, because a parent meeting had been offered to parents from only one of the different groups in the institution⁶. Furthermore, one playgroup had to be excluded from the analyses because the questionnaire about the participation rate of the parents was not correctly filled in by the playgroup educator. Finally, in the three participating “Muki-Deutsch-Spielgruppen”, the topic nutrition was discussed directly with the mothers in the German language courses, therefore their participation rate was 100%; this figure would distort the average participation rate. Therefore, the participation rate of this special group is not included. The other data from the parents' questionnaire of the mentioned day-care center and playgroups are included in other analyses (see chapters 3.2 and 3.3).

The difference between parents' participation rate at the parents' meetings in the day-care centers and in the playgroups is much lower than the participation rate obtained within the scope of the program component on motor development (see Reporting September 08). The span in the day-care centers was between 16% and 57%, in the playgroups between 25% and 100%⁷ (motor development: day-care centers: 29% to 52%; playgroups: 63% to 88%). This time, the variation (minima to maxima) is larger in both types of institutions. With a mean of 63.29 ($SD = 25.41$) the participation rate in the playgroups reached the criterion that was defined in the evaluation concept (60%; see Appendix 1).⁸ The day-care centers did not reach this goal ($M = 45.90$, $SD = 20.08$). It is important to point out, that three of the day-care centers nearly reached the goal, whereas one institution had a very low participation rate of 16%⁹. For gendered data see Table 2.

⁶ The day-care center as a whole informed the parents at an information-desk while bringing and fetching their child.

⁷ In two playgroups at least one person per family took part.

⁸ For of the nine playgroups were under this criterion.

⁹ According to the head, there were two other special meetings for parents in the same quarter of the year.

Table 2. Participation rate at the parents' meeting by gender.

		Overall participation rate	Mothers' participation rate	Fathers' participation rate
Day-care centers	N	4	4	4
	Mean	45.90	37.03	17.06
	Standard Deviation	20.08	16.10	12.77
	Minimum	15.79	13.68	2.11
	Maximum	56.67	50.00	30.00
Playgroups	N	9	9	9
	Mean	63.29	59.45	13.41
	Standard Deviation	25.41	28.24	12.40
	Minimum	25.00	25.00	0.00
	Maximum	100.00	100.00	30.00

As we wanted to find out more on possible reasons that hinder parents to participate in the parents' meetings, and how to motivate parents to participate, we asked the staff to record how many families participated, according to their cultural background. That is, first the staff indicated how many families from different backgrounds were represented in the institutions and then how many of them participated at the parents' meetings. As one can see in Table 3, in the day-care centers, no cultural-group reached the goal of 60%. In the playgroups, beside the Swiss families also the families from Asia (first of all Tamil speaking persons) and families from Middle East or Africa excelled the goal. Furthermore, also in all other cultural groups the percentage of parents who participated in the meetings was over 50. This again indicates that parents in playgroups were more eager to participate than parents in day-care centers, and that we do not have strong reasons to believe that cultural differences played a major role for participation in the meetings.

Table 3. Participation rate at the parents' meeting by origin.

	Day-care centers			Playgroups		
	Total number of families	Participating families number	percent	Total number of families	Participating families number	percent
Switzerland	99	38	38.38	30	20	66.67
Switzerland and another country	46	21	45.65	11	6	54.55
Northern, Central or Southern Europe	26	9	34.62	17	9	52.94
Eastern Europe or the Balkans	7	4	57.14	29	17	58.62
USA, Canada or Australia	6	1	16.67	0		
Central or South America	10	2	20.00	2	1	50.00
Asia	8	3	37.50	27	21	77.78
Middle East, North Africa or sub-Saharan Africa	13	4	30.77	9	7	77.78

