Reviewer's report

Title: Training auscultatory skills: computer simulated heart sounds or additional bedside training? A randomized trial on third-year medical students.

Version: 1 Date: 18 August 2009

Reviewer: alberto dolara

Reviewer's report:

Revision of the paper “Training auscultatory skill: computer simulated heart sound or additional bedside training? A randomized trial on third-year medical students” by Sverdrup O, Torstein J, Solheim S, Gjesdal K.

Dr. Alberto Dolara

The crisis of cardiac auscultation is documented by many recent papers(1,2), as compared to the overwhelming diffusion of echocardiography (3). In the aim of improving this part of physical examination trials with different teaching devises were conducted by a manikin like" Harvey" (4), multiple repetitions of basic cardiac murmurs(5), classroom teaching and computer-aided independent learning (6), small-group discussion and repetitive auscultation of simulated heart sounds (7), and by bedside recordings of patients with visible and audible cardiovascular findings presented as interactive media(8). Such trials have involved medical students, paediatric residents, family practice residents, physicians in training and cardiologists.

The merit of the paper by Sverdrup et al is that the authors have tested medical students receiving additional auscultation training either employing a computer simulator system or adding on more conventional bedside training. According to the results of the study an equal performance was obtained in the two groups of students . It is thus reinforced the possibility to use different modalities to enhance the art of listening to the heart according to the local situation, the availability of instrumentation and the type of medical population involved.(9)

In an isolated report it has been put in doubt the crisis of cardiac auscultation and stated there may be no need to multiply the efforts to reinforce this skill if the patient is asymptomatic (10). Missing the diagnosis of aortic or mitral valve disease even if he(her) is asymptomatic may nevertheless preclude prophylaxis against endocarditis in case of oral or vaginal interventions or advising the patient to avoid strenuous physical efforts which may be followed by serious unexpected symptoms or death. Erroneous interpretation of innocent systolic murmurs in children may also lead to anxiety and request of unnecessary and expensive cardiologic intervention..

The main limitation of the study by Sverdrup et al is that the time allocated to auscultation programs is too brief and the best score achieved is low (28of 40 points-70%) . What will be the long memory of this short intensive course as well
as of those from other studies? The authors of the paper state that it is “hard to get acceptance for more time spent on auscultation training in the congested medical core curriculum”. This is the main problem due to a “fast medicine”, which discards “slow”, but simple and more economic approaches to the patient in favour of other ones more complicated and often more expensive (11). Changing this attitude and a continuing medical education throughout the doctors’ professional life are mandatory to avoid that cardiac auscultation as an art and skill will succumb to the way of the impossible dream of Don Quixote (12).

References

1) Mangione S, Nieman LZ. Cardiac proficiency skills of internal medicine and family practice trainees. A comparison of diagnostic proficiency. JAMA 1997;278:712-22


7) Horiszny JA. Teaching cardiac auscultation using simulated heart sounds and small-group discussion. Fam Med 2001;33:39-44


11) Dolara A. Avoiding haste in clinical cardiology. Acta Cardiologica
The paper may be accepted without revision.
It is an article of importance in its field.
I declare that I have no competing interests’ in relation of the paper.
I am happy that the review be posted on the BMC Medical Education website as part of the pre-publication of this article

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
I declare that I have no competing interests