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## Scientific letters

### Concurrent Validity of the Historical Leisure-time Physical Activity Question of the Spanish National Health Survey in Older Adults

### *Validez concurrente de la histórica pregunta de actividad física en el tiempo libre de la Encuesta Nacional de Salud para los adultos mayores*

**To the Editor,**

Physical activity (PA) has many health benefits such as the primary and secondary prevention of several chronic diseases (eg, coronary heart disease, stroke, some cancers, type 2 diabetes, osteoporosis, and depression) and premature death. The National Health Survey has assessed PA levels in Spain since its origin in 1987.[1] One of the questions that has historically been included assesses the prevalence of inactive and active individuals aged 15 years and older during leisure time, thus allowing examination of secular trends over the past 3 decades and possibly in the future. However, its ability to rank individuals in PA levels has not been evaluated to date. Moreover, for public health purposes, monitoring PA levels is mainly important in the elderly because older adults represent the most inactive segment of the population. Hence, we aimed to examine the validity of this question by using the Spanish version of the PA questionnaire used in the Nurses' Health Study and the Health Professionals' Follow-up Study, which has been previously validated.[2]

For this work, we used data from the first follow-up in the UAM (*Universidad Autónoma de Madrid, Spain)* cohort, comprising 4006 persons representative of the noninstitutionalized population aged 60 years and older at baseline in 2000/2001.[3] Two years after collection of the baseline information, the participants were contacted for the second time by a telephone interview and a total of 2988 individuals (1705 women) had information on both PA measurements. In the PA question, the participants rated their leisure-time PA level as *a)* inactive, *b)* occasional, *c)* several times a month, and *d)* several times a week. The PA questionnaire[2] evaluates participation, frequency, and duration in 16 different activities (ie, walking, dancing, stationary cycling, cycling outdoors, competitive running, jogging, gardening, skiing, climbing, football, going to the gym, judo, swimming, tennis, sailing, and other team sports). The number of metabolic equivalents (MET) for each activity was calculated using the Compendium[4] and the total volume of MET-h/wk was calculated as the sum of all MET-h/wk for all activities. The Nurses' Health and the Health Professionals' Follow-up Studies used this questionnaire to determine PA in large cohort studies in North American populations.[2] The Spanish version of this questionnaire was moderately correlated against the RT3 triaxial accelerometer (Spearman's rho = 0.51) to assess PA during leisure time.[2]

In the total sample, the prevalence of inactive individuals and of those doing occasional, monthly and weekly PA was 26.7%, 69.8%, 2.9%, and 0.6%, respectively, whereas the average PA assessed by the validated questionnaire was 24.4 ± 0.4 MET-h/wk. Spearman correlation coefficients between both instruments for the whole sample, men and women were rho = 0.55, rho = 0.48 and rho = 0.56, respectively (all $P < .001$). Mean (95%CI confidence interval) PA levels in MET-h/wk stratified by inactive and increasingly active categories from the question was 7.1 (6.2-8.1), 30.0 (28.9-31.0), 43.1 (36.3-50.0), and 56.6 (37.6-75.5), respectively. When the increasingly active categories were merged into the same "active" category, the average PA in MET-h/wk was 30.7 (29.7-31.7). Both inactive (9.6 vs 6.1 MET-h/wk) and active (35.5 vs 26.3 MET-h/wk) men classified with the PA question reported higher levels of PA in the questionnaire than women. Since in general, around 50% of walking, or even more among older people,[5] is performed at low-intensity (< 3 MET) and the PA questionnaire does not include information on walking speed, we calculated MET-h/wk removing the time spent walking and the average for inactive and active individuals was 2.7 (2.1-3.4) and 10.3 (9.5-11.1), respectively, or 4.9 (4.2-5.8) and 20.5 (19.6-21.4) when we added, for example, 50% of walking duration.

Our results suggest, therefore, that compared with a validated questionnaire, the PA question from the National Health Survey identifies inactive older adults with reasonable validity because older adults should do at least 150 minutes of moderate-intensity PA per week to meet PA guidelines[6] and approximately 5-7 METs-h/wk is equivalent to about 70 to 100 minutes of such intensity. In addition to recognizing well-known sex-specific differences in PA levels, the PA question also appears valid for ranking PA in older adults, even though the prevalence in the 2 most active categories could be extremely low. Further research, nevertheless, is needed to evaluate the criterion validity of this question using objective measures of PA (eg, accelerometers).

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## Usefulness of Three-dimensional Transthoracic Echocardiograhy in the Localization of the Micra Leadless Pacemaker

### *Utilidad de la ecocardiografía transtorácica tridimensional en la localización del marcapasos sin cables Micra*

**To the Editor,**

With the recent incorporation of the Micra (Medtronic) leadless transcatheter pacemaker into clinical practice,[1] we believe that the role of cardiac imagining techniques in identifying and monitoring possible postimplantation complications is of considerable interest. Echocardiography is the technique of choice for diagnosing complications secondary to implantation of intracardiac devices.[2,3] It can establish the position of the electrode tip in the right ventricle (RV), sometimes by following the course of the lead, and determine the relationship between the electrode and the tricuspid valve apparatus.[4] Identifying the position of the Micra capsule is an imaging challenge.