In the report of September 2008 we stated that on the basis of the staff's protocols, it is not entirely clear that parents prefer the events taking place in the morning. Analyzing the nutrition data (day-care centers and playgroups together), the picture gets clearer even though there is no statistical significance (small sample, big variation). It is important to present the results separately by gender as the patterns are somewhat different for mothers and fathers. Mothers' participation rate was highest when meetings were held in the morning ($M = 68.19$; $SD = 26.56$; see Table 4 for more detailed information) and lowest in the evening ($M = 32.74$, $SD = 15.75$), and not surprisingly, fathers' highest participation rate was in the evening ($M = 17.62$, $SD = 13.28$)¹⁰. It seems that mothers enabled fathers to take part in the evening while looking after the child(ren) themselves. As already noticed in the program component on motor development, fathers were again clearly underrepresented.

¹⁰ Without considering the participation rate at a Saturday morning (only one event).

Table 4. Participation rate at the parents' meeting by gender and time.

		N	Total		Mothers		Fathers	
			Mean	SD	Mean	SD	Mean	SD
Total	On a work-day in the morning	4	72.30	22.52	68.19	26.56	9.03	6.68
	On a work-day in the afternoon	4	57.64	31.21	54.86	31.94	13.07	15.12
	On a work-day in the evening	4	43.37	19.07	32.74	15.75	17.62	13.28
	On a Saturday morning	1	60.00	-	60.00	-	30.00	-
Day-care centers	On a work-day in the morning	0			No event			
	On a work-day in the afternoon	1	55.56	-	44.44	-	25.00	-
	On a work-day in the evening	3	42.67	23.29	34.56	18.76	14.41	14.23
	On a Saturday morning	0			No event			
Playgroups	On a work-day in the morning	4	72.30	22.52	68.19	26.56	9.03	6.68
	On a work-day in the afternoon	3	58.33	38.19	58.33	38.19	9.09	15.74
	On a work-day in the evening	1	45.45	-	27.27	-	27.27	-
	On a Saturday morning	1	60.00	-	60.00	-	30.00	-

► **Implication:** In terms of the participation rate of the playgroup parents, it is essential to define the target group: whom do the playgroup educators want to arrange the meeting for: mothers, fathers or both. If the meeting takes place on a work-day in the morning or in the afternoon, the chance is high that the mothers attend, if the playgroups want to boost the rate of participating fathers, they should offer a meeting in the evening (with the risk of "losing" some mothers). If they want to reach fathers and mothers, Saturday will be the most successful day, including the children (and sisters and brothers).

3.2. Parents' evaluation of the meeting

According to the educators of the playgroups and the heads of the day-care centers, the event did make sense for the parents. The positive picture still remains when analyzing the parents' answers in the questionnaires (see Appendix 6). They show that both day-care centers and playgroups reached the other two criteria that refer to the parents' meeting: High percentages of the day-care (84.62%) and the playgroup parents (89.90%) had learned at least "a few things" (fixed criterion: 70%)¹¹; in this respect parents of the playgroups stated that they had learned more new things at the meeting than parents of children in day-care centers, $t(162) = 4.102, p < .001$.

¹¹ e.g. what kind of food is healthy (e.g. fruits, vegetables); to try unknown food again and again (20 times); "Handportionen"

Many parents also reported having taken home a new idea about something they could try with their child (fixed criterion: 70%; day-care parents: 70.31%; playgroup parents: 78.35%).¹² 95% of the day-care center parents would recommend the meeting to other parents, the respective number of the playgroup parents was 93%.

3.3 Drinking habits of the children

Finally, the parents were asked to recall what their child had drunk on the day before the meeting (“yesterday”). We present the answers as follows (see Table 5; for data about the single drinks see also Appendix 6¹³): 1) consumption of tap water, 2) consumption of recommended drinks¹⁴ and 3) consumption of not recommended drinks¹⁵. A central issue here is to examine whether the percentage of children who drink recommended drinks at home increased from pre-test to post-test, and inversely, whether the percentage of not recommended drinks had decreased. Because of organizational considerations, pre- and post-test data on this issue are only available for the playgroup children.

