

List of tables

Table 1: Association of child background characteristics to treatment outcomes among SAM children admitted for therapeutic feeding at QECH from 2017 to 2020

Characteristic	Category	Died n=77(%)	(Discharged alive) n=291(%)	Defaulted n=9 (%)	Transferred out to OTP n=282 (%)	χ^2	P value
Age	<6 months	0(0)	0(0)	0(0)	0(0)	3.25	0.2
	6-<24 months	54(70)	188 (65)	8(89)	180(64)		
	24-59 months	23 (30)	103(35)	1(11)	102(36)		
Gender	male	41(53)	163(56)	5(56)	158(56)	0.19	0.91
	Female	36(47)	128(44)	4(44)	124(44)		
Residence category	Rural	26 (34)	114(39)	5(56)	109(39)	1.99	0.74
	Semi urban	49(64)	169(58)	4(44)	165(58)		
	Urban	2(2)	8(3)	0	8(3)		
Primary care taker	Mother	32(42)	98(34)	3(33)	95(34)	2.29	0.68
	Father	0(0)	0(0)	0(0)	0(0)		
	both father& mother	43(56)	181(62)	6(67)	175(62)		
	Other	2(2)	12(4)	0	12(4)		
Breastfeeding status on admission	Exclusive	0(0)	0(0)	0(0)	0(0)	23.29	0.001**
	complementary bottle feeding	25(32)	127(44)	5(56)	122(43)		
	Stopped	1(1)	2(1)	0	2(1)		
	Unknown	39(51)	155(53)	4(44)	151(54)		
Immunisation status	Complete	12(16)	7(2)	0(0)	7(2)	6.16	0.41
	Complete	36(47)	161(55)	3(33)	158(56)		
	up to date	11(14)	29(10)	1(11)	28(10)		
	Incomplete	16(21)	63(22)	4(44)	59(21)		
Admission category	Unknown	14(18)	38(13)	1(11)	37(13)	2.211	0.331
	New	62(81)	244(84)	9(100)	235(83)		
	Readmission	15(19)	47(16)	0(0)	47(17)		
Type of SAM	Kwashiorkor	9(12)	45(15)	0(0)	45(16)	5.908	0.206
	Marasmus	45(58)	171(59)	4(44)	167(59)		
	Marasmic kwashiorkor	23(30)	75(28)	5(56)	70(25)		

Table 2: Admission anthropometric and clinical characteristics of SAM children by treatment outcomes amongst SAM children admitted for therapeutic feeding at QECH from 2017 to 2020

Characteristic	Category	Died n =77(%)	Live Discharges N=291(%)	Defaulted n=9(%)	OTP transfer n=282(%)	χ^2	P value
Admission WHZ/WLZ	≤ -3	56 (73)	200(72)	6(67)	194(69)	1.999	0.37
	> -3	14(18)	78(28)	3(33)	75 (26)		
MUAC	≤ 11.5	57(74)	188(65)	7(78)	181(64)	3.153	0.21
	>11.5	20(26)	103(35)	2(22)	101(36)		
Oedema	yes	31(40)	119(41)	5(56)	114(40)	0.84	0.66
	no	46(60)	172(59)	4(44)	168(60)		
Oedema severity	(+)	3(4)	21(18)	2(22)	19(7)	6.43	0.17
	(++)	13(17)	41(34)	3(33)	38(13.5)		
	(+++)	15(19)	57(48)	0(0)	57(20)		
Appetite on admission	good	35(45)	190(65)	8(89)	182(65)	12.23	0.002**
	poor	42(55)	101(35)	1(11)	100(35)		
Fever	yes	57(74)	223(77)	7(78)	216(77)	0.23	0.89
	no	20(26)	68(23)	2(22)	66(23)		
Cough	yes	39(51)	157(54)	6(67)	151(54)	0.87	0.65
	no	38(49)	134(46)	3(33)	131(46)		
Hypothermia	yes	14(18)	5(2)	0(0)	5(2)	33.76	0***
	no	63(82)	286(98)	9(100)	277(98)		
Vomiting	yes	48(62)	136(47)	4(44)	132(47)	5.95	0.05
	no	29(38)	155(53)	5(56)	150(57)		
Diarrhoea	yes	60(78)	169(58)	7(78)	162(57)	11.73	0.003**
	no	17(22)	122(42)	2(22)	120(43)		
Duration of diarrhoea	≤ 7 days	42(55)	128(76)	7(100)	121(75)	3.01	0.22
	> 7 days	18(23)	41(24)	0(0)	41(25)		
Dehydration	yes	54(70)	73(25)	5(56)	68(24)	58.48	0***
	no	23(30)	218(75)	4(44)	214(76)		
Dehydration severity	Mild	7(9)	19(26)	0(0)	19(7)	7.47	0.11
	moderate	26(34)	34(47)	2(22)	32(11)		
	Severe	21(27)	20(27)	3(33)	17(6)		
Dermatosis	yes	18(23)	43(15)	0(0)	43(15)	4.72	0.09
	no	59(77)	248(85)	9(100)	239(85)		
Admission hypoglyce.	yes	6(8)	1(0.3)	0	1(0.4)	26.10	0***
	no	27(35)	64(22)	3(33)	61(22)		
	unknown	44(57)	226(77.7)	6(67)	220(78)		
Ward hypoglycemia	yes	13(17)	3(1)	0(0)	3(1)	146.90	0***
	no	41(53)	19(7)	1(11)	18(6)		
	unknown	23(30)	269(92)	8(89)	261(93)		

