

## Accepted Manuscript

Title: Association of metformin use with vitamin B12 deficiency in the institutionalized elderly

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PII: S0167-4943(18)30154-7  
DOI: <https://doi.org/10.1016/j.archger.2018.07.019>  
Reference: AGG 3726

To appear in: *Archives of Gerontology and Geriatrics*

Received date: 12-4-2018  
Revised date: 29-7-2018  
Accepted date: 29-7-2018

Please cite this article as: Wong CW, Leung CS, Leung CP, Cheng JN, Association of metformin use with vitamin B12 deficiency in the institutionalized elderly, *Archives of Gerontology and Geriatrics* (2018), <https://doi.org/10.1016/j.archger.2018.07.019>

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## Association of metformin use with vitamin B12 deficiency in the institutionalized elderly

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This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors

**Declarations of Interests: none**

### Highlights

- Metformin increased the risk of vitamin B<sub>12</sub> deficiency in the institutionalized elderly, in which the prevalence of vitamin B<sub>12</sub> deficiency in metformin users was higher than the non-metformin user.
- Metformin increased also the severity of vitamin B<sub>12</sub> deficiency. Among the vitamin B<sub>12</sub> deficient group, metformin users had a lower serum vitamin B<sub>12</sub> concentration than the non-metformin users.
- Risk of vitamin B<sub>12</sub> deficiency increased with greater dosage and longer duration of metformin use. The prevalence of deficiency for those taking metformin  $\geq 1500$ mg /day for >2 years was more than 2 times that of those taking metformin <1500mg/day for  $\leq 2$  years.

### Abstract

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