- 1) It is very satisfying that already at pre-test 80% of the day-care children drank tap water at home ($N_{\text{total}} = 66$), the percentage for the playgroup children was 61% ($N_{\text{total}} = 88$). Statistically speaking, more day-care children than expected and less playgroup children than expected drank tap water at pre-test, $\chi^2(1) = 6.380$, $p = .012$ (*Adj. Res.* = 2.5). The difference between the percentages of playgroup children who drank tap water at home from pretest to post-test was minimal (and not significant). At post-test, 64% of the parents stated that their child had drunk tap water “yesterday”. At this point, it is important to notice that not all parents who filled in the post-test questionnaire had joined the parents’ meeting. We have some indications that in the playgroups with higher participation rates more children drank tap water at home. Another thing we should remember is that in many countries of the world people are not allowed to drink tap water because the consumption poses a potential health threat, or that it is not exactly pleasurable to drink tap water. These are facts that probably hinder at least some parents to offer tap water to their child.

¹² e.g. attractive presentation of fruits and vegetables, to include the children in the preparation of meals, to let the children try unknown food again and again.

¹³ From one playgroup we have no post-test questionnaires; from one playgroup we have neither the pre-test nor the post-test questionnaires.

¹⁴ Tap water, mineral water and unsweetened tea.

¹⁵ Sweetened tea, sweet drinks, calorie reduced soft-drinks and syrup.

- 2) At pre-test, day-care children ($M = 1.39, SD = .70$)¹⁶ drank more recommended drinks than playgroup children ($M = 1.11, SD = .56$)¹⁷, $t(152) = 2.772, p = .006$. At post-test, the playgroup children drank only a little more recommended drinks than at pre-test ($M = 1.20, SD = .64$). Again, the difference is not significant.
- 3) As regards not recommended drinks, the difference at pre-test between day-care children and playgroup children was small (day-care: $M = .29, SD = .55$ ¹⁸; playgroups: $M = .41, SD = .62$ ¹⁹). Here, the bad news is that on average the non-recommended drinks consumed by the playgroup children significantly increased from pre-test to post-test ($M = .61, SD = .81; t(201) = -1.917, p = .05$). However, it is important to note that on average the intake of recommended drinks was significantly higher than the mean of the drinks that are not recommended ($p < .001$).

Table 5. Consumption of tap water, recommended drinks and drinks that are not recommended.

	Tap water			Recommended drinks			Not recommended drinks			
		n	%	Quantity	n	%	Quantity	n	%	
Day-care centers (N = 66)	No	13	19.70	0	4	6.06	0	50	75.76	
		53	80.30	1	36	54.55	1	13	19.70	
	Yes			2	22	33.33	2	3	4.55	
				3	4	6.06	3	0	0.00	
							4	0	0.00	
Playgroups (N = 88)	Pre-test	No	n	%	Quantity	n	%	Quantity	n	%
			34	38.64	0	8	9.09	0	57	64.77
	Yes	54	61.36	1	63	71.59	1	27	30.68	
				2	16	18.18	2	3	3.41	
				3	1	1.14	3	1	1.14	
							4	0	0.00	
	Post-test	No	n	%	Quantity	n	%	Quantity	n	%
			41	35.65	0	10	8.70	0	64	55.65
		Yes	74	64.35	1	76	66.09	1	36	31.30
					2	25	21.74	2	12	10.43
				3	4	3.48	3	2	1.74	
							4	1	0.87	

¹⁶ Four children (6%) did not drink one recommended drink at pre-test.

¹⁷ Eight children (9%) did not drink one recommended drink at pre-test (post-test: 10 respective 9%).

¹⁸ It's very positive to notice that 50 children or 76% did not drink a not recommended drink!

¹⁹ In the playgroups there were 57 respective 65% of the children who did not drink a not recommended drink at pre-test (post-test: 64 respective 56%).

