



Does community support help children take their ART?



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Three recent systematic reviews on interventions to improve the care cascade in adolescents with HIV have all shown disappointing results.^{1–3} In one, a review of 47 trials done in low-income and middle-income countries of interventions to improve adherence to antiretroviral therapy (ART) in adults and children, no evidence was found of their effectiveness in terms of viral suppression.¹ In line with this finding, the two other reviews reported limited evidence for the effects of interventions to improve retention, treatment, and survival of adolescents with HIV.^{2,3}

In *The Lancet Child & Adolescent Health*, Rashida Ferrand and colleagues⁴ report results of a clinical trial in which 6–15 year olds newly diagnosed with HIV in Harare, Zimbabwe, were individually randomly assigned to standard of care versus care with enhanced community based support from community health workers outside of the clinic setting, within a decentralised care setting. The community health workers in the study, living in the local community and paid a monthly stipend, provided one-to-one support to the children's primary caregivers, who in many settings are the gatekeepers in terms of enabling access to ART and supporting adherence. In Zimbabwe, children younger than 16 years are considered minors and are not able to give their own consent for medical treatment independently of their caregiver. Thus, the willingness of the caregiver to engage in HIV discussions with the child and support their engagement in care is a crucial factor in terms of their health outcomes. The hypothesis in the trial was that community based support for caregivers would lead to better outcomes in their children. Community health workers delivered one-to-one sessions with caregivers over 18 months, including two initial visits to establish rapport, and then three intensive, structured sessions, followed by shorter, less formal visits. If concerns were identified, further visits were scheduled. The researchers' focus on addressing adherence to HIV care outside the clinic environment, taking advantage of the home context, which includes other role players, is a step in the right direction. However, the emphasis on caregivers and not children, of whom a third were aged 13–15 years, leaves a gap that still needs to be addressed.

The use of community health workers in this trial is relevant in the context of WHO recommending

differentiated care models in HIV to increase service delivery and impact.⁵ UNAIDS recommends that countries increase the number of community health workers to help achieve the global 90–90–90 targets by 2020 (whereby 90% of people living with HIV know their HIV status, 90% of people who know their HIV-positive status are accessing treatment, and 90% of people on treatment have suppressed viral load) and promote sustainable health systems.⁶ Evidence for the effectiveness of such interventions in children and adolescents is crucial to maximise treatment outcomes.

Ferrand and colleagues noted that the intervention was successful in improving viral load suppression. This outcome was probably through improved adherence, although there were no differences in self-reported adherence between the two groups, which in itself is difficult to measure accurately. Also important is the finding that the proportion of participants with a secondary composite endpoint—death, viral load of 400 copies per mL or higher, or not initiating ART and loss to follow-up at 18 months, designed to assess the whole cascade of care—was significantly lower in the intervention group, and the proportion of deaths in each group was the same. Future studies should consider the cost-effectiveness of the intervention compared with the savings from avoiding treatment failure to help policy makers decide how to shape such interventions. The community health workers in the study had considerable training at the beginning of the study, and ongoing supervision, which might have contributed to the study's success, but also required resourcing. Indeed, the intervention was rather complex; community health workers in the study not only provided support and counselling closer to home, but also served as the liaison between the medical facility and the family, meeting regularly with the clinic staff to resolve issues and facilitate referrals. These roles possibly go beyond what programmes can provide even if they plan to increase the number of community health workers in future years. Qualitative assessments of the intervention itself, and also adherence as an outcome, would have been beneficial in interpreting the study results and should be addressed in future studies. It would also have been useful to know if engagement with community health workers helped

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caregivers disclose HIV status to children in the study; this was part of the intervention, and disclosure itself might be related to better adherence.

Despite the significant effect of the intervention in this trial, the results also highlight how there were still high proportions in both groups with poor outcomes. A third of the intervention group participants and half of the control group had unsuppressed viral load or had died 12 months after ART initiation, and the proportions with the secondary composite endpoints were 49 (44%) of 112 participants versus 69 (58%) of 119 participants, respectively. The syndemic effects of HIV/AIDS in the context of wider social and structural conditions in low-income and middle-income countries, and the particular challenges that adolescents face, serve to produce a greater level of disease risk and higher health burden in this group.⁷ With this knowledge, the challenge of the future will be to develop multi-dimensional approaches, applied at the individual, social, and structural levels. Ferrand and colleagues' findings provide an important piece in the jigsaw.

