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The Body Mass Index has been since its creation two centuries ago the most aided measure to explain with a thick stroke and in less than a minute our body health. However, the effectiveness of this formula has been put in question by the specialists.

Now, BVI America has created, after more than a decade of research in collaboration with the Mayo Clinic or the U.K Medical Research Council, an app. For iPad, BVI Pro, from a revolutionary formula of greater utility: the Body Volume Indicator or BVI (Body Volume Indicator). Designed exclusively for health professionals to handle, the application would reveal patients' body composition, weight distribution, and associated health risks.

"The BVI app gives us in less than 30 seconds data such as our volume of body fat, visceral fat, abdomen volume or waist-hip ratio "

The simple equation with which BVI works compares the total body volume with the volume of the abdomen, measuring the proportion of total body fat versus the proportion of visceral fat. With the app, a doctor, physiotherapist or dietitian can measure the BVI by entering our vital signs (height, weight, age, sex and fitness level), then take two photos - one frontal and one lateral.

The application then divides our body into seven 3D images to analyze the volume and composition of the body. In less than 30 seconds we will have the result of our volume of body fat, visceral fat, abdomen volume, waist-hip ratio, BMI and the new BVI number: in summary, much more comprehensive and enlightening data on our general health status And our physical condition.

Although ideally we should treat each case with a specialist on an individual basis - and in this sense it is positive that the new app is intended for professionals - our obsession with numbers and to quickly obtain results that account for our state of health Demands to the researchers solutions like those of the present study. But why did we urgently need new methods to replace BMI? Will this, from now on, remain in the background?

Why the BMI is obsolete and we need to change it

Of course, it seems that the new formula improves the previous one. Deficiencies in the Body Mass Index are known to specialists, but perhaps not so much by patients. We speak with Marta Cendón, a member of the Official College of Dietitians-Nutritionists of Castilla y León, to provide us with information on the subject.

"The BMI is a parameter that simply relates the weight to the size and according to the result we classify the person "

"The fact that BMI is not a very reliable measure is that it is a parameter that simply relates body weight to size, and depending on the result" we classify "the person: The problem is

that it is not taken into account Which percentage of fat is part of that weight when, however, the definition of overweight or obesity is "an excess of weight based on fat mass". That is, the limitation of using BMI is that it does not take into account body composition (percentage of fat and percentage of muscle mainly), "he explains.

The BMI gives different labels depending on the values obtained in each individual. There are four categories: low weight (below 18.5), normal weight or adequate weight (18.5 to 24.9), overweight (25 to 29.9) and obesity (from 30, will be type 1 obesity to a BMI of 35, type 2 to 39.9, morbid obesity if the BMI is between 40 and 49.9, and extreme obesity from a BMI of 50).

To better explain the problem, we can think of two people who weigh and measure the same: The Body Mass Index is the same for both, but they can be very different from each other if one of them has 40% body fat and the other has An 18%. Or think of a heavyweight boxer: while your BMI will indicate that you are overweight or obese, the reality is that you will not suffer from these problems nor the physiological complications that can be derived from them, since their excess weight derives from their Muscle mass.

The great danger of the Body Mass Index comes with the awarding of attributes that do not correspond to reality. Classifying people exclusively based on this result forgets the importance of the physical constitution of each individual, regardless of eating habits or diseases suffered. There are people whose constitution causes them to be below 18.5 points or above 25 without risk.

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The sensitivity of the Body Mass Index is very low, since it is also unable to detect the cases of those who have an excessive percentage of body fat but are in the "normal" from the BMI. This relationship is common in cases of childhood obesity, at ages in which it is essential to detect situations of high risk for our health.

Is BMI no longer useful? Why have we committed so much time to BMI?

Almost as the only positive argument, it is usual that when we observe extreme cases these correspond with the category that awards the BMI. "Excessively low or excessively high values of BMI, for example, a BMI of 16 or 40, are telling us, quite likely, that there is indeed a problem, because based on muscle mass or physical buildup it is difficult to reach Weights so low or so high, respectively, for the corresponding size, "explains the nutritionist.

"BMI has been used for a long time because it is quick to do and can give us an idea as to the health of the person, but it should not serve us to value the health taking the data in isolation; We must take into account if that person is active, if he eats well, if he has adequate biochemical parameters (glucose, uric acid, triglycerides, liver enzymes ...), etc .: all these factors together can help us to determine the health of a person".

An example of a change of mentality regarding BMI is that suggested by the nutritionist Álex Gimenez. "These types of measurements are incredibly outdated, unhelpful and unreliable. With the technological advances we have many professionals still use these measurements because it is "the normal and the whole of life." In my case, for example, I have been using a biomolecular scanner for a long time that can tell you in 2 seconds the exact composition of the food or your own body with levels of fat and muscle mass included. "

"BMI is unable to detect cases that have too much body fat but are within normal range in the index"

What can we expect from this new measure

The new BVI measures weight distribution as a ratio of total volume to abdominal volume. Its developers think it is more accurate than BMI because it estimates the distribution of weight around the organs of an individual, which helps to evaluate the risk of some diseases. Clearly, the BVI works with less superficial information than the BMI.

"The idea of BVI was born from the understanding that the use of external measurements was only one piece of the puzzle, and instead of simply accepting this as the standard, we also needed to measure internal factors," said Richard Barnes, director of Select Research .

The values of waist circumference and waist-hip ratio have been used for years to assess the patient's health. In addition, they can (and often) be accompanied by other altered values such as triglycerides, glucose, fatty liver ... because that excess of contour is usually due to an imbalance in food and / or sedentary lifestyle. Although there are also certain pathologies, genetic factors, etc., which may contribute to a person having an increased waist, or an excess of fat, despite a healthy lifestyle, these are minority cases- " Explains Cendón.

Together with the BVI Pro application, BVI America is launching an initiative called #SpeakVolumes to educate and encourage practitioners to change the way they measure and talk about body composition with their patients. The application is now available to experts, and patients can already take advantage of its benefits.

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