

# Mexico sees heart failure improvements with diet and exercise

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Doctors in Mexico have shown the benefits of a healthy diet and exercise in patients with heart failure, in research presented at the Mexican Congress of Cardiology 2015.

The annual congress of the Mexican Society of Cardiology is being held in Acapulco from 21 to 25 November 2015. Experts from the European Society of Cardiology (ESC) will present a special programme.

Heart failure is a life threatening condition in which the heart is unable to pump enough blood to meet the needs of the body. The typical symptoms are breathlessness, swollen limbs and fatigue.

In Mexico there are 750 000 patients living with heart failure and the problem is growing. It is estimated that 75 000 more patients will get heart failure each year.

"Just 25% of men and 38% of women with heart failure in Mexico will be alive after five years," said Dr Arturo Orea, study author and [cardiology](#) service coordinator at the National Institute of Respiratory Disease (Instituto Nacional de Enfermedades Respiratorias "Ismael Cosío Villegas") in Mexico City. "Medication can improve the outcome of heart failure, but for most patients the future is still not very bright."

Dr Orea's previous research shows that 40% of patients with heart failure in Mexico have diabetes, 41% have high cholesterol, 57% have high triglycerides, one-quarter are obese, 55% have high blood pressure,

31% smoke and less than 1% are physically active.

Regular aerobic [exercise](#) is recommended for patients with heart failure to improve symptoms and the ability to do daily activities. But more evidence is needed on the benefits of a [healthy diet](#). "There are no specific guidelines on how much carbohydrate, fat and protein patients with heart failure should eat," said Dr Orea. "Sodium and fluid restriction are advised but there are no guidelines on other minerals."

Dr Orea's group has investigated the effect of diet and exercise in patients with heart failure. A study presented for the first time at the Mexican Congress of Cardiology found that after just four months, 84 patients who ate a low carbohydrate diet (40-50% carbohydrates, 30-40% protein and 20% fat) and did aerobic and resistance exercise had reduced blood pressure and total body water compared to a control group of 38 patients.

"These results indicate that a low carbohydrate diet and exercise are beneficial for patients with heart failure," said Dr Orea. "This could be because the respiratory coefficient of carbohydrates is higher than fat and proteins which means they require more oxygen and respiratory effort to metabolise. In addition, a higher intake of unsaturated fat could improve the integrity and function of cells. Exercise improves endothelial function (increasing vessel diameter and blood flow), so there is better delivery of nutrients and oxygen to the cells plus removal of waste."

In another study, the researchers evaluated the impact of sodium, potassium and magnesium ingestion on hospitalisation and death in 129 patients with heart failure over two years.<sup>6</sup> Sodium intake was lower in patients who died (837 mg/day versus 1 749 mg/day,  $p = 0.03$ ). Patients who consumed less than 200 mg/day of magnesium had a nearly three times higher risk of hospitalisation or death.

Dr Orea said: "Patients with heart failure should ensure that they get enough magnesium in their diet by eating dark leafy greens, nuts, fish, whole grains and bananas. Our finding of a lower sodium intake in patients who died might be explained by the fact that when [sodium intake](#) reduction is excessive, the renin-angiotensin-aldosterone system is more active, which can increase blood pressure."

Dr Marco A. Peña Duque, president of the Mexican Society of Cardiology, said: "About 20 to 25 years ago the leading cause of heart failure in Mexico was rheumatic heart disease and at present the main cause is ischaemic heart disease. We need to further investigate different treatments to try to reduce mortality from heart failure."

Professor Stephan Achenbach, ESC vice president for Global Affairs and Communications, enthusiastically supported the research performed by Dr Orea and his group: "Heart failure is a growing epidemic across the world and clearly, medication alone is not a sufficient approach. Lifestyle modification must be a central part of management in [heart failure patients](#), not only for treatment but also for prevention. This research helps us understand the effects even better."

**More information:** [www.escardio.org/Congresses-&- ... South-America/Mexico](http://www.escardio.org/Congresses-&-...South-America/Mexico)

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