The Importance of Knowing Specific Populations and their Cardiovascular Reality

La importancia de conocer poblaciones específicas y su realidad Cardiovascular

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In the extensive surface of the Argentine Republic, with a great diversity of geographic areas, customs, access to food and health, there are logically disparate characteristics in different regions, and even within them.

The evaluation of cardiovascular variables in native communities of the Calchaquí Valleys through the SONQO-CALCHAQUÍ III program, as well as the previous versions of 2018 and 2022, allow us to know the reality of populations far from urban areas that are underrepresented in the RENATA 2 study or in the IV National Survey of Risk Factors. (1) This third edition highlights the fact that the community of Colalao del Valle has a better cardiovascular health status, probably due to a better educational level, greater treatment of patients with hypertension and diabetes and a higher percentage of inhabitants with normal neck circumference, whereas the inhabitants of Fuerte Quemado have better sleep quality and higher self-esteem. (1)

M. Bassett et al. studied a similar population in 2008, and observed that, with a low socioeconomic and educational level, and a low average energy intake, they showed a high prevalence of overweight, obesity and an elevated risk of cardiovascular disease according to central adiposity values. This could be due to the introduction of new high-energy foods and a more sedentary lifestyle or to the possibility that the biological characteristics of these individuals make them more predisposed to a rapid increase in adiposity. (2)

P. Durán describes the epidemiological transition process as one with changes in the morbidity patterns of populations, with prevalence of chronic noncommunicable diseases, in which the changes are not only demographic, but also of lifestyle and dietary habits. (3)

A westernization of diet habits is observed in Latin America. In a short period of time, there has been a general increase in energy intake, particularly from refined sugars and saturated fats, and a decrease in fiber intake. (4)

Consequently, a greater survey of the area could be carried out, given that the sample of this work represents 4.4% of the population according to the National Census of 2022. After analyzing the results, interventions in (health promotion, education) could be proposed together with the communal delegates, encouraging healthy eating habits and prescribing physical activity, and subsequently evaluating the results of these interventions.

The effort of the working group was very useful, as it allowed us to learn valuable local information. It would be very interesting to have other teams committed as this one, in order to learn about the realities of other non-urban regions of the country and Latin America, and to act accordingly.

Ethical considerations

Not applicable.

Conflicts of interest

None declared.

(See authors' conflict of interests forms on the web).

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AUTHORS' REPLY

The SONQO-CALCHAQUÍ working group is grateful for the comments of Dr. Rocío Villa Fernández regarding our published studies. We highlight her ability to synthesize the main points of our study in a few lines.

The various editions of the SONQO-CALCHAQUÍ Program involve the voluntary and disinterested work of many people from different regions of our country, and being able to see our efforts reflected in your comment reinforces that we are on the right path. We are trying to reach mountain populations with cardiovascular health, with difficult access to health care due to their geographic condition. Your opinion is valuable. We share the view that native populations are underrepresented in other studies due to the difficulty of access and that each community has its own cardiovascular characteristics, customs, habits and beliefs (which should be taken into account when carrying out prevention campaigns). In addition, we share your interest in evaluating more deeply the changes that are occurring in the diet of these populations. We also believe that climate and altitude could be factors to be taken into account when assessing these populations.

As Dr. Rocio Villa Fernandez points out, it is very important that these studies are replicated in other communities in Argentina and Latin America, that has always been our dream. We are currently planning the V Edition of the Program, which this year will be carried out at a great height.

Ricardo Sebastián Galdeano
Sonqo Calchaquí Program Director

Myocardial Work in Stress Echocardiography with Dipyridamole

Trabajo miocárdico en ecocardiograma estrés con dipiridamol

MILAGROS SEIJO BEHETY

Stress echocardiography (SE) is a widely used technique in our setting, due to its availability and prognostic value in different cardiac pathologies, especially in coronary artery disease. The use of pharmacological stress with dipyridamole may sometimes be slightly limited owing to the lack of access, patients with contraindications, or simply lack of confidence or knowledge of the professional requesting it. The evidence of studies that directly compare the sensitivity and specificity of SE with dobutamine or dipyridamole is wide and diverse, several studies agree that dobutamine has a slight superior sensitivity, which could determine its more frequent use on a daily basis, while other studies claim that both have similar sensitivity and specificity. (1,2) Cardiology guidelines do not prioritize one drug over the other, although dobutamine is usually mentioned more frequently as an example in different works.

The article "Behavior of myocardial work as a marker of ischemia in stress echocardiography with dipyridamole" by Saad et al. opens the possibility of extending the echocardiographic search to less usual determinations such as myocardial work and its derivatives, to increase the sensitivity and specificity of those individuals with ischemia. (3) It also reinforces the points in favor of ES with dipyridamole, such as the determination of coronary flow reserve of the left anterior descending coronary artery, and global longitudinal strain (GLS).

Global longitudinal strain determination for behavioral assessment or complementary evaluation of different pathologies, (from valvulopathies and coronary artery disease to cardiotoxicity, etc.) is requested by many cardiologists as additional data. The inclusion of blood pressure measurement allows us to indirectly calculate myocardial workload in a non-invasive manner.

Non-invasive evaluation of myocardial work by echocardiography has an attractive pathophysiological basis, which has been demonstrated in several studies in recent years. (4, 5)

The evidence of myocardial work analysis in studies with dobutamine is scarce and so far, without promising results. This opens the opportunity for the use of pharmacological stress with dipyridamole, which allows to increase the specificity of the measurement

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and to unmask those patients with ischemia,owing to the demonstration of wasted work and the decrease of efficient work in this condition.

Although the data obtained in this study is encouraging, as pointed out by its authors, their limitations, (retrospective study, number of patients, lack of anatomical follow-up, etc.) are still clear. This should encourage us to further explore this area, thus reinforcing the importance of keeping up to date and adding, to the conventional analysis of motility and ejection fraction, myocardial work as an advanced and noninvasive tool for the evaluation of left ventricular function, in order to offer more accurate and appropriate diagnoses for our patients.

Ethical considerations

Not applicable.

Conflicts of interest

None declared.

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AUTHORS' REPLY

First of all, we would like to thank Dr. Milagros Seijo Behety for her interest and comments on our work. Stress echocardiography (SE) has many advantages over other imaging techniques, mainly related to its low cost, the absence of radiation and low environmental contamination. (1) However, SE with dipyridamole is sometimes inadequately used due to unfamiliarity with the method and/or lack of drug availability. The main clinical practice guidelines propose the use of quantitative tools to analyze the results, not only in relation to myocardial motility, but also in the measurement of contractile and coronary reserve, among other parameters. (1, 2) In this sense, longitudinal strain and myocardial work, which takes into account loading conditions, can help to improve the sensitivity and specificity of the study to detect myocardial disease, since SE with dipyridamole allows obtaining good quality images, that are ideal for the use of this tool. However, as Dr. Seijo mentions in her letter, larger studies are needed to confirm these findings.

Ariel K. Saad MTSAC

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