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Effect of editors' implementation of CONSORT guidelines on the reporting of abstracts in high impact medical journals

This study evaluated the effect of journals' editorial policy to implement the CONSORT extension for abstracts guidelines on the reporting quality of abstracts of randomised trials published in five high impact, general medical journals. The authors found that active implementation of the guidelines can lead to improvements in the reporting of abstracts. They conclude that, although authors bear the main responsibility for implementing the guidelines, journals can, and should, have an important role in implementing them.

Frequency and risk factors for prevalent, incident, and persistent genital carcinogenic human papillomavirus infection in sexually active women

In this community based cohort study of 2185 sexually active female students, having multiple sexual partners was an independent predictor of both prevalent and incident infection. Infection with non-vaccine carcinogenic genotypes was common. Although current HPV vaccines offer partial cross protection against some non-vaccine carcinogenic HPV types, immunised women will still need cervical screening, say the authors.

Dabigatran, rivaroxaban, or apixaban versus enoxaparin for thromboprophylaxis after total hip or knee replacement: systematic review, meta-analysis, and indirect treatment comparisons

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EDITORIAL by Haut et al

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STUDY QUESTION

What is the clinical efficacy and safety of new oral anticoagulants for prophylaxis against venous thromboembolism after total hip or knee replacement?

SUMMARY ANSWER

Rivaroxaban is associated with a lower risk of symptomatic venous thromboembolism than enoxaparin but at the cost of an increase in clinically relevant bleeding. The risk of symptomatic venous thromboembolism is similar in patients receiving dabigatran or apixaban compared with enoxaparin, whereas apixaban is associated with a lower risk of clinically relevant bleeding than enoxaparin. No differences were found between the different anticoagulants on the composite endpoint of symptomatic venous thromboembolism, major bleeding, and deaths.

WHAT IS KNOWN AND WHAT THIS PAPER ADDS

Pivotal trials in venous thromboprophylaxis are usually based on a surrogate venographic (usually asymptomatic) primary endpoint of efficacy. The new anticoagulants did not differ significantly for clinical efficacy and safety.

Selection criteria for studies

We considered randomised controlled trials comparing any of the approved new oral anticoagulants (rivaroxaban, dabigatran, and apixaban) with enoxaparin in patients undergoing total hip or knee replacement. We searched Medline and CENTRAL (up to April 2011), clinical trial registries, relevant conference proceedings, and the websites of regulatory agencies. No language restrictions were applied. All randomised patients were analysed on an intention to treat basis, according to PRISMA recommendations, using a random effects model.

Primary outcome(s)

The primary outcomes were symptomatic venous thromboembolism (primary efficacy outcome) and clinically relevant bleeding (primary safety outcome).

Main results and role of chance

Sixteen trials in 38 747 patients were included. Compared with enoxaparin, the risk of symptomatic venous thromboembolism was lower with rivaroxaban (relative risk 0.48, 95% confidence interval 0.31 to 0.75; P=0.001) and similar with dabigatran (0.71, 0.23 to 2.12; P=0.54) or apixaban (0.82, 0.41 to 1.64; P=0.57). Compared with enoxaparin, the relative risk of clinically relevant bleeding was higher with rivaroxaban (1.25, 1.05 to 1.49; P=0.01), similar with dabigatran (1.12, 0.94 to 1.35; P=0.21), and lower with apixaban (0.82, 0.69 to 0.98; P=0.03). No differences between treatments were found on the net clinical endpoint (symptomatic venous thromboembolism, major bleeding, and deaths) in direct or indirect comparisons.

New anticoagulants versus enoxaparin for thromboprophylaxis after total hip or knee replacement

Outcomes and anticoagulants	Relative risk (95% CI)	P value
Symptomatic venous thromboembolism:		
Dabigatran *v* enoxaparin	0.71 (0.23 to 2.12)	0.54
Rivaroxaban *v* enoxaparin	0.48 (0.31 to 0.75)	0.001
Apixaban *v* enoxaparin	0.82 (0.41 to 1.64)	0.57
Clinically relevant bleeding:		
Dabigatran *v* enoxaparin	1.12 (0.94 to 1.35)	0.21
Rivaroxaban *v* enoxaparin	1.25 (1.05 to 1.49)	0.01
Apixaban *v* enoxaparin	0.82 (0.69 to 0.98)	0.03
Symptomatic venous thromboembolism, major bleeding, and deaths:		
Dabigatran *v* enoxaparin	0.93 (0.63 to 1.37)	0.72
Rivaroxaban *v* enoxaparin	0.88 (0.70 to 1.12)	0.29
Apixaban *v* enoxaparin	0.92 (0.68 to 1.23)	0.56

