

## Health literacy skills and the benefits of cardiovascular disease prevention

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Cardiovascular disease (CVD) prevention can be highly effective: the complete elimination of health risk behaviours could potentially prevent around 80% of CVDs (and 40% of cancers) [1, 2]. Most of the effective treatments are relatively simple (although they may require extraordinary discipline), and most of the drugs that are prescribed are generic and highly affordable.

The greatest challenge is therefore in implementation of these preventive treatments. Consistently, surveys report low levels of adherence to lifestyle improvements and to medication, particularly in the long term. Even in secondary prevention, in patients who have experienced complications of CVD, adherence is disappointing [3]. Significant inequalities exist between countries and between ethnicities in the same country [4]. Among the many variables that impact on these patterns, socio-economic status is prominent.

In this issue, Van Schaik et al. report on one of the elements associated with low socioeconomic status: low health literacy [5]. According to the World Health Organisation, health literacy is linked to literacy and entails people's knowledge, motivation and competences to access, understand, appraise and apply health information in order to make judgements and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course [6].

The authors reviewed data from the RESPONSE 1 study, which randomised patients who had been discharged after an acute coronary syndrome to a nurse-led secondary pre-

vention program on top of usual care, or to usual care alone [7]. The overall finding of the RESPONSE 1 study was that the nurse-led prevention program significantly improved adherence to guideline-based preventive treatments, and reduced the (calculated) overall risk of clinical events. Nurse led care in secondary prevention is now recommended in European cardiology guidelines [8].

The current analysis shows that inadequate health literacy is highly prevalent in patients with coronary artery disease, ranging from 18% who have inadequate reading skills to 52% who have difficulty understanding and applying written information. Patients with low health literacy had significantly worse CVD risk profiles.

The findings are consistent with other reports [9, 10]. However, these studies were either performed in primary prevention or assessed single risk factors instead of integrated risk profiles. The investigation by Van Schaik et al. is the first to investigate the impact of health literacy on the effects of secondary prevention by nurse coordinated care. Importantly, patients with inadequate health literacy in the intervention group had improved risk profiles at 12-month follow-up, while those with inadequate health literacy in the control group showed no improvement. This suggests that the nurse-led prevention program was effective in patients with low health literacy, consistent with the overall results of the trial. Importantly, it remains to be established whether these effects persist in the longer term.

The current study did not address why the nurse intervention was effective. It is conceivable that particularly those who have a limited understanding of health information benefit from personal coaching by a nurse. In addition, it is unknown which approach is appropriate: education and information or behavioural modification, or combinations. More variables matter in this respect, including income, ethnicity, age, gender, all adding to the complexity of se-

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lecting and implementing the best approaches to prevention. Given the numbers of patients globally, and given the size of the potential impact of preventive treatments, these issues clearly deserve further study.

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## References

1. Cooney MT, Dudina A, Whincup P, et al. Reevaluating the Rose approach: comparative benefits of the population and high risk preventive strategies. *Eur J Cardiovasc Prev Rehabil.* 2009;16:541–9.
2. Liu K, Daviglius ML, Loria CM, et al. Healthy lifestyle through young adulthood and the presence of low cardiovascular disease risk profile in middle age: the Coronary Artery Risk Development in (Young) Adults (CARDIA) study. *Circulation.* 2012;125:996–1004.
3. Kotseva K, De Bacquer D, Guy De Backer G, et al. Lifestyle and risk factor management in people at high risk of cardiovascular disease. A report from the European Society of Cardiology European Action on Secondary and Primary Prevention by Intervention to Reduce Events (EUROASPIRE) IV cross-sectional survey in 14 European regions. *Eur J Prev Cardiol.* 2016;23:2007–18.
4. Minneboo M, Lachman S, Snijder MB, Vehmeijer JT, Jørstad HT, Peters RJ. Risk factor control in secondary prevention of cardiovascular disease: results from the multi-ethnic HELIUS study. *Neth Heart J.* 2017;25:250–7.
5. van Schaik TM, Jørstad HT, Twickler TB, et al. Cardiovascular disease risk and secondary prevention of cardiovascular disease among patients with low health literacy. *Neth Heart J.* 2017; doi:10.1007/s12471-017-0963-6.
6. Kickbusch I, Pelikan JM, Apfel F, Tsouros AD. (editors) *Health literacy The solid facts.* Copenhagen: World Health Organisation; 2013. ISBN 978-9289000154.
7. Jorstad HT, von Birgelen C, Alings AMW, et al. Effect of a nurse-coordinated prevention programme on cardiovascular risk after an acute coronary syndrome: main results of the RESPONSE randomised trial. *Heart.* 2013;99:1421–30.
8. Massimo F, Piepoli MF, Hoes AW, et al. European Guidelines on cardiovascular disease prevention in clinical practice: The Sixth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts) Developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR). *Eur Heart J.* 2016;37:2315–81.
9. Martin LT, Schonlau M, Haas A, et al. Literacy skills and calculated 10-year risk of coronary heart disease. *J Gen Intern Med.* 2011;26:45–50.
10. McNaughton CD, Jacobson TA, Kripalani S. Low literacy is associated with uncontrolled blood pressure in primary care patients with hypertension and heart disease. *Patient Educ Couns.* 2014;96:165–70.

