

Web Appendix 3 Papers reporting CTEV birth prevalence published by year and WHO region prior to quality assessment

Years	Total number of Papers	African Region	Region of the Americas	South-East Asia Region	European Region	Eastern Mediterranean Region	Western Pacific Region
1960 - 1969	2	Uganda (1) ^a , Nigeria (1)					
1970 - 1979	6	South Africa (1)		India (1), Indonesia (1), Pakistan (1)	Turkey (1)		Taiwan (1)
1980 - 1989	9	South Africa (1),		India (6), Thailand (1)		Tunisia (1)	
1990 - 1999	13	South Africa (2)	Brazil (1), Latin America (2)	India (3), Indonesia (1), Malaysia (1)	Turkey (1)	Lebanon (1), Pakistan (1)	
2000 - 2009	15	Malawi (2), Nigeria (2), Zimbabwe (1)	Brazil (1)	Malaysia (1)		Iran (4), Libya (1)	China (1), Philippines (1), Papua New Guinea (1)
2010 - 2015	26	Nigeria (3), Uganda (1)	Brazil (1), Columbia (2),	India (6), Thailand (1)		Egypt (1) , Iran (2), Iraq (1)	China (8), Viet Nam (1)

^a Number of published papers

Web Appendix 4 Full text excluded studies

Primary Author and Reference	Year	Country	Study design	Data source	Time	Population	Population N	Clubfoot N	Birth prevalence /1000	Reason Excluded
Dash Sharma (78)	1970	India	Data review	Records of birth	3 years	live births	5,554	2	0.36	Retrospective data review, unclear if all children screened
Kromberg and Jenkins (76)	1982	South Africa	Data review	Data from register of births in the nursery ward, paediatric ward and mortuary records	2 years	births	29, 633	46	1.55	Retrospective data review, unclear if all children screened
Choudhury (79)	1984	India	Data review	Hospital records of birth registers	4 years	births	21, 016	6	0.29	Retrospective data review, unclear if all children screened
Limpaphayom (80)	1985	Thailand	Data review	Medical records	2 years	births	not specified	104	1.30	No specified population
Roychoudhury (81)	1988	India	Data review	Maternity records	not specified	births	72, 617	not specified	varied from 0.02 to 0.11	Retrospective data review, unclear if all children screened
Castilla (82)	1990	Latin America	large database review	ECLAMC (Latin American Collaborative Study of Congenital Malformations) data	4 years	births	Tropical: 287,165	tropical: 442	tropical: 1.54	ECLAMC data used in Lopez - Camelo paper
							Non tropical: 582, 585	non: 615	non: 1.06	
Masloman (83)	1991	Indonesia	Data review	Medical records of department of child health	5 years	births	13, 354	11	0.82	Retrospective data review, unclear if all children screened
Bhat (84)	1998	India	Prospective, physical examination	Physical examination within 24 hours	3 years 3 months	births	12, 797	40 (36 live, 4 still)	3.13	All foot deformities included
Najmi (85)	1998	Pakistan	Prospective, physical examination	Physical examination by Paediatrician	2 years 8 months	live births	11,148	2 TEV and 2 TE	0.18	Unclear definition
Singh (86)	2000	Libya	Data review	Maternal records, NICU registry and stillborn / death certificates	1 year	Births	16, 186	2: clubfoot or 4 : talipes	0.37	Retrospective data review, unclear if all children screened

Madzivire (87)	2002	Zimbabwe	Data review	Children attending clubfoot clinic, with population under 4 years	3 years	Hospital catchment area	96,942	82	0.85	Retrospective data review, unclear if all children screened
Mkandawire (88)	2002	Malawi	Prospective physical examination	Research nurse identified and photographed	13 months	Live births	9,838	11	1.12	Data included in paper published in 2004
Padilla (89)	2003	Philippines	Large database	Birth defects registry	12 months	Births	191, 567	73	0.38	Includes all congenital deformities of the feet
Abdi-Rad (90)	2008	Iran	Data review	Chart review	4 years 6 months	Births	14, 121	27	1.90	Retrospective data review, unclear if all children screened
Ekanem (91)	2008	Nigeria	Data review	Data extracted from birth registries	23 years	Birth registry in 2 states of Nigeria	127, 929	31	0.24	Retrospective data review, unclear if all children screened
Culverwell (77)	2009	Papua New Guinea	Data review	Clubfoot clinic notes	2 years	Live births and children presenting to hospital	11, 215 (based on 2000 census data)	60	2.67	Retrospective data review, unclear if all children screened
Bakare (92)	2009	Nigeria	Prospective, physical examination	Physical examination	1 year	Live births	624	5	8.00	All foot deformities
Zarante (93)	2010	Columbia	Large database	ECLAMC	6 years 9 months	Births	52, 744	132	2.50	Foot deformities includ calcaneovalgus
Ukoha (94)	2011	Nigeria	Data review	Hospital records	6 years	Children attending hospital between 1 day and 2 years	12,464	43	3.00	Data review for children attending hospital - not birth prevalence
Ekanem (95)	2011	Nigeria	Data review	Maternity records	13 years	Births	19,572	8	0.41	Retrospective data review, unclear if all children screened
Zhu (96)	2012	China	Data review	Data of neonates with congenital malformations was reviewed	1 year	Live births	6,725	2	0.30	Retrospective data review

