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Food supplement use in the community dwelling population aged 50 and over in the Republic of Ireland[☆]



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KEYWORDS

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Elderly;
Ireland;
Prevalence;
Correlates

Summary

Objective: Use of food supplements in the developed world is increasing in all age groups. With older age, the prevalence of multimorbidity and pharmacotherapy increases. Aim was to explore the prevalence of food supplement use among population aged ≥ 50 years in Ireland and to identify factors associated with food supplement use.

Design and setting: Cross-sectional analysis of food supplements and medicines reported during in-home interviews by 8081 community dwelling participants aged ≥ 50 years included in the first wave of the Irish Longitudinal Study on Ageing.

Results: The prevalence of regular use of food supplements was 16.6% (95% confidence interval (CI) 15.5–17.7%) and 14.1% (95% CI 13.2–15.1%) reported taking food supplements and medicines concomitantly.

Associate factors for supplement use were being female (odds ratio (OR) 2.65; 95% CI 2.30–3.06), retired (OR 1.49; 95% CI 1.23–1.79), a non-smoker (OR 1.47; 1.21–1.77), having third level or higher education (OR 1.32; 95% CI 1.10–1.57) and living alone (OR 1.37; 1.07–1.76). Possession of private health insurance (OR 1.61; 95% CI 1.23–2.19), reporting three or more chronic conditions (OR 2.56; 95% CI 2.01–3.27) and polypharmacy were also associated factors (OR 2.35; 95% CI 1.85–2.98).

Conclusions: Food supplement use is significant among the elderly in Ireland and increases with age. Its use is associated with having chronic conditions and taking (multiple) medicines, so further study is needed to assess the appropriateness and risks associated with food supplement use and to examine further the factors influencing their differential use by men and women.

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Introduction

In Ireland, the proportion of adults aged over the age of 65 has remained unchanged at around 11% for the past 40 years but this figure is projected to increase to 14% by 2021, with the greatest increase expected in those over 80 years of age.¹

Use of food supplements is increasing in many countries in past decades but varies significantly between countries and even between populations in the same country.^{2–6} Reports showed that food supplements were taken regularly by 17–71% participants, depending on the population studied.^{2–6} A 2001 survey in the Republic of Ireland and Northern Ireland found that 23% of population aged 18–64 years regularly used at least one food supplement.⁷

Certain food supplements may be recommended by practitioners and are available through publicly funded health schemes as they may benefit patients with chronic diseases even in an otherwise well-nourished population.^{8,9} Furthermore, despite epidemics of obesity (BMI \geq 30) in older adults,¹⁰ increasing age may be independently associated with poor nutritional status in high- and middle-income countries.¹¹ In that case, supplemental nutrition intake clearly is beneficial.¹² Patient's reasons for their use include dissatisfaction with conventional medicines, a common belief that they are safer and a desire for personal control over one's health.¹³ People also connect their use with a healthier life style^{14,15} despite recent concerns that use of some food supplements may be associated with increased total mortality risk.¹⁶

With older age the prevalence of multimorbidity increases and in parallel, pharmacotherapy. The likelihood of polypharmacy (taking five or more medicines concomitantly) increases and is estimated to occur in 19–66% of the elderly.^{5,14}

The already diminished physiological reserve associated with ageing can be further depleted by acute or chronic disease states and by the effects of the drugs used to treat them. With more medications taken concomitantly, the risk of interactions and adverse effects is increased¹⁷ Furthermore, taking food supplements and (prescription) medicines concomitantly could also increase the risk of adverse interactions^{17,18} although reports of adverse effects are scarce.¹⁹ Herbal food supplements pose particular risks and some drug–herbal combinations predispose to serious clinical consequences.^{20–22}

Only a fraction of food supplement users tell their health care practitioners what they are taking^{15,23} thus both inadvertently withholding relevant health information and exacerbating the potential risks of adverse reactions and interactions.

Thus, the objectives of this study were to explore the prevalence of food supplement use among the population aged 50 years and more in the Republic of Ireland and to identify factors associated with food supplements use.

Methods

Study design and population

The Irish Longitudinal Study on Ageing (TILDA) is a validated national prospective cohort study led by Trinity

College Dublin to provide systematically collected data that describes the social (social network, home-care), economic (income, employment, life standard) and health status (physical and mental health, medicine and food supplement use, need of health services and its utilisation) of older Irish adults and try to identify the factors that influence healthy ageing. More details about the study cohort profile were published elsewhere.²⁴

Medicine and supplement use data were collected during the in-home interviews performed by trained interviewers using Computer-Aided Personal Interview software (Quantcept SPSS). Inclusion criteria for participation in this study were being aged 50 years and over and being resident in the Republic of Ireland. Institutionalized people were excluded from recruitment. Participants were selected by means of a three-stage process of RANSAM sampling procedure²⁴ using the sampling frame of Irish Geodirectory, an up-to-date listing and mapping of all residential addresses in the Republic of Ireland. Firstly all addresses in the country were clustered using proportionate stratification by socio-economic status, age structure and geographical location; second step was selection of a systematic random sample of addresses of fixed size within each cluster and in last step random list of residents who were \geq 50 years of age was made. Of the 10,128 households randomly chosen, 6282 were eligible households, where at least one resident was \geq 50 years and agreed to participate (response rate 62.0%). The sample was designed to give each household in the country an equal probability of selection and, since all members aged \geq 50 years in each household were eligible, each person aged \geq 50 years also had an equal probability of selection.

A total of 8175 people participated in in-home interviews aged 50 years and over. In 94 cases data on medicine and food supplement use were not collected (participants did not want to give or did not know the details about the medicines/food supplements use during the interview). The analysis is completed on the 8081 participants with collected medication/food supplement data which corresponds to a participation rate of 98.9%.

This study was approved by the research ethics committee of Trinity College Dublin, and subjects were required to sign an informed consent document prior to participation. All experimental procedures adhered to the tenets of the Declaration of Helsinki.

Medication data collection

For this analysis we used data from the first cross-sectional wave of TILDA that took place from October 2009 to February 2011. The in-home inventory of medicines and food supplement was conducted by asking the question "Now I would like to record all medications that you take on a regular basis, like every day or every week. This will include prescription and non-prescription medications, over-the-counter medicines, vitamins, and herbal and alternative medicines." Up to 20 items were recorded per participants. No information about dose, frequency, quantity or prescription status was obtained. Medication data was coded using the ATC (Anatomical Therapeutic Chemical) classification system.²⁵

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