The Table summarizes demographic details, comparison, and the 95% levels of agreement of steps walked and distance covered. Because there was no statistically significant difference (P=.89) between the mean age in both the age groups, no separate analysis was performed for both age groups. Multivariate analysis found statistically significant (P<.05) differences for the mean number of steps walked and the mean distance covered after controlling for height and weight. Both the Fitbit and Runtastic demonstrated statistically significant differences for the mean difference of steps walked and mean difference of distance covered. Mean percentage errors were lesser steps walked and distance covered with the Fitbit (−15.5% and −14.1%) than with Runtastic (−42.6% and −46.5%). Univariate analysis revealed a statistically significant difference between the 3 methods for both steps walked and distance covered, which remained significant on post hoc analysis.

A recent study found high accuracy with Fitbit monitors for steps walked on a treadmill. However, a previous analysis was performed for both age groups. Multivariate analysis found statistically significant (P<.05) differences for the mean number of steps walked and the mean distance covered when compared with the Runtastic. Thus, the use of the Fitbit Charge 2 may be considered as a more valid device for promoting PA. If Runtastic is being used, it should be kept in mind that it may underestimate by approximately 45%.

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Table 1: Characteristics of Pancreatic Cancer Cases and Matched Controls

<table>
<thead>
<tr>
<th>Variable</th>
<th>Matched controls (N=1222), n (%)</th>
<th>Cases (N=1222), n (%)</th>
<th>P value&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td>.37</td>
</tr>
<tr>
<td>Male</td>
<td>659 (53.9)</td>
<td>681 (55.7)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>563 (46.1)</td>
<td>541 (44.3)</td>
<td></td>
</tr>
<tr>
<td>Age group (y)</td>
<td></td>
<td></td>
<td>.97</td>
</tr>
<tr>
<td>20-39</td>
<td>64 (5.2)</td>
<td>64 (5.2)</td>
<td></td>
</tr>
<tr>
<td>40-64</td>
<td>391 (32.0)</td>
<td>385 (31.5)</td>
<td></td>
</tr>
<tr>
<td>65-84</td>
<td>767 (62.8)</td>
<td>773 (63.3)</td>
<td></td>
</tr>
<tr>
<td>Age (y), mean ± SD&lt;sup&gt;b&lt;/sup&gt;</td>
<td>680±10.2</td>
<td>677±10.0</td>
<td>.44</td>
</tr>
<tr>
<td>Ever use of dipeptidyl peptidase-4 inhibitors</td>
<td>34 (2.8)</td>
<td>58 (4.8)</td>
<td>.01</td>
</tr>
<tr>
<td>Ever use of other antidiabetic drugs</td>
<td>982 (80.4)</td>
<td>1107 (90.6)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Comorbidities before the index date</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol-related disease</td>
<td>98 (8.0)</td>
<td>109 (8.9)</td>
<td>.42</td>
</tr>
<tr>
<td>Biliary stone</td>
<td>110 (9.0)</td>
<td>144 (11.8)</td>
<td>.02</td>
</tr>
<tr>
<td>Cardiovascular disease</td>
<td>647 (53.0)</td>
<td>663 (54.3)</td>
<td>.52</td>
</tr>
<tr>
<td>Chronic kidney disease</td>
<td>145 (11.9)</td>
<td>145 (11.9)</td>
<td>&gt;.99</td>
</tr>
<tr>
<td>Chronic liver disease</td>
<td>409 (33.5)</td>
<td>415 (34.0)</td>
<td>.80</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease</td>
<td>292 (23.9)</td>
<td>297 (24.3)</td>
<td>.81</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td>696 (57.0)</td>
<td>708 (57.9)</td>
<td>.62</td>
</tr>
<tr>
<td>Hypertension</td>
<td>903 (73.9)</td>
<td>915 (74.9)</td>
<td>.58</td>
</tr>
<tr>
<td>Pancreatitis (acute and chronic)</td>
<td>14 (1.2)</td>
<td>15 (1.2)</td>
<td>.85</td>
</tr>
</tbody>
</table>

<sup>a</sup>Data are presented as the number of subjects in each group, with percentages given in parentheses.

<sup>b</sup>χ<sup>2</sup> test comparing pancreatic cancer cases and matched controls.