Table 3: Association of medical comorbidities characteristics of SAM children to treatment outcomes among SAM children admitted for therapeutic feeding at QECH from 2017 to 2020

Characteristics	Category	Died n=77 (%)	(Live discharges) n=291(%)	Defaulted n=9(%)	Transferred out to OTP n=282(%)	χ^2	P value
Pneumonia	yes	25(33)	49 (17)	3(33)	46(16)	10.831	0.004**
	no	52(67)	242(83)	6(67)	236(84)		
Pneumonia severity	mild	0(0)	1(2)	0(0)	1(0.4)	6.97	0.14
	moderate	1(1.3)	12(25)	0(0)	12(4)		
	severe	24(31)	35(71)	3(33)	33(12)		
TB	yes	25(33)	54(19)	2(22)	52(18)	7.063	0.029*
	no	52(67)	237(81)	7(78)	230(82)		
HIV	yes	13(17)	31(10.6)	1(11)	30(10)	7.110	0.311
	no	38(49)	191(65.6)	6(67)	185(66)		
	exposed	24(31)	64(22)	2(22)	62(22)		
	unknown	2(3%)	5(1.7)	0 (0)	5(2%)		
Malaria	yes	3(4)	35(12)	1(11)	34(12)	5.302	0.258
	no	73(95)	255(87.6)	8(89)	247(87.6)		
	unknown	1(1)	1(0.3)	0(0)	1(0.4)		
Malaria severity	Uncomplicated	0(0)	6(17.6)	0(0)	6(2)	0.84	0.66
	Complicated	3(4)	28(82.4)	1(11)	28(10)		
Sepsis	yes	56(73)	112(39)	4(44)	108(38)	28.903	0***
	no	21(27)	179(61)	5(56)	174(62)		
Anaemia	yes	54(70)	119(41)	3(33)	116(41)	21.1	0***
	no	23(30)	172(59)	6(67)	166(59)		
Anaemia severity	Mild	9(12)	44(37)	0(0)	44(16)	10.58	0.032*
	moderate	17(22)	31(26)	2(22)	29(10)		
	severe	28(36)	44(37)	1(11)	43(15)		
Cerebral palsy	yes	8(10)	50(17)	1(11)	49(17)	2.374	0.305
	no	69(90)	241(83)	8(89)	233(83)		
Measles	yes	0(0)	0(0)	0(0)	0(0)	0.306	0.858
	no	0(0)	1(0.3)	0(0)	1(0.4)		
	unknown	77(100)	290(99.7)	9(100)	281(99.6)		
Worm infection	yes	0(0)	0(0)	0(0)	0(0)	0.306	0.858
	no	0(0)	1(0.3)	0(0)	1(0.4)		
	unknown	77(100)	290(99.7)	9(100)	281(99.6)		

Table 4: Bivariate and multivariable model of the association between background, clinical and medical comorbidities characteristics and treatment outcomes (death and discharged alive) among SAM children admitted for therapeutic feeding at QECH from 2017 to 2020

