

## ***Building capacity to assess obesity in women in Myanmar***

### ***The challenge...***

Cardiovascular diseases and diabetes are important health challenges in Myanmar. Obesity is a risk factor for both these conditions, and for other non-communicable diseases, which account for approximately 40% of all deaths in Myanmar.

Around 18% of Myanmar's population is overweight and 4% is obese. The problem is worse in females (29.4% are overweight or obese, compared to 15.2% of males). These data use body mass index (BMI) to define overweight or obesity. However, excess body fat is the specific factor associated with increased disease risk, and the amount of body fat at any particular BMI is known to vary in different ethnic groups.

Prevention of obesity is key to the reduction of non-communicable disease morbidity and mortality, but Myanmar lacked reliable data for female body composition. Body fatness in this group therefore needed to be assessed.

### ***The project...***

Nuclear techniques – specifically, stable isotope techniques using deuterium dilution – provide an effective, accurate means of assessing body composition. With the support of an IAEA technical cooperation project, Myanmar was able to establish a laboratory for the assessment of body composition in adult women, receiving key equipment that included a Fourier transform infrared (FTIR) spectrometer capable of analysing deuterium enrichment in saliva specimens.

The project also provided the necessary training to assess body composition by deuterium dilution. This was provided through expert visits, scientific visits (including one to the IAEA Collaborating Centre in Nutrition, St John's Research Institute, Bangalore, India) and a one month fellowship at the University of Queensland, Brisbane, Australia. Both institutions have well-established FTIR laboratories and other equipment for the assessment of body composition, as well as ongoing programmes to prevent and control obesity-related NCDs

### ***The impact...***

Capacity in the use of stable isotopic techniques to assess body composition and other risk factors associated with NCDs in women was established through human resource development and the provision of necessary equipment and consumables.

Under the project, a pilot study took place to collect data on body composition in adult women. The results indicated that women in Myanmar have a relatively high percentage of body fat despite a normal BMI, in line with findings from several other countries in the Asia and Pacific region. These findings need to be replicated and extended to other population groups, such as younger women and children.

The new stable isotope laboratory, and the techniques learnt, will play an important role in the prevention and management of obesity and obesity related NCDs in Myanmar.



*Newly installed equipment has improved the laboratory.*