TABLE I PERFORMANCE OF POTTEL'S AGAINST EQUATION SCHWARTZ EQUATION FOR ESTIMATED GFR

Subgroup analysis		*n*	*Bias Mean (SD)*	*95% CI of mean bias*	*95% LOA between two equation*	*P value*
Comparison of eGFR across 60 mL/min/1.73 m^2	>60 L/mim/1.73m^2	92	-0.27(11.37)	-2.58 to 2.04	-22.41 to 21.87	*P*<0.001
	≤60 L/mim/1.73m^2	23	-0.23(3.83)	-1.70 to 1.34	-7.73 to 7.27	
Comparison of eGFR across 90 mL/min/1.73 m^2	> 90 L/mim/1.73m^2	58	0.46(13.23)	-2.93 to 3.85	-25.58 to 26.50	*P*<0.001
	≤90 L/mim/1.73m^2	57	-1.00(5.82)	-2.49 to 0.40	-12.40 to 10.40	
Comparison by height-for-age z- score	z-score <-2SD	70	-4.62(7.93)	-2.76 to -6.48	-20.40 to 10.40	*P*<0.001
	z-score ≥-2SD	45	6.51(9.94)	3.60 to 9.40	-12.98 to 25.98	

eGFR: estimated glomerular filtration rate; GFR: glomercular filtration rate; LOA: limit of agreement.

Disease Outcomes Quality Initiative. National Kidney Foundation's Kidney Disease Outcomes Quality Initiative clinical practice guidelines for chronic kidney disease in children and adolescents: evaluation, classification, and stratification. Pediatrics. 2003;111:1416-21.
3. Doogue MP, Polasek TM. Drug dosing in renal disease. Clin Biochem Rev. 2011;32:69-73.
4. Schwartz GJ, Munoz A, Schneider MF, Mak RH, Kaskel F, Warady BA, *et al*. New equations to estimate GFR in children with CKD. J Am Soc Nephrol. 2009;20:629-37.
5. Zappitelli M, Zhang X, Foster BJ. Estimating glomerular filtration rate in children at serial follow-up when height is unknown. Clin J Am Soc Nephrol. 2010;5:1763-9.
6. Hogg RJ. Screening for CKD in children: A global controversy. Clin J Am Soc Nephrol. 2009;4:509-15.
7. Mattman A. Estimating pediatric glomerular filtration rates in the era of chronic kidney disease staging. J Am Soc Nephrol. 2006;17:487-96.
8. Bjork J, Back SE, Sterner G, Carlson J, Lindstrom V, Bakoush O, *et al*. Prediction of relative glomerular filtration rate in adults: new improved equations based on Swedish Caucasians and standardized plasma-creatinine assays. Scand J Clin Lab Invest. 2007;67:678-95.
9. Pottel H, Hoste L, Martens F. A simple height-independent equation for estimating glomerular filtration rate in children. Pediatr Nephrol. 2012;27:973-9.
10. Blufpand HN, Westland R, van Wijk JA, Roelandse-Koop EA, Kaspers GJ, Bökenkamp A. Height independent estimation of glomerular filtration rate in children: an alternative to the Schwartz equation. J Pediatr. 2013; 163:1722-7.

Causes of Death among Children Aged >5 Years in a Public Hospital in New Delhi

Retrospective analysis was done for 3817 children aged 5-12 years admitted in a tertiary-care, public hospital in New Delhi between January to December, 2015. Mortality rate was 5.8%. About 47.1% deaths were due to central nervous system involvement; viral meningoencephalitis being the predominant cause. Overall, infectious diseases caused >80% of deaths. Public health interventions to reduce child mortality need to review such data for effective measures.

Keywords: *Mortality, Outcome, Inpatient*.

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About eight million deaths took place every year among children aged between 5-12 years, with 93.7% of such deaths limited to low- and middle-income countries [1]. Not much information is available about the causes of deaths in this age-group in hospitalized patients [2]. The present study reviews the mortality of all children aged 5 to 12 years, admitted in a tertiary-care public hospital in New Delhi, between January to December, 2015.

Hospital records were retrieved and analyzed; and the data of surgical cases were excluded. Those who were discharged against medical advice or absconded were also excluded. All the diagnoses were coded by two physicians individually. Depending on the diagnosis, deaths were attributed to a particular system. In case of disagreement, an expert opinion was sought.

Out of 3817 admissions in this age-group, overall mortality rate was 5.8% (221, 57.9% males). It was 6.7%, after excluding 504 children who were discharged against medical advice or absconded. Mean age was 8.59 years. Most of the children (42.5%) died within 24 hours of admission. The mortality rate was slightly higher in females (5.7% against 5.5% in males). Overall, 34% and 43% deaths occurred in age group 5-7 years and 8-10 years, respectively.

About 47.1% deaths could be ascribed to central nervous system (CNS) causes. Overall, viral

meningoencephalitis was the most common cause of mortality (27%) followed by tubercular meningitis (9%), sepsis (7.2%) and pneumonia (5.9%). Acute lymphoblastic leukemia was the most common haematological abnormality, contributing to 4.5% of the deaths. Overall, infection was implicated in 83.3% deaths.

A higher death rate is always expected in a tertiary-centre as many complicated and critical cases get referred from different district- and state-level hospitals. More than 42% deaths within 24 hours of admission indicate referral of very sick children. Similar to previous studies, majority of the deaths were attributed to CNS pathology [3,4]; though, it could be due to referral bias, as complicated neurological cases are usually referred to tertiary- care hospitals. Globally, infectious diseases remain as first priority for pediatric health, causing 68% deaths among under-five children [5]. Our findings demonstrated the same trend among the older children. In view of the large number of cases of meningoencephalitis contributing to mortality, there is need to provide facility for investigating/ treating meningitis/ encephalitis at the district level to reduce loss of time in referral to tertiary hospitals. Limited resources are to be allotted optimally in public hospitals to ensure care at both the levels. Amidst the paucity of epidemiological documents in this age group, this article attempts to clarify the various causes of mortality in Pediatric patients older than five years. Future prospective studies should explore etiology and changing trend in referral pattern so that appropriate public health interventions can be planned.

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REFERENCES

1. Jamison DT, Shahid-Salles SA, Jamison J, Lawn JE, Zupan J. Incorporating Deaths Near the Time of Birth into Estimates of the Global Burden of Disease. *In*: Lopez AD, Mathers CD, Ezzati M, Jamison DT, Murray C, eds. Global Burden of Disease and Risk Factors. New York: Oxford University Press, 2006.
2. Morris SK, Bassani DG, Awasthi S, Kumar R, Shet A, Suraweera W, *et al*. Diarrhea, pneumonia, and infectious disease mortality in children aged 5 to 14 years in India. PLoS ONE. 2011;6:e20119.
3. Roy RN, Nandy S, Shrivastava P, Chakraborty A, Dasgupta M, Kundu TK. Mortality pattern of hospitalized children in a tertiary care hospital of Kolkata. Indian J Community Med. 2008;33:187-9.
4. Patil SW, Godale LB. Mortality pattern of hospitalized children in a tertiary care hospital in Latur: a record based retrospective analysis. Natl J Community Med. 2013;4:96-9.
5. Black RE, Cousens S, Johnson HL, Lawn JE, Rudan I, Bassani DG, *et al*. Global, regional and national causes of child mortality, 2008: a systematic analysis. Lancet. 2010;375:1969-87.