The Micra transcatheter pacemaker is a miniaturized, single-chamber pacing system that provides bipolar sensing and pacing to the RV. The device is contained in a capsule whose volume is 0.8 cm, length 25.9 mm, external diameter 6.7 mm, and weight 2.0 g. The Micra has a fixation mechanism composed of

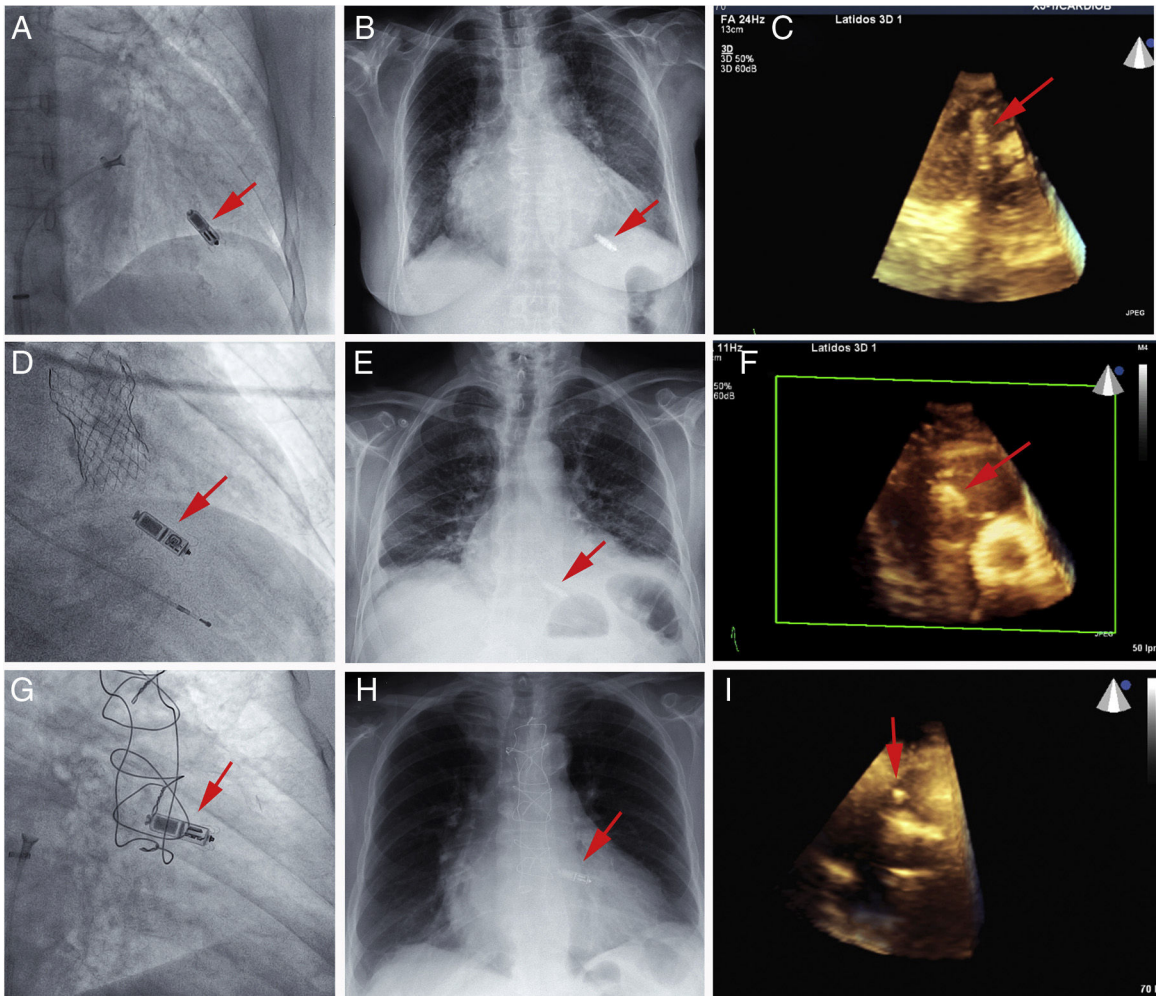


**Figure.** Right anterior oblique view of the leadless pacemaker during implantation, the follow-up chest radiograph (posterior-anterior view), and the image of the device (arrow) on 3-dimensional transthoracic echocardiography examination in the septal-apical (A-C), midseptal (D-F), and right ventricular outflow tract (G-I) positions. 3D, 3-dimensional.