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9<sup>th</sup> International Conference on

## **Geriatrics, Gerontology & Elderly Care**

September 03-04, 2019 | Berlin, Germany

## Establishing guidelines for pharmacological alternatives to currently prescribed anticholinergic medications in older adults with dementia

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**Background**: Anticholinergic agents are known to be associated with worsening of cognitive impairment in individuals diagnosed with dementia. With the aid of the international Resident Assessment Instrument-home care (interRAI-HC) tool, we observed a high prevalence of prescribing potentially inappropriate medications in older adults with dementia, especially the anticholinergic class of medications.

**Method**: Based on the current literature review of the anticholinergic burden scales and serum anticholinergic activity of various medications, we developed a guideline for prescribers, focussing on pharmacological alternatives for the currently prescribed anticholinergic class of medications for older adults with dementia presenting with co-morbidities. The guidelines have been prepared referring to the medications listed in the New Zealand drug formulary. Medications were classified according to the ATC-DDD Index 2019. The health conditions were grouped according to the International Statistical Classification of Diseases and Related Health Problems. Medications were sorted according to the high/moderate anticholinergic activity and their low/no anticholinergic activity substitutes.

**Result**: With respect to the medications prescribed for disorders of the central nervous system, of the 117 analysed, 38% were grouped as medications with high or moderate anticholinergic activity (HOMAA), and 56% were found to have low or no anticholinergic activity (LONAA). Similarly, for the gastrointestinal, cardiovascular, respiratory, endocrine, genito-urinary system, and infections; we observed that of all prescribed medications, those which were observed to have HOMAA constituted 28%, 3%, 46%, 0, 5%, 30% respectively, and the medications which had LONAA comprised 48%, 56%, 43%, 62%, 43%, 70% respectively. The medications with HOMAA could be effectively replaced by their LONAA alternatives to ensure safe pharmacotherapy.

**Conclusion**: The application of the guidelines for prescribing alternatives to anticholinergic medications in this vulnerable population has the potential to reduce untoward effects associated with the prescription of anticholinergic medications, slower cognitive decline, and decrease the risk of mortality. Our next step in this ongoing research will aim at utilizing the interRAI assessments for validating the guidelines in older adults with dementia.

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