Characteristic	Died n=77(%)	discharged alive ¹ n=291(%)	RRR	P> Z	[95% CI]	ARRR	P> Z	[95% CI]
Breastfeeding status								
bottle feeding	1(1)	2(1)	2.54	0.454	0.22-29.1	2.05	0.77	0.02-228.
stopped	39(51)	155(53)	1.28	0.385	0.73- 3.12-	3.22	0.032*	1.12-9.34
unknown	12(16)	7(2)	8.71	0***	24.30	14.9	0***	2.42-91.8
complementary	25(32)	127(44)						
Appetite (poor)	42(55)	101(35)	2.26	0.002**	1.36-3.76	1.95	0.13	0.82-4.62
good	35(45)	190(65)						
Hypothermia (yes)	14(18)	5(2)	12.7	0***	4.42- 36.57	4.94	0.07	0.90- 27.12
no	63(82)	286(98)						
Vomiting (yes)	48(62)	136(47)	1.89	0.016*	1.13-3.16	1.53	0.35	0.63-3.68
no	29(38)	155(53)						
Diarrhea (yes)	60(78)	169(58)	2.55	0.002**	1.42-4.58	0.29	0.06	0.08-1.03
no	17(22)	122(42)						
Dehydration (yes)	54(70)	73(25)	7.01	0***	4.02-12.2	6.64	0.002**	2.01-21.9
no	23(30)	218(75)						
Admission					1.63-			
hypoglycemia (yes)	6(8)	1(34)	14.2	0.016*	123.8	1.99	0.69	0.07-56.5
unknown	44(57)	226(78)	0.46	0.006**	0.27-0.80	1.23	0.67	0.47-3.19
no	27(35)	64(22)						
Ward hypoglycemia					0.511-			
(yes)	13(17)	3(1)	2.01	0.318	7.89	2.7	0.29	0.43-16.9
unknown	23(30)	269(92)	0.04	0***	0.02-0.08	0.04	0***	0.02-0.12
no	41(53)	19(7)						
pneumonia								
yes	25(32)	49(17)	2.37	0.003	1.35-4.19	3.08	0.023*	1.17-8.12
no	52(68)	242(83)						
TB (yes)	25(32)	54(19)	2.11	0.009**	1.20-3.70	1.66	0.34	0.58-4.74
no	52(68)	237(81)						

¹ Discharged alive as comparative treatment outcome to death

Characteristic	Died n=77(%)	Discharged alive ² N=291(%)	RRR	P> Z	[95% CI]	ARRR	P> Z	[95% CI]
HIV (Yes)	13(17)	31(10.7)	2.11	0.047*	1.01-4.40	1.55	0.57	0.34-7.01
exposed	38(49)	191(65.6)	1.89	0.033*	1.05-3.38	1.53	0.47	0.49-4.78
unknown	24(31)	64(22)	2.01	0.41	0.38-10.75	6.43	0.21	0.35-116.6
no	2(3)	5(1.7)						
Sepsis (yes)	56(73)	112(38)	4.26	0***	2.45-7.42	2.81	0.026*	1.13-6.96
no	21(27)	179(62)						
Anaemia (yes)	54(70)	119(41)	3.39	0	1.98-5.83	2.03	0.12	0.83-4.58
no	23(30)	172(59)						
Oedema (yes)	31(40)	119(41)	0.97	0.92	0.58-1.63	0.92	0.88	0.32-2.66
no	46(60)	172(59)						
age category								
6-<24M	54(70)	188(65)	1.29	0.364	0.75-2.22	1.16	0.83	0.30-4.45
24-59M	23(30)	103(35)						
Sex (M)	41(53)	163(56)	0.89	0.664	0.54-1.48	0.7	0.41	0.30-1.63
F	36(47)	128(44)						
residence category								
semi-urban	49(64)	169(58)	1.16	0.854	0.24-5.64	0.55	0.63	0.05-6.22
rural	26(34)	114(39)	0.91	0.911	0.18-4.55	0.77	0.84	0.06-9.21
urban	2(2)	8(3)						
MUAC (≤11.5)	57(74)	188(65)	1.56	0.121	0.89-2.74	2.58	0.08	0.91-7.31
≥11.5	20(26)	103(35)						
Cerebral palsy(yes)	8(10)	50(17)	0.56	0.15	0.25-1.24	0.87	0.83	0.24-3.21
no	69(90)	241(83)						
Malaria (yes)	3(4)	35(12)	0.29	0.05	0.09-1.00	0.19	0.07	0.03-1.17
unknown	1(1)	1(0.3)	3.49	0.379	0.22-56.5	0.78	0.96	0.0-12448
no	73(95)	255(87.6)						
Type of admission								
Readmission	15(19)	47(16)	1.26	0.413	0.66-2.39	1.1	0.88	0.34-3.59
new	62(81)	244(84)						

² Discharge alive as comparative treatment outcome to death

Table 5: Multivariable model of the association between background, clinical and medical comorbidities characteristics and treatment outcomes among SAM children admitted for therapeutic feeding at QECH from 2017 to 2020

