Exposure to non-pharmacological therapies among older people in long-term care facilities and home care - the ICARE4OLD project

Barańska I.[1], Ziuziakowska A.[1], Drapała N.[1], Stodolska S.[1], Szczerbińska K.[1], Kooijmans E.C.M.[2], Hoogendijk E.O.[2,3,4], Joling K.J.[5], van Hout H.P.J.[4], Pokladníková J.[6], Aziz S.[6], Fialová D.[6,7] on behalf of ICARE4OLD[8]

*[1]Laboratory for Research on Aging Society, Department of Medical Sociology, The Chair of Epidemiology and Preventive Medicine, Medical Faculty, Jagiellonian University Medical College, Kraków, Poland; [2]Department of General Practice, Vrije Universiteit Amsterdam, Amsterdam UMC, Amsterdam, the Netherlands; [3]*Department of Epidemiology and Data Science, *Vrije Universiteit Amsterdam, Amsterdam UMC, Amsterdam, the Netherlands; [4]Amsterdam Public Health, Aging & Later Life, Amsterdam, the Netherlands; [5]Department of Medicine for Older People, Location Vrije Universiteit Amsterdam, Amsterdam UMC, Amsterdam, Netherlands; [6] Department of Social and Clinical Pharmacy, Faculty of Pharmacy in Hradec Králové, Charles University, Czech Republic; [7] Department of Geriatrics and Gerontology, 1st Faculty of Medicine in Prague, Charles University, Czech Republic; [8]Individualized CARE for Older Persons with Complex Chronic Conditions in home care and nursing homes (ICARE4OLD)*

INTRODUCTION

Chronic complex conditions among older adults pose significant public health challenges due to their multifaceted nature and impact on quality of life. These conditions often involve multiple chronic diseases, cognitive impairments, and functional limitations, requiring integrated management strategies. The global prevalence of multimorbidity is 37.2%, with higher rates in South America (45.7%) and North America (43.1%). Managing these conditions effectively demands a comprehensive approach, incorporating both pharmacological and non-pharmacological treatments. Real-world data (RWD) analysis plays a crucial role in evaluating treatment effectiveness, especially for older adults who are often underrepresented in traditional trials.

METHODS

We examined the use of the interventions at baseline and two follow-up time points to assess the stability or change in receiving NPIs over time, using data from multiple sources from: Czech Republic, Germany, United Kingdom, Finland, Israel, Italy, the Netharlands, Belgium, Canada and Iceland. The list of NPIs, which has been prepared based on a literature review and clinical expertise, included 28 NPIs in home care (HC) and 54 NPIs in long term care facilities (LTCFs). The data were collected with tools developed by the international interRAI research group: Minimum Data Set 2.0 and interRAI instrument ver. 9.0. For the analyses, we included data on 376,419 LTCF patients (at baseline) and 673,730 HC patients (at baseline) at aged 60 years and older.

AIM

The aim of this work is to describe the exposure to receiving non-pharmacological therapies among older people in long-term care using data from two international projects and real world data.

RESULTS

Characteristics of LTCF residents

In all countries, most residents were aged 80-89 years. The percentage of residents dependent in ADL was highest in the UK (70.7%) and Italy (76.4%), while moderate to severe cognitive impairment ranged from 42.3% in the Netherlands to 63.0% in Israel. High rates of depressive symptoms were noted in the Netherlands and Italy, while the prevalence of Alzheimer's disease varied, with 43.6% in Finland and only 6.3% in Germany. Coronary heart disease was most common in the Czech Republic (70.8%), and diabetes ranged from 3.8% in Israel to 37.4% in the Czech Republic.

Characteristics of home care clients

In home care, most patients across all countries were aged 80-89 years. ADL functioning varied significantly, with the highest ADL dependency in Italy (73.9%), while the Netherlands, Finland, and Iceland had the highest rates of independent individuals. Cognitive performance also differed, with the Netherlands showing the highest percentage of good cognitive performance (59.9%) and Italy having the highest share of moderate to severe cognitive impairment (48.7%). Depression symptoms were generally rare, but the Netherlands had the highest proportion of patients with elevated DRS scores. The prevalence of Alzheimer's disease ranged from 6.0% to 12.2% across countries, except for Finland, where it was notably higher (26.0%-31.4%).

Exposure to non-pharmacological therapies

For most interventions, if individuals were using an intervention at baseline, their usage remained remarkably stable over time, with the same people continuing to receive them at subsequent time points.
However, in some datasets and countries, we observed significant changes over time in the use of certain non-pharmacological interventions.
In long-term care facilities (LTCFs), the highest rates of discontinued interventions at the first or second follow-up were for psychosocial interventions, particularly for activities such as conversing (0% to 46.2%), watching TV (1.5% to 39.2%), and listening to music (1.2% to 45.2%) (Tab. 1).

Exposure to non-pharmacological therapies (continuation).

In home care, the most substantial changes in receiving NPIs occurred in the Regular care group, where the percentage of new interventions varied widely, with home health aids ranging from 1% to 21.2%, home nurse visits from 0% to 24.5%, and physician visits from 0.4% to 19.4%.

Tab. 1 Therapies with an intervention dropout rate of 15% or more

NPIs	Percentage of discontinued NPI at t2 or t3 ≥15%
functional rehabilitation	Finland at t2: 15.2% (LTCF)
occupational therapy	Israel at t3: 21.6% (LTCF)
physical therapy	Czech Republic at t2: 15.8% (LTCF)
exercise in last 3 days	Israel at t3: 22.0% (LTCF)
went out in last 3 days	UK at t3: 16.7% (LTCF) Finland at t3: 20.1% (LTCF)
walking outdoors	Finland at t3: 15.0% (LTCF) Canada at t2: 23.2% (LTCF)
dental exam in the last year	Czech Republic at t2: 15.3% (LTCF) Finland at t2:16.8% (LTCF)
conversing with others	Canada at t2: 46.2% (LTCF)
reading:	Canada at t2: 21.3% (LTCF)
spiritual activity	Canada at t2: 22.8% (LTCF)
watching TV	Canada at t2: 39.2% (LTCF)
reminiscing about life	Finland at t2: 22.1% (LTCF)
music therapy	in Canada at t2: 45.2% (LTCF)

NPIs, *non-pharmacological interventions; LTCF, long term care facility; t2, first follow up; t3, second follow up*

CONLUSIONS

Our study demonstrated that the prevalence of utilizing various non-pharmacological therapies among older adults in long-term care settings has remained relatively stable over time. Consequently, when conducting a randomized controlled trial (RCT) is not feasible, or as a valuable complement to it, real-world data (RWD) can be leveraged to assess the efficacy and effectiveness of non-pharmacological interventions (NPIs). This type of research is essential for establishing a consistent and evidence-based standard of care tailored to the needs of the older population.

Ilona Barańska MPh, MSc, PhD,
ilona.baranska@uj.edu.pl

The I-CARE4OLD project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 965341. Additional funding to support the Canadian participation in the work was provided by Canada's New Frontiers Research Fund - Global Fund (grant agreement No. NFRFG-2020- 00500) and the Canadian Institutes of Health Research (grant agreement No. 177780). The work of DF was supported by the institutional program Cooperation of the Faculty of Pharmacy, Charles University, Prague.