Bias, confounding, and other reasons for caution

The main efficacy outcome in our study (symptomatic venous thromboembolism) was a secondary outcome in all studies. Therefore the results on symptomatic venous thromboembolism are exploratory. Nevertheless, all events were adjudicated blindly and independently. However, symptomatic venous thromboembolism events are more representative of what we would expect in standard clinical practice than are venographic (mainly asymptomatic) events. In absolute terms, it is expected that patients in standard clinical practice would have a higher risk for symptomatic venous thromboembolism and bleeding than those included in clinical trials because of exclusion criteria in clinical trials. Bleeding risk increases with age and other special situations to a greater extent than does the risk of symptomatic venous thromboembolism. Therefore one of the main uncertainties on the use of the new anticoagulants is related to their real bleeding risk in standard clinical practice, which emphasises the need for their appropriate use according to product labelling to minimise such risk.

Study funding/potential competing interests

This study received no funding or support from any organisation. We have no competing interests.

The effect of folic acid based homocysteine lowering on cardiovascular events in people with kidney disease: systematic review and meta-analysis

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STUDY QUESTION

Does folic acid based homocysteine lowering therapy reduce cardiovascular events in people with any category of kidney disease?

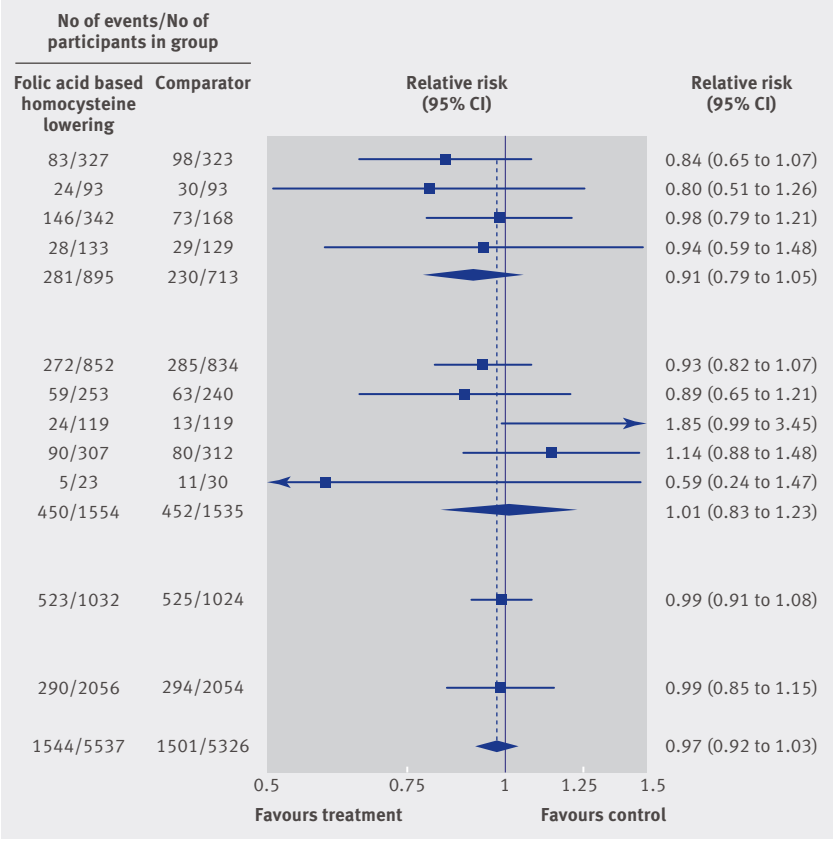
SUMMARY ANSWER

Folic acid based homocysteine lowering did not reduce cardiovascular events in over 10 000 participants with any category of kidney disease, including end stage kidney disease, chronic kidney disease, and a functioning kidney transplant.

WHAT IS KNOWN AND WHAT THIS PAPER ADDS

Homocysteine lowering in the general population has failed to show clear cardiovascular benefits, although homocysteine levels are higher in people with kidney disease than in the general population. This study found that folic acid based homocysteine lowering therapy does not affect rates of cardiovascular events or other clinical endpoints in people with kidney disease.

Effect of folic acid based homocysteine lowering therapy on composite cardiovascular events



Selection criteria for studies

We included clinical trials that randomly allocated people with any category of kidney disease to folic acid based homocysteine lowering therapy and reported cardiovascular events and at least 100 patient years of follow-up. Studies were identified from Embase, Medline, the Cochrane central database of controlled trials, and ClinicalTrials.gov to June 2011.