Characteristic	Death Freq. n=77(%)	Death outcome ³			Default freq. N=9(%)	Default outcome ⁴		
		ARRR	P> Z	[95% CI]		ARRR	P> Z	[95% CI]
Breast feeding status								
(bottle feeding)	1(1)	1.99	0.781	0.02- 258	0(0)	9.2e-08	0.999	0 - -
stopped	39(51)	3.22	0.032*	1.1-9.39	4(44)	2.25	0.435	0.29- 17.1
Unknown	12(16)	14.35	0.004**	2.3 -88.7	0(0)	3.7e-07	0.998	0- -
complementary	25(32)				5(56)			
Dehydration(Yes)	54(70)	6.95	0.001**	2.1-22.9	5(56)	12.33	0.037*	1.2-130
No	23(30)				4(44)			
Pneumonia (yes)	25(33)	3.19	0.02*	1.2- 8.5	3(33)	5.12	0.102	1.72- 36.2
No	52(67)				6(67)			
TB (Yes)	25(33)	1.65	0.349	0.6- 4.7	2(22)	3.72	0.222	0.45-30.5
No	52(67)				7(78)			
Anaemia (Yes)	54(70)	2.04	0.120	0.8- 5.0	3(33)	0.50	0.454	0.08-3.06
No	23(30)				6(67)			
Sepsis (Yes)	56(73)	2.86	0.024*	1.2- 7.1	4(44)	1.15	0.877	0.2 - 6.6
No	21(27)				5(56)			
Admission hypoglycemia (yes)	6(8)	1.89	0.707	0.07- 52.	0(0)	2.6e-06	0.999	0 , _
Unknown	44(57)	1.24	0.663	0.5-3.2	3(33)	0.91	0.914	0.2 - 4.88
No	27(35)				6(67)			
Hypothermia(Yes)	14(18)	4.8	0.070	0.9-26.6	0(0)	5.3e-08	0.997	0, -
No	63(82)				9(100)			
admission appetite (poor)	42(55)	1.89	0.151	0.8- 4.5	1(11)	0.13	0.117	0.01- 1.7
good	35(45)				8(89)			
Diarrhea (Yes)	60(78)	0.31	0.064	0.10 -1.1	7(78)	1.23	0.863	0.12- 12.6
No	17(22)				2(22)			

³ Transferred to OTP as a comparative treatment outcome to death and default risk outcomes

^{Yes} presence of the stated medical comorbidity

^{No} absence of the stated medical comorbidity

[|] reference category

Characteristic	Death	Death outcome ⁴			Default outcome ⁵			
	n=77(%)	ARRR	P> Z	[95% CI]	n=9(%)	ARRR	P> Z	[95% CI]
Ward								
hypoglycemia(yes)	13(17)	2.55	0.318	0.4-15.9	0(0)	4.6e-07	0.999	0 - -
Unknown	23(30)	0.04	0***	0.01- 0.1	1(11)	3.84	0.444	0.12 -120
No	41(53)				8(89)			
Vomiting (Yes)	48(62)	1.47	0.397	0.61 - 3.6	4(44)	0.47	0.420	0.07 -2.9
No	29(38)				5(56)			
HIV (Yes)	13(17)	1.63	0.527	0.36- 7.4	1(11)	11.4	0.301	0.1 - 1162
Exposed	24(31)	1.54	0.463	0.49-4.8	2(22)	0.66	0.695	0.09- 5.15
Unknown	2(3)	6.32	0.212	0.35- 113	0(0)	1.26e-06	0.999	0 - -
No	38(49)				6(67)			
Age category (6-<24 months)	54(70)	1.24	0.759	0.32-4.78	8(89)	56.7	0.088	0.55-5859
24 -59 months	23(30)				1(11)			
Sex (male)	41(53)	0.71	0.419	0.3-1.64	4(44)	1.36	0.711	0.27-6.8
female	36(47)				5(56)			
Residence category (Urban)	2(2)	1.79	0.639	0.16-20.2	0(0)	2.9e-08	0.997	0 - -
rural	26(34)	1.42	0.457	0.56-3.59	5(56)	1.71	0.542	0.30-9.66
semi urban	49(64)				4(44)			
Type of admission								
New	62(81)	0.92	0.894	0.28-3.0	9(100)	1.28e+07	0.995	0- -
readmission	15(19)				0(0)			
Cerebral palsy(yes	8(10)	1.89	0.858	0.24-3.28	1(11)	4.21	0.305	0.27-65.6
No	69(90)				8(89)			
Malaria (yes)	3(4)	0.22	0.102	0.03-1.35	1(11)	0.85	0.927	0.03-24.5
unknown	1(1)	0.78	0.961	0 - 15012	0(0)	6.28e-07	1.0	0 - -
No	73(95)				8(89)			
Oedema (Yes)	31(40)	0.98	0.975	0.34-2.87	5(56)	13.47	0.017	1.6- 113
No	46(60)				4(44)			
Admission MUAC ≤11.5	57(74)	2.59	0.075	0.91- 7.3	7(78)	2.92	0.260	0.45-18.8
>11.5	20(26)				2(22)			

⁴ Transfer out to OTP as a comparative treatment outcome to death and default

^{Yes} presence of the stated medical/clinical characteristic

^{No} absence of the stated medical/clinical characteristic