Vakilian (97)	2013	Iran	Data review	Review of maternal files	7 years	Live births	20,751	not specified	2.98	Retrospective data review, unclear if all children screened
Nhoncanse (98)	2014	Brazil	Data review	Review of birth certificates	5 years	Live births	12,199	4	0.32	Retrospective data review, unclear if all children screened
Ghorpade (99)	2015	India	Data review	Medical chart review	10 years	Live births	10, 674	60	5.62	Retrospective data review, unclear if all children screened

^a ordered by year

REFERENCES

78. Dash Sharma P. The incidence and prevalence of musculoskeletal anomalies in a tertiary care hospital of eastern europe. Indian journal of pediatrics. 1970;37:618-.
79. Choudhury A, Talukder G, Sharma A. Neonatal congenital malformations in Calcutta. 1984.
80. Limpaphayom M, Jirachaiprasit P. Factors related with the incidence of congenital clubfoot in Thai children. J Med Assoc Thai. 1985;68(1):1-5.
81. Roychoudhury A, Mukherjee M, Talukder G, Sharma A. Incidence of congenital malformations in relation to seasonal variation in West Bengal. Indian Pediatr. 1988;25(12):1218-21.
82. Castilla EE, Orioli IM, Lugarinho R, Dutra GP, Lopez-Camelo JS, Campana HE, et al. Monthly and seasonal variations in the frequency of congenital anomalies. Int J Epidemiol. 1990;19(2):399-404.
83. Masloman N, Mustadjab I, Munir M. Congenital malformation at Gunung Wenang Hospital Manado: a five-year spectrum. Paediatrica Indonesiana. 1991;31(11-12):294-302.
84. Bhat BV, Babu L. Congenital malformations at birth — A prospective study from south India. The Indian Journal of Pediatrics. 1998;65(6):873-81.
85. Najmi RS. Risk factors, clinical presentation and perinatal outcome of congenital malformations in a hospital based study. EmbaseJournal

of the College of Physicians and Surgeons Pakistan. 1998.

86. Singh R, Al-Sudani O. Major congenital anomalies at birth in Benghazi, Libyan Arab Jamahiriya. *Eastern Mediterranean health journal* 2000;6(1):65-75.
87. Madzivire D, Useh D, Mashegede PT, Siziya S. Minimum incidence of congenital talipes equino-varus (CTEV) and post treatment evaluation of residual deformities in a population in Zimbabwe. *Cent Afr J Med*. 2002;48(3-4):33-8.
88. Mkandawire M, Kaunda E, M KEM. An Audit of Congenital Anomalies in the Neonatal Unit of Queen Elizabeth Central Hospital . One-Year Study Period : 1st November 2000 to 31st October 2001. *East Cent Afr J Surg*. 2002;7(November):29-33.
89. Padilla CD, Cutiongco EM, Sia JM. Birth defects ascertainment in the Philippines. *Southeast Asian J Trop Med Public Health*. 2003;34 Suppl 3:239-43.
90. Abdi-Rad I, Khoshkalam M, Farrokh-Islamlou HR. The prevalence at birth of overt congenital anomalies in Urmia, northwestern Iran. *Archives of Iranian Medicine*. 2008;11(2):148-51.
91. Ekanem TB, Okon DE, Akpantah AO, Mesembe OE, Eluwa MA, Ekong MB. Prevalence of congenital malformations in cross river and akwa iborn states of nigeria from 1980 - 2003. *Congenital Anomalies*. 2008.
92. Bakare TI, Sowande OA, Adejuyigbe OO, Chinda JY, Usang UE. Epidemiology of external birth defects in neonates in Southwestern Nigeria. *Afr J Paediatr Surg*. 2009;6(1):28-30.
93. Zarante I, Franco L, Lopez C, Fernandez N, Zarante I, Franco L, et al. Frequencies of congenital malformations: assessment and prognosis of 52,744 births in three cities of Colombia. Bogota: Instituto Nacional de Salud; 2010. p. 65-71.
94. Ukoha U, Egwu OA, Okafor IJ. Incidence of congenital talipes equinovarus among children in southeast Nigeria. *Int J Biol Med Res*. 2011;2(3):712-5.
95. Ekanem B, Bassey IE, Mesembe OE, Eluwa MA, Ekong MB. Incidence of congenital malformation in 2 major hospitals in reviers state of Nigeria form 1990 to 2003. *Global HealthEastern Mediterranean Health Journal*; 2011. 2011;17(9):701-5.
96. Zhu L, Du D, Yuan N. Analysis on neonatal congenital malformations in Xianyang hospital for gynecology and obstetrics in 2011. *Maternal and Child Health Care of China*. 2012;33.
97. Vakilian K, Hajian S, Sadeghian A. Frequency of congenital structural anomalies in newborns of Shahroud, Iran. 2013;15:95-.

98. Nhoncanse GC, Germano CM, de Avo LR, Melo DG. Maternal and perinatal aspects of birth defects: a case-control study. *Rev Paul Pediatr.* 2014;32(1):24-31.
99. Ghorpade N GNJJ. Prevalence of musculoskeletal abnormalities in newborn: A 10 years retrospective analysis of 10,674 neonates in Indian population. *Journal of Clinical Neonatology.* 2015;4(2):104-8.