<sup>c</sup>χ<sup>2</sup> test comparing pancreatic cancer cases and matched controls.

2009, and December 31, 2013, as the cases (based on International Classification of Diseases 9th Revision-Clinical Modification, ICD-9-CM) using the Taiwan National Health Insurance Research Database. Sex-matched and age-matched (5-year interval) participants with type 2 diabetes without pancreatic cancer were identified as matched controls. The date of cases being diagnosed with pancreatic cancer was defined as the index date. To reduce the latency bias, participants whose first-time prescriptions for dipeptidyl peptidase-4 inhibitors were prescribed within 12 months before the index date were excluded from the study. Thus, only those participants whose first-time prescriptions for dipeptidyl peptidase-4 inhibitors were prescribed more than 12 months before the index date were included. In addition, participants with any other cancer before the index date were excluded.

Insurance reimbursement claims data used in this study were available for public access. Patient identification numbers were scrambled to ensure confidentiality. Patient informed consent was not required. This study was approved by the Research Ethics Committee of China Medical University and Hospital in Taiwan (CMUH-104-REC2-115). We identified 1222 cases with newly diagnosed pancreatic cancer and 1222 matched controls without pancreatic cancer (Table). The cases and the matched controls had similar distributions of sex and age. Nearly 54% to 56% of the study participants were male. The mean ages were 67.7±10.0 years in cases and 68.0±10.2 years in matched controls, without statistical significance (t test; P=.44). The cases had a higher proportion of dipeptidyl peptidase-4 inhibitors use than the matched controls (4.8% vs 2.8%; χ<sup>2</sup> test; P=.01). Variables that were statistically significant in a univariable logistic regression model were further included in a multivariable logistic regression model. Thus, other antidiabetic drug use and biliary stones were included for adjustment. The multivariable-adjusted logistic regression model disclosed that the adjusted odds ratio of pancreatic cancer was 1.53 (95% CI, 0.99-2.35; P=.06) for participants with previous use of dipeptidyl peptidase-4 inhibitors, compared with those who never used them.

The estimated period from the initiating mutation of the pancreatic cell to the detection of pancreatic cancer is long. In our study, participants whose first-time prescriptions for dipeptidyl peptidase-4 inhibitors were prescribed within 12 months before the index date were excluded from the study. Although not completely, the latency bias was partially decreased in our study. Our study was a case-control study. The immortal time bias frequently found in a cohort study could be minimized. On the basis of these stringent study criteria in our study, we noted that use of dipeptidyl peptidase-4 inhibitors was not statistically associated with the risk of pancreatic cancer. This finding was partially compatible with 2 cohort studies reporting no statistical association between pancreatic cancer and use of dipeptidyl peptidase-4 inhibitors. Other 2 cohort studies reported that an increased risk of pancreatic cancer associated with incretin-based therapy may be confounded by occult pancreatic cancer. That is, people with undiagnosed pancreatic cancer might initially present with diabetes mellitus, and incretin-based therapy may be initiated. Consequently, pancreatic cancer may be detected later. Incretin-based therapy is not a causal effect.

A recent comment reported that in view of the complex relationship between diabetes mellitus and pancreatic cancer, currently no sufficient evidence supports a causal relationship between pancreatic cancer and use of dipeptidyl peptidase-4 inhibitors in diabetic

LETTERS TO THE EDITOR
patients. Given that the latent period of pancreatic cancer is long, and the follow-up time of use of dipeptidyl peptidase-4 inhibitors was not long, such as in our study only covering 4 years, a long-term study is needed to observe any significant difference in pancreatic cancer risk associated with use of dipeptidyl peptidase-4 inhibitors. In addition, our study only had 92 (34 + 58) participants using dipeptidyl peptidase-4 inhibitors. The sample size of a future study should be large enough to detect a sufficient number of cancer cases to provide meaningful results. We conclude that no significant association can be detected between pancreatic cancer and use of dipeptidyl peptidase-4 inhibitors.

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CORRECTION


Page 1171, left-hand column

The third sentence of the first full paragraph should have read as follows: Thyroxine undergoes natural deiodination in the peripheral tissues to the active form of thyroid hormone, T3, with circulating concentrations of free T3 approximately 3 to 4-fold lower than those of circulating free T4 levels.

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