

Post-Recovery Relapse of Children Treated with a Simplified, Combined Nutrition Treatment Protocol in Mali: A Prospective Cohort Study

Table S1. Cumulative incidence and incidence rate of relapse to MUAC <115 mm and/or edema

	MUAC and edema status at admission to treatment					
	MUAC <125 mm and/or edema		MUAC <115 mm and/or edema		MUAC 115 mm to MUAC <125 mm	
	n/N	% [95%CI]	n/N	% [95%CI]	n/N	% [95%CI]
Cumulative incidence over the 6 months follow-up						
All children enrolled	6 / 389	1.5 [0.6 ; 3.3]	4 / 103	3.9 [1.1 ; 9.6]	2 / 286	0.7 [0.1 ; 2.5]
Non-drop outs	6 / 355	1.7 [0.6 ; 3.6]	4 / 94	4.3 [1.2 ; 10.5]	2 / 261	0.8 [0.1 ; 2.7]
Incidence rates (per 100 child-months)						
First 3 months	5 / 1136	0.4 [0.2 ; 1.1]	3 / 305	1.0 [0.3 ; 3.0]	2 / 830	0.2 [0.1 ; 1.0]
Latter 3 months	1 / 909	0.1 [0.0 ; 0.8]	7 / 235	0.4 [0.1 ; 3.0]	0 / 674	
Full 6 months	6 / 2045	0.3 [0.1 ; 0.7]	4 / 540	0.7 [0.3 ; 2.0]	2 / 1505	0.1 [0.0 ; 0.5]

Table S2. Associations of different characteristics (as categorical variables) with the 6-month incidence of relapse among children discharged as recovered following treatment with the simplified protocol in 10 randomly selected health areas of the Nara district in Mali

					Unadjusted		Sex and age adjusted	
					HR [95%CI]	p-value	HR [95%CI]	p-value
1. Demographic and admission characteristics to malnutrition treatment								
Sex	Yes, n	No, n	Proportion, %	FU time (months)				
Female	51	167	23.4%	4.8	Ref		Ref	
Male	48	154	23.8%	4.9	1.01 [0.68 ; 1.50]	0.969	0.98 [0.66 ; 1.46]	0.911
Age category								
≥24mo	6	56	9.7%	5.2	Ref		Ref	
<24m	93	265	26.0%	4.8	2.85 [1.24 ; 6.52]	0.013	1.20 [0.43 ; 3.37]	0.731
WAZ category								
≥-3	54	177	23.4%	4.8	Ref		Ref	
<-3	45	144	23.8%	4.9	1.04 [0.69 ; 1.56]	0.850	1.41 [0.92 ; 2.17]	0.118
WHZ category								
≥-3	45	141	24.2%	4.7	Ref		Ref	
<-3	24	60	28.6%	4.6	1.18 [0.73 ; 1.91]	0.497	1.35 [0.83 ; 2.21]	0.228
HAZ category								
≥-3	51	148	25.6%	4.7	Ref		Ref	
<-3	18	53	25.4%	4.7	1.10 [0.69 ; 1.75]	0.688	1.49 [0.92 ; 2.42]	0.106
MUAC category								
≥115 <125mm	73	235	23.7%	4.9	Ref		Ref	
<115mm	26	86	23.2%	4.8	1.14 [0.72 ; 1.82]	0.568	1.17 [0.74 ; 1.85]	0.511
Treatment level								
health center	69	203	25%	4.7	Ref		Ref	
community health site	30	118	20%	5.2	0.67 [0.42 ; 1.06]	0.090	0.73 [0.46 ; 1.17]	0.192
2. Characteristics at discharge recovered from treatment								
WAZ category								

≥-3	82	282	22.5%	4.9	Ref		Ref	
<-3	16	33	32.7%	4.4	1.70 [0.99 ; 2.94]	0.056	3.09 [1.69 ; 5.62]	<0.001
WHZ category								
≥-2	66	208	24.1%	4.8	Ref		Ref	
<-2	16	36	30.8%	4.5	1.39 [0.84 ; 2.29]	0.199	1.67 [1.00 ; 2.79]	0.052
HAZ category								
≥-3	59	182	24.5%	4.8	Ref		Ref	
<-3	23	63	26.7%	4.7	1.28 [0.83 ; 1.99]	0.26	1.76 [1.11 ; 2.78]	0.016
MUAC category								
≥130mm	14	118	10.6%	5.3	Ref		Ref	
<130mm	85	203	29.5%	4.7	3.21 [1.82 ; 5.68]	<0.001	2.90 [1.63 ; 5.14]	<0.001
Availability of a vaccination card at enrol- ment								
Yes	34	129	20.9%	5.0	Ref		Ref	
No	65	192	25.3%	4.8	1.25 [0.81 ; 1.93]	0.31	1.57 [1.01 ; 2.45]	0.047
Child's vaccine status is up to date at enrol- ment								
Yes	20	67	23.0%	4.7	Ref		Ref	
No	14	62	18.4%	5.4	0.69 [0.32 ; 1.46]	0.33	0.73 [0.34 ; 1.56]	0.42
Length of stay above median (=39d)								
No	39	171	18.6%	5.0	Ref		Ref	
Yes	60	150	28.6%	4.7	1.86 [1.22 ; 2.82]	0.004	1.83 [1.21 ; 2.78]	0.005
3. Socio-economic characteristics collected at first home visit								
Larger than average (n=21) household size								
No	30	127	19.1%	5.0	Ref		Ref	
Yes	69	194	26.2%	4.8	1.52 [0.96 ; 2.41]	0.072	1.49 [0.94 ; 2.37]	0.089
More than 5 children U5 in the household								
No	31	120	20.5%	5.0	Ref		Ref	
Yes	68	201	25.3%	4.8	1.25 [0.79 ; 1.97]	0.34	1.33 [0.85 ; 2.10]	0.22