► **Conclusion:** All in all, these results show that the families of the day-care children are somewhat more sensitized to this topic than the families of the playgroup children (at pre-test). On the one hand, it is satisfying to notice that the proportion of playgroup children who drank tap water was maintained from pre- to post-test. However there was no significant increase of recommended drinks and nominations for not recommended drinks had statistically increased from pre-test to post-test. These results show that there was not enough positive change concerning what children drink. Especially in families of playgroup children intensive work seems to be needed.

3.4 Evaluations by the staff of the parents' meeting

After the parents' meeting, the educators of the playgroups and the heads of the day-care centers filled in a protocol-booklet about the meeting (for detailed information see Appendix 7). All in all, the meetings were a positive experience for the educators. Only one head of a day-care center was not satisfied with the participation of the parents²⁰, the other four were at least "rather satisfied". Two playgroup educators were not satisfied with the participation of the parents, too. Not surprisingly, the educators of the playgroups with higher participation rates (between 70 and 100%) were very satisfied with the participation of the parents. All of the heads of the day-care centers and all playgroup educators indicated that the meeting was at least "rather sensible".

4. The staff's evaluation and implementation of the program component on nutrition

4.1 The course

As already mentioned, the project offered one course²¹ concerning nutrition for the day-care centers and one for the playgroups. The topics discussed were the same. 19 persons joined the meeting for the day-care centers (three of them were cooks), and 12 for the playgroups²². All in all, the feedback about this event was very positive. All participants thought that the course was "rather good" or "very good" and all but one would recommend the course to a colleague. Please consult Appendix 8 for the detailed results.

²⁰ Not surprisingly, the head of the institution with the lowest participation rate was least satisfied.

²¹ Three hours for the playgroups, two for the day-care centers.

²² Two persons got a one-to-one instruction.

At post-test, the satisfaction of playgroup educators was rather high in regards to the usefulness of the course on nutrition ($N = 11$; $M = 4.73$; $SD = .65$; scale from one to six; 1 not at all useful, 6 very useful). The two heads of the day-care centers that joined this course²³ gave at least a five. Most of the staff had benefited from the course (e.g. rule of thumbs about quantity, healthy eating pyramid, tap-water = drinking water).

4.2 Implementation

Due to the experiences with the log-booklets regarding the program component on motor development, the log-booklet was revised and simplified. This time, all institutions filled in the log-booklet. The number of topics that were mentioned as actually implemented by the educators varied. The mean in the playgroups was 7 (minimum: 4; maximum: 14), the mean in the day-care centers²⁴ was 4.88 (minimum: 1, maximum: 7). In the 13 playgroups, the topics most often mentioned were offering fruits and vegetables (6 nominations), water-bar (5), games regarding nutrition (5) and including the children in preparing the meals (4). In the 17 groups of the five participating day-care centers the most frequently mentioned topics were again including the children in preparing the meals (10 nominations), baking (8) and making a fire outside and cooking a meal over the fire (4).

At post-test, three of the five day-care centers and 11 of the 13 playgroups indicated that they have implemented something new in the daily work with the children (e.g. rule of thumbs about quantity, water-bar, to offer more fruits and raw vegetables for snacks) as a consequence of the course they received. All day-care centers and nine of the playgroups (= 69%) have used new materials concerning nutrition, mainly books and games. All educators indicated, that the new materials were useful. And finally, after the program component on nutrition, three of the day-care center heads felt "very confident" with the topic, two "rather confident"; the respective numbers in the playgroups were five (very confident) and eight (rather confident).

► **Conclusion:** These results show that the program component on nutrition had an impact on all educators and that the materials that were used were appealing to adults and children. Consequently, the cost-benefit balance seems rather positive.

²³ In the other three day-care centers, not the heads themselves but staff-members joined the course.

²⁴ From 17 groups we got the log-booklet back.