Primary outcome

The primary endpoint was cardiovascular events (composite of myocardial infarction, stroke, and cardiovascular mortality, or as reported by the study author).

Main results and role of chance

Eleven randomised studies were identified totalling 10 951 participants with kidney disease. Trials conducted entirely among people with kidney disease included end stage kidney disease (four studies), combined end stage kidney disease and dialysis independent chronic kidney disease (two studies), functioning kidney transplants (one study), and diabetic nephropathy (one study). Subgroup reports on people with chronic kidney disease were reported from larger trials (three studies). Trials were overall of high quality. Folic acid based homocysteine lowering therapy did not prevent cardiovascular events (relative risk 0.97, 95% confidence interval 0.92 to 1.03, P=0.326) or any of the secondary outcomes (individual composite components, all cause mortality, access thrombosis, requirement for renal replacement therapy, and reported adverse events). Therapy did not increase adverse event rates although there was noticeable variability between trials on overall rates of adverse events, suggesting variation in reporting thresholds. There was no heterogeneity in subgroup analyses, including those of kidney disease category, background fortification with folic acid, rates of pre-existing disease, or baseline homocysteine level.

Bias, confounding, and other reasons for caution

This analysis was predominantly based on published tabular data rather than individual patient level data. Definitions of the cardiovascular composite varied between studies.

Study funding/potential competing interests

This study received no external funding.

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Internet based vascular risk factor management for patients with clinically manifest vascular disease: randomised controlled trial

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STUDY QUESTION

Is an internet based, nurse led vascular risk factor management programme promoting self management on top of usual care more effective than usual care alone in reducing vascular risk factors in patients with clinically manifest vascular disease?

SUMMARY ANSWER

An internet based treatment programme on top of usual care had a small effect on lowering vascular risk and on lowering of some vascular risk factors in patients with vascular disease.

WHAT IS KNOWN AND WHAT THIS PAPER ADDS

Treatment of vascular risk factors is very effective in reducing the risk of recurrent vascular events. The nurse led internet programme used in this study is easy to implement in clinical practice at low cost and could be used for various groups of patients at high cardiovascular risk.

Design

This was a prospective randomised controlled trial of improving vascular risk factors in patients with vascular diseases by intervention via the internet plus usual care compared with usual care alone.

Participants and setting

We recruited 330 patients in two hospitals in a secondary and tertiary healthcare setting. Patients had a recent clinical manifestation of atherosclerosis in the coronary, cerebral, or peripheral arteries diagnosed and had at least two treatable risk factors not at goal. The intervention consisted of a personalised website with an overview and actual status of patients' risk factors and mail communication via the website with a nurse practitioner for 12 months. The intervention was a combination of self management support, monitoring of disease control, lifestyle changes, and drug treatment.

Main results and the role of chance

The primary outcome after one year showed a relative change of −14% (95% confidence interval −25% to −2%) in Framingham heart risk score in the intervention group compared with the usual care group. At baseline, the Framingham heart risk score was higher in the intervention group than in the usual care group (16.1 (SD 10.6) *v* 14.0 (10.5)). Therefore, we adjusted the outcome for the separate variables of the Framingham heart risk score (change in risk score of the intervention group compared with the usual care group −12%, −22% to −3%) and for the baseline Framingham heart risk score (change in risk score −8%, −18% to 2%).

Harms

The intervention was safe, as the hazard ratio for a subsequent vascular event was 0.66 (95% confidence interval 0.35 to 1.24) for the intervention group compared with the usual care group.

Bias, confounding, and other reasons for caution

We used a summary score for vascular risk. We realise that the Framingham heart risk score was not developed for estimating the vascular risk in patients with clinically manifest vascular disease. As yet, no such validated score exists for patients with vascular diseases. The Framingham heart risk score is not accurate in estimating the absolute vascular risk in these patients, but it can be used to evaluate relative differences and changes between groups.

Generalisability to other populations

The results can be generalised to patients with vascular disease and patients at high vascular risk with access to the internet at home and with sufficient computer skills.

Study funding/potential competing interests

This study was financially supported by ZonMw, the Netherlands Organization for Health Research and Development. The department of FLJV has received grant support from Merck and the Catharijne Foundation Utrecht and speakers' fees from Merck and AstraZeneca. HAHK has received fees for cardiovascular risk management education programmes from non-profit organisations.

Trial registration number

Clinical trials NCT00785031.