Main source of income is from agriculture									
Yes	71	265	21.1%	5.1	Ref		Ref		
No	26	51	33.8%	4.4	1.84 [1.14 ; 2.95]	0.012	1.76 [1.09 ; 2.84]		0.020
Caregiver has other occupation that housewife duties									
Yes	22	87	20.2%	5.0	Ref		Ref		
No	75	229	24.7%	4.9	0.98 [0.55 ; 1.74]	0.94	1.03 [0.58 ; 1.83]		0.93
Household uses an improved water source									
Yes	61	220	21.7%	5.0	Ref		Ref		
No	36	96	27.3%	4.8	1.96 [1.14 ; 3.36]	0.015	1.93 [1.16 ; 3.20]		0.012
Household uses a product to treat drinking water									
Yes	84	257	24.6%	5.0	Ref		Ref		
No	13	59	18.1%	4.9	1.39 [0.76 ; 2.57]	0.29	1.58 [0.85 ; 2.91]		0.146
Household uses a latrine									
Yes	59	165	26.3%	4.8	Ref		Ref		
No	38	151	20.1%	5.1	0.76 [0.49 ; 1.20]	0.24	0.80 [0.51 ; 1.26]		0.34
Child appears unclean									
No	74	227	24.6%	4.9	Ref		Ref		
Yes	25	89	21.9%	4.9	1.00 [0.60 ; 1.67]	0.99	1.23 [0.74 ; 2.05]		0.43
Little or no hunger in household									
Yes	83	300	21.7%	5.1	Ref		Ref		
No	6	7	46.2%	4.3	2.47 [1.05 ; 5.77]	0.037	2.22 [0.95 ; 5.18]		0.066
4. Dietary habits collected at first home visit									
Breastfeeding									
No	29	142	28.7%	5.1	Ref		Ref		
Yes	70	174	17.0%	4.8	1.73 [1.12 ; 2.68]	0.014	0.92 [0.52 ; 1.64]		0.78
Attained MDD									
Yes	0	4	0%	6.0	Ref		Ref		
No	83	217	28.0%	4.8	NA		NA		
Attained MDF									

Yes	43	92	31.9%	4.7	Ref		Ref	
No	40	129	23.7%	4.9	0.70 [0.44 ; 1.12]	0.136	0.80 [0.49 ; 1.30]	0.37
5. Morbidity during follow-up								
Above average total number of sick days during follow-up								
No (≤15)	54	183	22.8%	4.6	Ref		Ref	
Yes (>15)	45	138	24.6%	5.3	0.85 [0.56 ; 1.30]	0.46	0.76 [0.50 ; 1.16]	0.20
Above average (>3.5) number of sick days per month of follow-up								
No (≤3.5)	23	243	8.7%	5.3	Ref		Ref	
Yes (>3.5)	76	78	49.4%	4.0	8.38 [5.14 ; 13.66]	<0.001	7.57 [4.62 ; 12.42]	<0.001
Child sick at least once during follow-up								
No	96	302	24.1%	5.0	Ref		Ref	
Yes	3	14	17.7%	2.7	1.30 [0.40 ; 4.18]	0.66	1.28 [0.40 ; 4.16]	0.68
Caregiver sought formal care when the child was sick								
Yes	75	263	22.2%	5.0	Ref		Ref	
No	21	39	35.0%	5.0	1.29 [0.76 ; 2.19]	0.35	1.16 [0.68 ; 1.95]	0.59
6. Changes in the household level during follow-up								
Income has decreased during follow-up								
No	76	255	23.0%	5.0	Ref		Ref	
Yes	16	55	22.5%	5.4	0.65 [0.35 ; 1.20]	0.167	0.69 [0.37 ; 1.28]	0.24
Increase in caregivers activities during follow-up								
No	71	223	24.2%	4.9	Ref		Ref	
Yes	21	87	19.4%	5.6	0.33 [0.18 ; 0.58]	<0.001	0.32 [0.18 ; 0.57]	<0.001
Increase in hunger during the follow-up								
No	89	301	22.8%	5.1	Ref		Ref	
Yes	3	9	25.0%	5.2	2.78 [0.66 ; 11.78]	0.164	3.60 [0.82 ; 15.72]	0.089

* only adjusted for sex

Abbreviations: FU, follow-up; HAZ, height-for-age z-score; HR, hazard ratio; MDD, minimum dietary diversity; MDF, minimum dietary frequency; MUAC, mid-upper arm circumference; U5, under 5 years of age; WAZ, weight-for-age z-score; WHZ, weight-for-height z-score.

