

Table 2. Upper lip frenulum findings and their frequencies (n [%]) in infants without or with various breastfeeding problems, and in tongue-tie-treated infants.

Upper lip frenulum character	All infants n=264	No feeding problems, n=36 (13.6)	Infants with breastfeeding problems								Early tongue-tie treatment, n=44 (16.7)
			All combined, n=228 (86.4)	Pain, n=146 (55.3)	Difficulty in latching, n=121 (45.8)	Bottle feeding, n=121 (45.8)	Frequent feeding, n=50 (18.9)	Interrupted feeding, n=115 (43.6)	Stomach problems, n=33 (12.5)	Other problems, n=70 (26.5)	
Gingival attachment point, mm, mean (SD)	0.71 (0.78)	0.64 (0.53)	0.72 (0.81)	0.72 (0.79)	0.70 (0.81)	0.62 (0.66)	0.72 (0.81)	0.65 (0.70)	0.70 (0.62)	0.69 (0.69)	0.82 (1.03)
Thickness/tissue type, width (mm)											
Thin/membranous, <1	70 (26.5)	10 (27.8)	60 (26.3)	35 (24.0)	32 (26.4)	35 (28.9)	11 (22.0)	31 (27.0)	6 (18.2)	21 (30.0)	5 (11.4) ^a
String/opaque fold, 1-2	123 (46.6)	17 (47.2)	106 (46.5)	74 (50.7)	55 (45.5)	50 (41.3)	27 (54.0)	57 (49.6)	20 (60.6)	32 (45.7)	22 (50.0)
Wrinkle/thick fold, 2-3	64 (24.2)	7 (19.4)	57 (25.0)	34 (23.3)	31 (25.6)	34 (28.1)	11 (22.0)	26 (22.6)	7 (21.2)	16 (22.9)	17 (38.6)
Very thick/multiple, >3	7 (2.7)	2 (5.5)	5 (2.2)	3 (2.1)	3 (2.5)	2 (1.7)	1 (2.0)	1 (0.9)	0	1 (1.4)	0
Elasticity, n=260											
Free	183 (69.3)	27 (75.0)	156 (68.4)	103 (70.5)	82 (67.8)	81 (66.9)	35 (70.0)	77 (67.0)	22 (66.7)	50 (71.4)	28 (63.6)
Moderate	54 (20.5)	7 (19.4)	47 (20.6)	25 (17.1)	23 (19.0)	28 (23.1)	12 (24.0)	25 (21.7)	5 (15.2)	13 (18.6)	10 (22.7)
Tight:	23 (8.7)	1 (2.8)	22 (9.6)	15 (10.3)	13 (10.7)	11 (9.1)	2 (4.0)	12 (10.4)	5 (15.2)	6 (8.6)	5 (11.4)
Upper lip short	13 (4.9)	0	13 (5.7)	8 (5.5)	8 (6.6)	7 (5.8)	1 (2.0)	8 (7.0)	4 (12.1)	3 (4.3)	3 (6.8)
Frenulum tight	10 (3.8)	1 (2.8)	9 (3.9)	7 (4.8)	5 (4.1)	4 (3.3)	1 (2.0)	4 (3.5)	1 (3.0)	3 (4.3)	2 (4.5)
Upper lip skin area pale when stretched	21 (8.0)	3 (8.3)	18 (7.9)	9 (6.2)	9 (7.4)	11 (9.1)	3 (6.0)	7 (6.1)	5 (15.2)	5 (7.1)	6 (13.6)
Sucking blister	43 (16.3)	5 (13.9)	38 (16.7)	27 (18.6)	21 (17.5)	21 (17.4)	10 (20.0)	15 (13.2)	11 (34.4) ^b	11 (15.9)	10 (22.7)
Need to fix the upper lip position when breastfeeding	63 (24.2)	5 (13.9)	58 (25.9)	41 (28.9) ^c	33 (27.7)	29 (24.8)	10 (20.4)	24 (21.6)	10 (32.3)	23 (33.8) ^d	17 (42.5) ^e
Fixing helped, n=73	44 (16.7)	3 (8.3)	41 (18.0)	27 (18.4)	20 (16.5)	19 (15.7)	6 (12.0)	17 (14.8)	4 (12.1)	15 (21.4)	10 (22.7)

^a $P = .013$ vs $n=65$ (29.5%) in infants without need for early tongue-tie treatment

^b $P = .003$ vs $n=32$ (13.9%) in infants without stomach problems

^c $P = .055$ vs $n=22$ (18.6%) in infants without breastfeeding pain

^d $P = .032$ vs $n=40$ (20.8%) in infants without other problems associated to breastfeeding

^e $P = .003$ vs $n=46$ (20.9%) in infants without need for early tongue-tie treatment.