

Journal Scan

Assessment of the population-level effectiveness of the Avahan HIV-prevention programme in South India: a preplanned, causal-pathway-based modelling analysis

Avahan, the India AIDS initiative of the Bill & Melinda Gates Foundation, was a large-scale, targeted HIV prevention intervention. This is the first assessment of Avahan to account for the causal pathway of the intervention, that of changing risk behaviours in female sex workers and high-risk men who have sex with men to avert HIV infections in these groups and the general population. Authors assessed the overall effectiveness of the program by estimating the number and proportion of HIV infections averted across Avahan districts. In 13 of 24 project districts, modeling suggested medium to strong evidence for a large self-reported increase in consistent condom use since Avahan implementation. In the remaining districts, the evidence was weaker, with consistent condom use generally already high before Avahan began. Data suggested that in the initial 4 years of the program 202 000 (98 300-407 000) infections were averted across all 69 Avahan districts in South India, increasing to 606 000 (290 000-1 193 000) over 10 years. Over the first 4 years of the programme 42% of potential HIV infections were averted, and over 10 years 57% were averted.

Comment

The Bill & Melinda Gates Foundation launched Avahan in 2003 for the purpose of developing a model HIV prevention system in India and promoting others in India and worldwide to adapt and adopt their model. The programme aims to reduce HIV transmission and the prevalence of sexually transmitted infections in vulnerable high-risk populations, notably female sex workers, male homosexuals, and transgenders, through prevention education and services such as condom promotion, sexually transmitted infection management, behavior change communication, community mobilization, and advocacy. The results reported above show that concerted community based efforts by non-governmental organizations (NGOs) with proper funding by philanthropic organizations can achieve spectacular results. These efforts serve to supplement the efforts of the government to reduce the transmission of HIV and blunt the AIDS epidemic.

Pickles M, Boily M-C, Vickerman P, Lowndes CM, Moses S, Blanchard JF, Deering KN, Bradley J, Ramesh BM, Washington R, Adhikary R, Mainkar M, Paranjape RS, Alary M. Assessment of the population-level effectiveness of the Avahan HIV-prevention programme in South India: a preplanned, causal-pathway-based modelling analysis. Lancet Global Health 2013, published Online Sept 30. [http://dx.doi.org/10.1016/S2214-109X\(13\)70083-4](http://dx.doi.org/10.1016/S2214-109X(13)70083-4).

Exercise for lower limb osteoarthritis: systematic review incorporating trial sequential analysis and network meta-analysis

In this metaanalysis, 60 trials (44 knee, two hip, 14 mixed) covering 12 exercise interventions and with 8218 patients were included. The overall difference in pain intensity (exercise group vs. control) was “2.03 cm (95% credible interval “2.82 to “1.26 cm, large effect size) on a 10 cm visual analogue scale for strengthening only exercise, “1.26 cm (“2.12 to “0.40 cm, medium effect size) for flexibility plus strengthening exercise, “1.74 cm (“2.60 to “0.88 cm, medium effect size) for flexibility plus strengthening plus aerobic, “1.87 cm (“3.56 to “0.17, medium effect size) for aquatic strengthening,



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http://svimstpt.ap.nic.in/jcsr/jan-mar14_files/js14.pdf

and “1.87 cm (“4.11 to “0.68 cm, large effect size) for aquatic flexibility plus strengthening exercise. With regard to joint function, the overall difference in function (exercise group versus controls) was “1.32 units (95% credible interval “2.44 to 0.21” units, medium effect size) on a WOMAC disability scale ranging from 0 to 10 for the combination of strengthening, flexibility, and aerobic exercises. The authors concluded that evidence from the network meta-analysis, largely based on studies in knee osteoarthritis, indicates that a programme combining flexibility, strengthening, and aerobic exercise is most likely to improve outcomes of pain and function

Comment

This meta-analysis shows that exercises are effective in reducing pain and improving function in patients with osteoarthritis. Proper physiotherapy and an active lifestyle may be an alternative way to improve the quality of life rather than passively popping painkiller pills with all their attendant side effects.

Uthman OA, van der Windt DA, Jordan JL, Dziedzic KS, Healey EL, Peat GM, Foster NE. Exercise for lower limb osteoarthritis: systematic review incorporating trial sequential analysis and network meta-analysis. BMJ 2013;347:f5555.

