

Ethiopia

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Knut Gustav Wester (born September 1, 1940) is a Norwegian [neurosurgeon](#) and professor. He is a cand. med from the University of [Oslo](#), and defended his doctorate in the same place. Since 1986 he has been employed at Haukeland University Hospital, eventually combined with a professorship at the University of [Bergen](#).

In 2010 he was awarded the King's Gold Medal for his efforts in neurosurgery in [Norway](#) and [Ethiopia](#).

Juhler M. Knut Wester (ed.): [Arachnoid cysts](#) : Vol 1-2, [Academic Press/Elsevier](#), 2018 (ISBN: 978-0-12-809932-2). Acta Neurochir (Wien). 2018 Aug;160(8):1505. doi: 10.1007/s00701-018-3603-z. Epub 2018 Jun 21. PubMed PMID: 30006747.

There is a huge burden of [neural tube defects](#) (NTD) in Ethiopia, and surgical management is not readily available. Mengiste et al. aimed to assess the clinical [profile](#) and hospital outcomes of children with NTD who were operated on in Hawassa University Comprehensive Specialized Hospital, Hawassa, Ethiopia.

A retrospective cross-sectional study on 250 children with NTD who were treated in a tertiary hospital from March 2016 to May 2020 was conducted to describe the clinical profile and treatment outcome at discharge. Logistic regression analysis was carried out to evaluate factors that determine mortality.

Out of the 250 children, 50.4% were male. Myelomeningocele was the most common type of NTD (77.2%) followed by meningocele (10.4%). Only 3 mothers (1.2%) received periconceptional folic acid. Prenatal diagnosis of NTD was made in only 22 (8.8%) cases. 52.8% of the NTDs were ruptured at presentation and 50.8% had associated sepsis. At presentation, 42.4% were ≤ 72 hours of age and only 18 neonates (7.2%) were operated on within 72 hours of admission. 54% had associated hydrocephalus, 31.6% had Chiari II malformation and 19.6% had club foot. Surgical site infection, post-MMC repair hydrocephalus, and meningitis were seen in 8%, 14% and 16.8% of the participants, respectively. The mean duration of hospitalization was 24 ± 14.4 days. Twenty patients (8%) died before discharge from hospital. Prematurity [AOR: 26 (95% CI: 8.01, 86.04), $P < 0.001$] and the presence of meningitis [AOR: 3.8 (95% CI: 1.12, 12.9), $P = 0.03$] were determinants of mortality.

NTDs are a substantial health problem in this part of the country. Periconceptional folic acid supplementation is almost non-existent. Prenatal detection of NTDs is very low and management is delayed in the majority of cases. Myelomeningocele is the most common type of NTD. There is high in-hospital mortality and prematurity and the presence of meningitis are its determinants ¹.

Surveillance studies in Ethiopia show an epidemic of spina bifida and anencephaly, two major neural tube birth defects that are severe and life-threatening. Our objective was to estimate proportional reductions in current stillbirth and child mortality rates in Ethiopia through folic acid-based interventions to prevent spina bifida and anencephaly.

Using secondary data from multiple sources, we estimated percent reductions in stillbirth, neonatal, infant, and under-five child mortality rates that would have occurred in Ethiopia in the year 2016 had all folic acid-preventable spina bifida and anencephaly been prevented; and the contributions of these reductions toward Ethiopia's Year 2030 Every Newborn Action Plan (ENAP) goal on stillbirth, and sustainable development goal (SDG) on child mortality rates. The 2016 prevalence of spina bifida and anencephaly in Ethiopia was assumed as 13 per 1,000 total births, with the prevention goal reaching 0.5 per 1,000 total births.

Folic acid interventions in Ethiopia would have prevented about 41,610 cases of folic acid-preventable spina bifida and anencephaly-affected pregnancies during the year 2016. We estimate that this prevention is associated with reduction of 31,830 stillbirths and 7,335 under-five child deaths annually. The proportional contribution of this prevention toward achieving Ethiopia's ENAP goal is 54% for stillbirth, and toward SDG is 4.5% for neonatal- and 6.8% for under-five mortality.

Spina bifida and anencephaly contribute to substantial stillbirths and child death in Ethiopia. Large-scale fortification of foods like wheat flour and salt can help achieve Ethiopia's ENAP and SDG targets addressing preventable stillbirth, neonatal, and under-five mortality ².

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Mengiste FG, Shibeshi MS, Gechera DY. Neural Tube Defect in a Resource Limited Setting: Clinical Profile and Short Term Outcome. Pediatric Health Med Ther. 2023 Sep 19;14:289-299. doi: 10.2147/PHMT.S421868. PMID: 37746523; PMCID: PMC10517686.

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Dixon M, Kancherla V, Magana T, Mulugeta A, Oakley GP Jr. High potential for reducing folic acid-preventable spina bifida and anencephaly, and related stillbirth and child mortality, in Ethiopia. Birth Defects Res. 2019 Aug 19. doi: 10.1002/bdr2.1584. [Epub ahead of print] Review. PubMed PMID: 31424635.

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