



The Costs of Loneliness-related Health Consequences in Finland

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Introduction

Loneliness affects physical and mental well-being and is amongst others associated with cardiovascular diseases (CVD), diabetes mellitus type 2 (T2D), anxiety, depression, dementia, and death by suicide¹. Our study aims to assess health-related costs of these loneliness-related diseases in Finland to further evaluate loneliness-alleviating interventions within the EU-Horizon 2020 project RECETAS^{2,3}.

Methods

We conducted a systematic literature review in PubMed/MEDLINE complemented by manual searches to identify cost-of-illness studies using MeSH terms, such as "Costs and Cost Analysis" and "Cost of Illness" for loneliness-related health consequences. One researcher performed title/abstract screening, followed by full-text review.

Relevant study characteristics, such as disease, study population, study design, time frame, direct medical costs and if available non-medical costs, price year and currency, perspective, and limitations were systematically extracted. Costs of informal care and productivity losses due to morbidity or mortality were not considered. Costs were adjusted to 2024 Euro applying the consumer price index⁴. For each disease, we selected one study fitting best our overall research questions in the RECETAS project.

Results

Figure 1 shows the number of identified studies per disease. We identified 18 studies for dementia, 59 for CVD, 12 for T2D, 28 for depression, eight for anxiety, and four for suicide. Heterogeneity across study characteristics included different currencies and cost reporting per patient, per capita, or per person-year. Reported and converted costs per patient for loneliness-related health consequences from the selected studies are presented in Table 1.

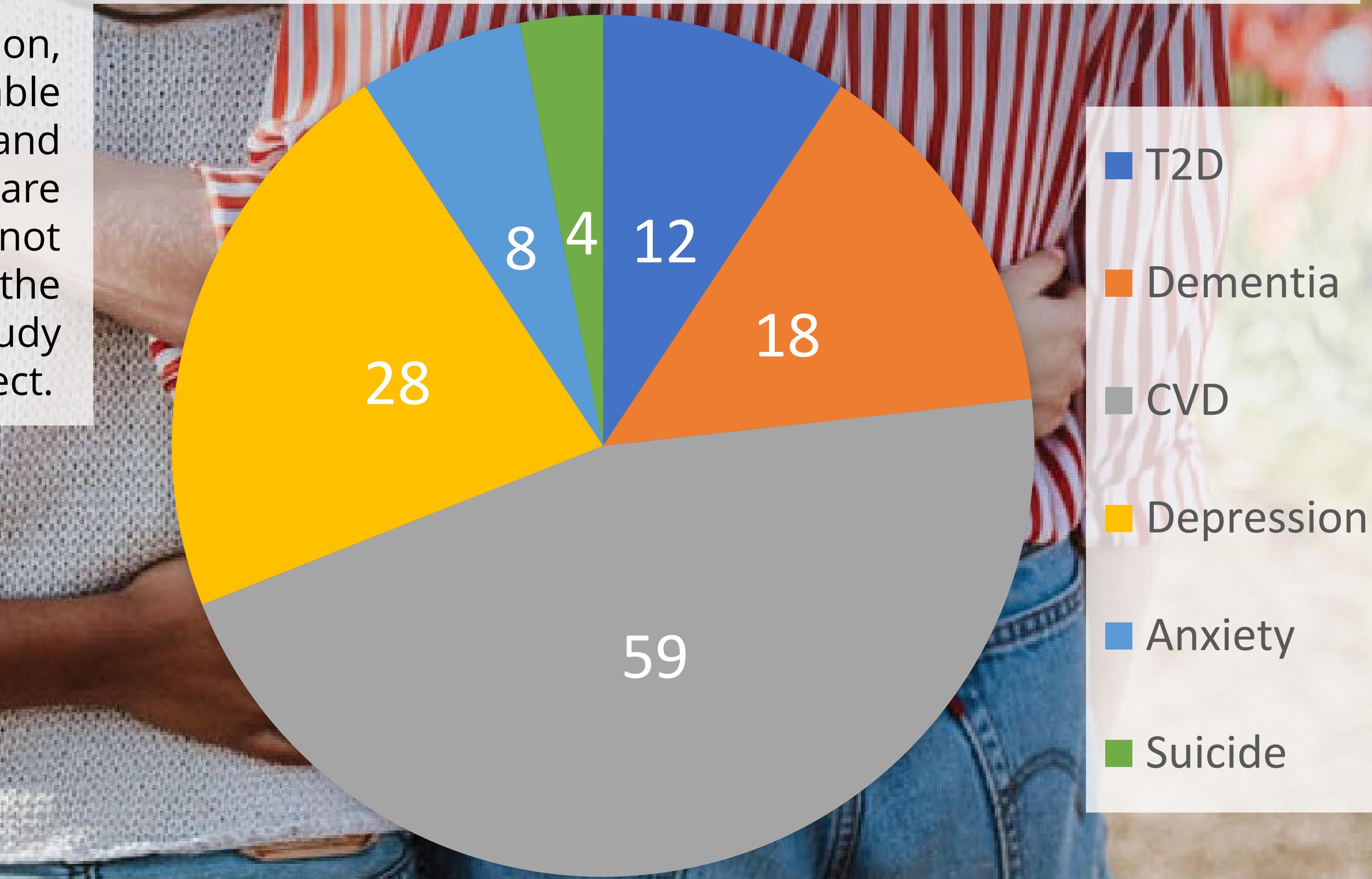


Figure 1. Number of identified studies per disease

Note. CVD, cardiovascular diseases; T2D, diabetes type 2

Table 1. Average annual costs per patient in the selected studies

Disease	Reference	Price year	Costs reported	Unit	Time frame (in years)	Total cost per year per patient in Euro 2024
Anxiety	Kujanpaa T et al., 2014 ⁵	2007	€ 12 156	Patient	2	€ 4 262
CVD	Luengo-Fernandez R et al., 2023 ⁶	2021	€ 359	Capita	1	€ 6 767
Dementia	Vesikansa A et al., 2023 ⁷	2012	Late (€ 40 484) vs early medication starters (€ 30 787)	Patient	2	€ 19 940
Depression	Taipale H et al., 2023 ⁸	2020	€ 3 419	Patient	1	€ 4 038
T2D	Martikainen J et al., 2021 ⁹	2019	€ 5 859	Patient	1	€ 6 942
Suicide	Solin P et al., 2022 ¹⁰	2016	€ 2 376	Suicide	-	€ 2 896

Note. CVD, cardiovascular diseases; T2D, diabetes type 2

Conclusion

Our review provides cost estimates of loneliness-related disorders and death by suicide from a Finnish perspective. In the future, our results can support further cost-effectiveness and budget impact analyses of loneliness-alleviating interventions.

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