Long-term cognitive impairment after critical illness

Authors enrolled adults with respiratory failure or shock in the medical or surgical intensive care unit (ICU), evaluated them for in-hospital delirium, and assessed global cognition and executive function 3 and 12 months after discharge with the use of the Repeatable Battery for the Assessment of Neuropsychological Status (for global cognition) and the Trail Making Test, Part B (for executive function). Of the 821 patients enrolled, 6% had cognitive impairment at baseline, and delirium developed in 74% during the hospital stay. At 3 months, 40% of the patients had global cognition scores that were 1.5 SD below the population means, and 26% had scores 2 SD below the population means. Deficits occurred in both older and younger patients and persisted, with 34% and 24% of these patients respectively in assessments performed at 12 months. A longer duration of delirium was independently associated with worse global cognition at 3 and 12 months (P=0.001 and P=0.04, respectively) and worse executive function at 3 and 12 months (P=0.004 and P=0.007, respectively). Use of sedative or analgesic medications was not consistently associated with cognitive impairment at 3 and 12 months.

Comment

Delirium or acute confusional state represents an organically caused decline from a previously-attained baseline level of cognitive function. It is typified by fluctuating course, attention deficits and generalized disorganization of behavior. It typically involves other cognitive deficits, changes in arousal (hyperactive, hypoactive, or mixed), perceptual deficits, altered sleep-wake cycle, and psychotic features such as hallucinations and delusions. Authors have shown that delirium during acute illness is associated with sequelae in the form of cognitive impairment for upto a year after recovery from the same suggesting that there is long term neurological damage resulting from acute organic insults like respiratory failure, shock or major surgery. Recovery may be slow and incomplete.. Longer (> 1 year) follow up studies in patients recovering from delirium are required to further define the course of recovery.

Pandharipande PP, Girard TD, Jackson JC, Morandi A, Thompson JL, Pun BT, Brummel NE, Hughes CG, Vasilevskis EE, Shintani AK, Moons KG, Geevarghese SK, Canonico A, Hopkins RO, Bernard GR, Dittus RS, and E.W. Ely for the BRAIN-ICU Study Investigators N Engl J Med 2013; 369:1306-1316 October 3, 2013 DOI: 10.1056/NEJMoa1301372

Increased risk of mortality among haemodialysis patients with or without prior stroke: A nationwide population-based study

The Taiwan National Health Insurance Research Database (NHRI-NHIRD-99182) was used to identify all adult patients (≥18 yr) with end stage renal disease (ESRD) who started maintenance HD between January 1, 1999, and December 31, 1999. The patients were followed from the first reported date of HD to the date of death, end of dialysis or December 31, 2008. Among 5672 HD patients, 650 patients (11.5%) had prior stroke. After adjusting for age, sex and other covariates, the patients with prior stroke were found to have a 36 per cent increased risk of mortality compared to those without (HR 1.36, 95% CI: 1.22-1.52). The cumulative survival rates among HD patients without prior stroke were 96.0 per cent at the first year, 68.4 per cent at the fifth year, and 46.7 per cent at the ninth year, and 92.9, 47.3 and 23.6 per cent, respectively, in those with prior stroke (log-rank: P<0.001).

Comment

The present study showed that the presence of prior stroke reduces survival in patients with end stage renal disease who are on hemodialysis. Prior stroke may be a marker for the prior existence of hypertension or diffuse vascular pathology in these patients. It is well known that vascular diseases, either coronary or cerebrovascular, are the leading causes of mortality in patients on hemodialysis. The current study highlights the importance of strategies to prevent vascular events including hypertension control, lipid optimization and smoking cessation at early stages in chronic kidney disease patients, so that these patients do not enter renal replacement programs with already established vascular disease such as prior stroke.

Chien CC, Sun YM, Wang JJ, Chu CC, Lu CL, Wang SF, Hwang JC, Wang HY, Kan WC, Lu YH, Chen HA, Chio CC, Lin KC, Wu CC. Increased risk of mortality among haemodialysis patients with or without prior stroke: A nationwide population-based study in Taiwan. Indian J Med Res. 2013 Aug;138(2):232-8.

Reviewers

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BEST PAPER AWARD

JCSR, with the intention of encouraging the contributors, is presenting "Best Paper Awards", one each under "Original Article" and "Case Report" Categories. The articles published in the JCSR in the year 2013 (Volume 2 Issues 1-4) were examined by three experts for each category and the *Best Paper* under each of the categories were identified. The "Best Papers" for the year 2013 are listed below:

Under "**Original Article**" Category

Verma AK, Mishra M, Singh A, Chaudhri S, Pandey S. Outcome of cases under Revised National Tuberculosis Control Programme at designated microscopy centre of a tertiary level hospital and medical college at Kanpur, U.P. J Clin Sci Res 2013;2:126-31.

Under "**Case Report**" Category

Wadood Khan ZA, Vidyasagar S, Bekur R, Belurkars S, Shailaja S. Subhyaloid haemorrhage in a patient with vitamin B12 deficiency: a unique presentation. J Clin Sci Res 2013;2:161-4.

The authors shall be issued a merit certificate on the SVIMS Anniversary day, 26th February, 2014. Hope this will stimulate the contributors to send their best work to our journal.

B. Vengamma
Hon. Editor-in-Chief