Difference in change in Framingham heart risk score between intervention group and usual care group

	Intervention (n=155)		Usual care (n=159)			
Adjustment	Baseline	Follow-up	Baseline	Follow-up	Difference* (95%CI)	Relative change† (95% CI)
None					−2.1 (−3.8 to −0.3)	−14% (−25% to −2%)
Variables of risk score‡	16.1 (10.6)	13.2 (8.9)	14.0 (10.5)	13.2 (9.4)	−1.8 (−3.3 to −0.4)	−12% (−22% to −3%)
Baseline risk score					−1.2 (−2.7 to 0.3)	−8% (−18% to 2%)

Data are expressed as mean (SD) or number (percentage).
*Difference between groups=(baseline value−follow-up value in usual care group)−(baseline value−follow-up value in intervention group).
†Relative change calculated by dividing by mean Framingham heart risk score at baseline and multiplying by 100.
‡Baseline age, sex, systolic blood pressure, LDL cholesterol, HDL cholesterol, type 2 diabetes mellitus, and current smoking.

Effect of experience and commercialisation on survival in Himalayan mountaineering: retrospective cohort study

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EDITORIAL by Burtscher

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- Matiram Pun: Mountain medicine - pilgrims, research, and peace
- David Payne: Hypoxia, Everest-style
- Siddhartha Yadav: Diagnosing and treating the "Nepalese" microbes

STUDY QUESTION

Does a lack of previous Himalayan expedition experience or participation in a commercial expedition increase the risk of death in mountaineers?

SUMMARY ANSWER

Climbers less experienced in Himalayan expeditions were no more likely to die on climbs than those who were more experienced; participation in a commercial expedition also did not affect the likelihood of death.

WHAT IS KNOWN AND WHAT THIS PAPER ADDS

With the increased trend in the commercialisation of high altitude mountaineering, relatively inexperienced climbers are mentored up peaks they would not otherwise be able to climb. Contrary to the belief of some mountaineers, commercial Himalayan expeditions are not more dangerous than traditional expeditions, and could in fact be safer.

Participants and setting

We analysed the climbs of non-porters venturing above base camp on expeditions to constituent Nepalese peaks.

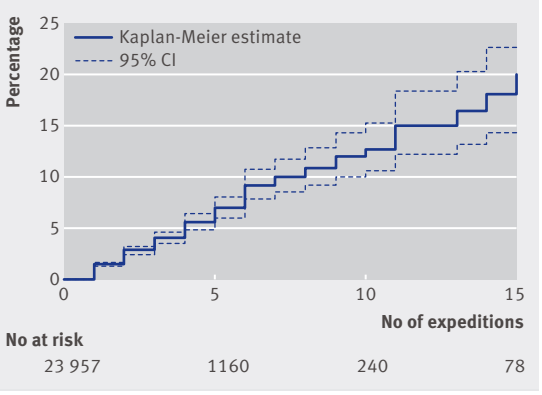
Design, size, and duration

We performed a retrospective analysis of mortality data for a cohort of 23 995 unique expedition members on 39 038 personal ascents over 40 years, from 1 January 1970 to the climbing season of spring in 2010.

Main results and the role of chance

After controlling for use of standard route, peak, age, season, sex, summit success, and year of expedition, increased Himalayan experience was not associated with a change in the odds of death (odds ratio for a one unit increase in expedition number 1.00, 95% confidence interval 0.96 to 1.05, P=0.904). Participation in a commercial climb was associated with a 37% lower odds of death relative to a traditional venture, although this result was not significant (0.63, 0.37 to 1.09, P=0.100). Using Kaplan-Meier methodology, modelling a hypothetical Himalayan mountaineering career showed an essentially linear association between experience and risk of death.

Cumulative mortality for a hypothetical Himalayan climbing career



Bias, confounding, and other reasons for caution

The designation of an expedition as "commercial" by the curators of the historical database used in the study was taken at face value. Although many expeditions are clearly for profit ventures with experienced professionals paid to guide clients, the relationship between the members of modern expeditions can sometimes be ambiguous, and is a potential source of misclassification. In addition, no distinction was made between clients and guides, subgroups that could differ in important ways from the general mountaineering population. Another limitation was the necessity of using the number of Nepalese expeditions as a proxy for high altitude mountaineering experience. Mountaineering experience gained on external peaks was not indicated in the dataset.

Generalisability to other populations

Our results and conclusions can be safely generalised to climbs in other central Asian ranges of similar altitude, such as the Hindu Kush and Karakorum. Whether these results apply to lower altitude settings is unclear. Furthermore, these findings do not apply to high altitude porters, who were excluded from the analysis. The results apply only to the cohort of climbers overall, and do not estimate risk for any subgroup not specified in the analysis.

Study funding/potential competing interests

This study did not receive any specific funding. The authors declare no conflicts of interest.