*Ali Judd, Avy Violari

MRC Clinical Trials Unit at UCL, Institute of Clinical Trials and Methodology, London WC1V 6XX, UK (AJ); Perinatal HIV Research Unit, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa (AV)
a.judd@ucl.ac.uk

We declare no competing interests.

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- 1 Kanters S, Park JJ, Chan K, et al. Interventions to improve adherence to antiretroviral therapy: a systematic review and network meta-analysis. *Lancet HIV* 2017;4: e31-e40.
- 2 MacPherson P, Munthali C, Ferguson J, et al. Service delivery interventions to improve adolescents' linkage, retention and adherence to antiretroviral therapy and HIV care. *Trop Med Int Health* 2015; 20: 1015-32.
- 3 Judd A, Sohn AH, Collins J. Interventions to improve treatment, retention and survival outcomes for adolescents with perinatal HIV-1 transitioning to adult care: moving on up. *Curr Opin HIV AIDS* 2016; 11: 477-86.
- 4 Ferrand RA, Simms V, Dauya E, et al. The effect of community-based support for caregivers on the risk of virological failure in children and adolescents with HIV in Harare, Zimbabwe (ZENITH): an open-label, randomised controlled trial. *Lancet Child Adolesc Health* 2017; published online Sept 12. [http://dx.doi.org/10.1016/S2352-4642\(17\)30051-2](http://dx.doi.org/10.1016/S2352-4642(17)30051-2).
- 5 WHO. Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection. Geneva: World Health Organization, 2016.
- 6 UNAIDS. Plan to increase community health workers endorsed. http://www.unaids.org/en/resources/presscentre/featurestories/2017/february/20170213_community-health-workers (accessed Sept 4, 2017).
- 7 Singer M, Bulled N, Ostrach B, Mendenhall E. Syndemics and the biosocial conception of health. *Lancet* 2017; 389: 941-50.

Addressing acute kidney injury in critically ill newborn babies



Although a relatively common renal disorder worldwide, the association of acute kidney injury (AKI) with high mortality burden and morbidity burden outside of nephrology and intensive care units, especially in low-income and middle-income countries (LMICs), is rarely recognised.¹ Epidemiological studies and meta-analyses have estimated that each year AKI occurs in more than 13 million individuals and contributes to approximately 1.7 million deaths worldwide.¹ Most of these data refer to children and adults in industrialised nations, and have been used to model the AKI incidence in LMICs where no nationwide registries are available.¹ However, AKI also burdens critically ill neonates, but information to date on the AKI incidence and outcomes in this setting is scarce, and mainly from small single-centre studies.²

This shortcoming has now been overcome by Jennifer Jetton and colleagues in their study published in *The Lancet Child & Adolescent Health*.³ The Assessment of Worldwide Acute Kidney Injury Epidemiology in Neonates (AWAKEN) is the first

multicentre, multinational study in 4273 infants admitted to 24 neonatal intensive care units in Australia, Canada, India, and the USA, over 3 months, who were retrospectively screened for AKI. The study is an impressive effort with a methodologically sound approach, showing that 605 (30%) of 2022 critically ill neonates developed AKI across the gestational-age spectrum. Moreover, even after adjustment for multiple potential confounders, including varying comorbidities, neonatal AKI conferred an increased risk of mortality and prolonged hospital stay. These neonatal findings are similar to those reported in critically ill children and young adults,^{4,5} indicating that the AKI burden and the associated mortality risks in these patients are comparable, independently of age and of substantial health concerns. Although no direct link between AKI and death has yet been shown, the AWAKEN study supports the notion that AKI is likely a crucial component in this outcome.

In addition to being valuable because of its significant findings in a large cohort of neonates, the



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