Editorial

Community-Based Cardiovascular Prevention Programs: Theory and Practice

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During the decades after World War II the main risk factors for atherosclerotic cardiovascular diseases (CVD) were identified through numerous epidemiologial follow-up studies.[1] Many other observations from animal studies to ecological comparisons have supported the hypothesis that these risk factors are, indeed, causal. In the classical research chain, the "final proof" would come from randomized trials.

Since risk factors are closely related to certain behaviors, in particular dietary habits, smoking and physical activity, such a study is, however, very difficult in practice. Double-blind studies are not feasible. It is not feasible to expect that large numbers of randomized individuals would change their behaviors over many years, in the absence of other changes, while randomized control individuals from the same neighborhood would not make such changes.

In this situation, many have pointed out that we should aim at changing communities, since people's lifestyles are so deeply enrooted in social and physical environments. In the early 1970's, when North Karelia Province in Finland was faced with a very high CVD burden, this idea was implemented. Initially a quasi-experimental design was adopted. With the initial success, the interventions were moved to a national scale with respective monitoring and evaluation.[2]

The idea was also implemented in the USA in three NIH financed projects: California (Stanford), Minnesota and Rhode Island. In Europe several such community-based studies have been implemented.[3] Evaluation of these programs has shown some effects but generally did not meet with higher expectations.[4]

There is much speculation for the lack of effect of the intervention. Generally it is felt that the intensity of the interventions in these larger areas have been weak, in comparison to the need. Many also feel that the actual community organization activities in many of the studies have been weaker than those in the North Karelia study. It has also been stated as one reason of the meager effects that in many Western countries there is already a favorable national change in risk-related lifestyles.

Since over the last two decades the problem of CVD and more generally of noncommunicable diseases (NCD) has moved to the developing world, the challenge of prevention in this area has become more urgent as the resources for clinical treatments are extremely limited.[5]

Early attempts at community-based programs in some developing world countries have been reviewed by Nissinen et al.[6] The review stated how community-based NCD programs should be planned, run and evaluated according to clear principles and rules. These programs should collaborate with all sectors of the community and maintain close contact with national authorities. The review also discussed the global burden of disease and emphasized the need for international collaboration. This has been the case with the Isfahan project.

The project in Isfahan was interesting as the study was well planned; the intervention obviously had a substantial intensity and community organization.[7] The results were promising and have shown significant effects on some risk factors. Even if limited, as with many other studies, they represent a good demonstration and pave the way for deeper, sustained national changes, as has happened in Finland.

Now that the evidence of the main risk factors and the potential for prevention has been proven beyond a reasonable doubt, the original principles and arguments for community-based intervention has gained support. This means broad intersectoral interventions at the population level to influence risk-related lifestyles.

However, since general lifestyle trends are very much national, it is difficult to think that our communities could deviate from national trends. Thus the emphasis is more on national interventions that follow the principle "Health in All Policies" – i.e. through broad health promotion and different policies.[8] At the same time even global determinants of lifestyles are increasingly considered. This discussion culminated in the UN High Level Special Meeting on NCDs in September, 2011 in New York.

So, is there still a role for community based programs? Local governments and local programs can definitely do their part for prevention and health promotion. More comprehensive community-based programs with proper evaluation can be useful demonstration and training sites to serve national evaluation, as has obviously been the case also in Iran. This may be particularly useful in populations and cultures where the prevention process is in its earlier stages, as has been the case for North Karelia and as currently in low and middle income countries.

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