4.3 Sustainability

In a retrospective view, the satisfaction was high in regards to the usefulness of the program component on nutrition as seen by the heads of the day-care centers and playgroup educators. All three heads of the day-care centers that answered this question²⁵, gave a six on a scale from 1 to 6 (1 = not at all useful, 6 = very useful); the mean of the nine playgroup educators of whom we have answers about sustainability was 5.11 ($SD = .60$).

The staff was asked about the implementation of the five key messages in the daily work with the children during the school-year 08/09. All of the playgroup educators implemented the messages “eat with an adult” and “drinking water is healthy” at least once a week. Seven of them also implemented the messages “eat regularly” and “knowledge about a variety of different foods” and six of them the message “adults decide what to eat – children decide how much” at least weekly. In the day-care centers, the frequencies of the implementation of these five key messages were with one exception at least once a week. For detailed information see Appendix 9 (playgroups). Less positive is the fact that in the playgroups, the five key messages were a rather rare topic in the work with parents in the last school-year. Two third of the playgroup educators did talk about them only a few times (exception: drinking water is healthy). The frequencies in the day-care centers were somewhat higher (see Appendix 10). Finally, only a third of the playgroup educators have plans for new activities concerning the topic nutrition. In the day-care centers the respective number is zero.

► **Conclusion:** These results show that the playgroup educators attach more importance to the work with the children than to the work with the parents. Apparently, more direct work with parents is needed to change families' habits.

5. Main findings of the evaluation and final conclusions

Already before the program component on nutrition started, the involved day-care centers were already sensitized to the issues of nutrition and health. Unfortunately, although all playgroup educators took part in a three-hours-course (or an equivalence) some of them were not as much sensitized to the main issues of the program as expected after the course (e.g. considering the cultural background of the children, healthy drinking habits).

²⁵ One head did not answer this question, and one head was not contacted because this day-care center does not participate in the project anymore.

The input given in this module was very small: a two-hours-course for the day-care centers, a three-hours-course for the playgroups. The topics of the courses were the same in both types of institutions. The implementation time was also very short (September to November). On this ground, the overall results are rather satisfying, showing that a very short input – followed up with questionnaires – already has some impact. However, if the goals have to be reached, as they were formulated by the project directors, the question has to be raised whether the input was sufficient for the playgroups and/or if the time of the implementation should be accompanied by some specific coaching.

The average participation rate at the parents' meetings in the playgroups (more than 60%) was highly satisfying. However, when habits in most of the children's families should have to be changed, a higher participation rate would be needed. Even though most of the participating parents had learned at least a few new things about nutrition and could take home a new idea to try out with their child, the implementation of the key message about healthy drinking habits was generally rather disappointing. The proportion of playgroup children who drank tap water was maintained from pre-test to post-test, but it was rather low in the playgroups. Furthermore, nominations for not recommended drinks had significantly increased from pre-test to post-test. All in all, the data showed, that more direct work with parents would be needed to change families' habits.

The cost-benefit balance was positive in regards to educators who seemed to have introduced new rituals, new ideas, etc. This is very positive, because it changes children's nutrition habits in the institutions and because changes in educators' behavior can be expected to have a positive effect on children who attend these playgroups in the future (durable change). On the parents' side, the balance is not as positive as expected. As noted above, it seems to need much more work to change families' habits. Some parents may have very little knowledge about nutrition and thus are not able to benefit from the information given on a single parents' meeting. Furthermore, all families today are confronted with the so-called inverse nutrition pyramid propagated by advertising firms. Given the positive feedback from parents after the meeting, we would recommend to work more intensively with parents (who in fact seem to be interested in such information) and specifically give them means to resist the often misleading messages from the food industry, and enable them to find their way in the jungle of messages propagated in the media and on internet. Therefore, given the overload of information in the media, the way chosen by the primano staff using only a few key messages seems to be very adequate. We recommend to maintain this strategy in future prevention work.