RESEARCH

PROPOSAL OF A SET OF INDICATORS FOR PLANNING AND MANAGING ELDERLY CARE SERVICES IN TURKEY: A DELPHI-BASED CONSENSUS STUDY

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Abstract

Introduction: For health administrators and policymakers in Turkey, there is great significance to be found in the measurement and analysis of the current situation. This research seeks to set indicators for a comprehensive plan, and it aims to forecast what steps the Turkish health system will need to take in regards to elderly care.

Materials and Method: This study adopted the Delphi method, a forecasting method that relies on the consensus of a panel of experts concerning a topic of interest. The research was conducted between August 1 and September 31, 2020. Data were collected using a set of indicators in the form of a questionnaire. The participants answered the questionnaire in all three rounds, and an interquartile range of less than 1.2 indicated a consensus on a given indicator.

Results: A consensus was reached by the experts, detailing that the set of indicators should consist of 78 items regarding the elderly population and their welfare status (15 items), elderly care institutions (six items), admission to elderly care (four items), elderly care recipients (three items), home care (12 items), caregivers (one item), healthcare expenditures (11 items), and health status (27 items).

Conclusion: Feasible and reliable indicators can assist in the planning and managing of elderly care services and their incorporation into health and social services. This study presented 78 fundamental indicators concerning elderly healthcare services in Turkey. It is recommended that public institutions use information systems to collect and publish data annually through the aforementioned indicators.

Keywords: Aging; Indicators; Health Services for the Aged; Turkey.

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INTRODUCTION

The elderly are a growing proportion of the world's population. The Turkish Statistical Institute (TSI) estimates that the population of individuals aged 65 and over will increase from 9.5 percent in 2020 to 16.3 percent in 2040 (1). This is a clear indication that authorities must focus on developing public policies and programs in regards to aging, both for today and for the near future (2).

The World Health Organization (WHO) and United Nations (UN) emphasize that systematic data collection, parsing, and analysis have become more important to better understand the challenges and opportunities faced by the elderly, specifically in assessing their socioeconomic, health, and cultural conditions. They also recommend that countries regularly record and publish comparable statistics on aging (3, 4). The Madrid International Plan of Action on Aging (MIPAA) urges governments to conduct research in collaboration to develop effective evidence-based policies and programs for the aging population (5).

The Turkish Ministry of Health has drawn up reports addressing access of the elderly to healthcare, healthy aging, improvement of elderly care, positive discrimination, and promotion of monitoring and evaluation standards. Evidence-based data is key to introducing successful healthcare reforms and monitoring policies (6). It is necessary to compile data to monitor and protect the health of the elderly, improve the quality of elderly care services, and promote their integration with social services. The goal is to ensure that Turkish authorities use statistical evidence to develop and implement policies while sharing the best practices with other countries (7).

Turkish health administrators and policymakers should assess the current situation to manage elderly care. All stakeholders must use accurate and up-to-date data. However, at present, there is no set of indicators for elderly care. This paper proposes indicators forecasting what steps the Turkish health system needs to take regarding elderly care.

MATERIALS AND METHODS

Aim: This study aimed to develop a set of indicators needed to formulate and manage comprehensive policies on elderly care.

Study design: The study adopted the Delphi method, which allows a panel of between 10 and 18 experts to reach a consensus on a topic of interest (8, 9). The Delphi method is a mixture of qualitative and quantitative research design; on the one hand, it relies on expert opinion, and on the other hand, it evaluates data quantitatively. Another advantage of the Delphi method is that the panel consists of experts who do not know one another, and therefore, the topic of interest can be assessed without any pressure to the parties involved.

The study was conducted between August 1 and September 31, 2020. First, the researchers developed a draft based on international indicators on elderly care management. The researchers used the official sets of indicators from Japan, Australia, and the USA (10-12) due to their higher levels of experience in elderly care. The researchers translated the sets into Turkish. Following this process, an expert on both Turkish and English checked the draft for intelligibility and relevance. The researchers removed repetitive items and then used the Delphi method to reach a consensus on which items to include in the final set (questionnaire). The sample consisted of 14 academics who met the inclusion criteria and answered the questionnaire in all three rounds.

The inclusion criteria were as follows:

Working as an academic in universities in Turkey

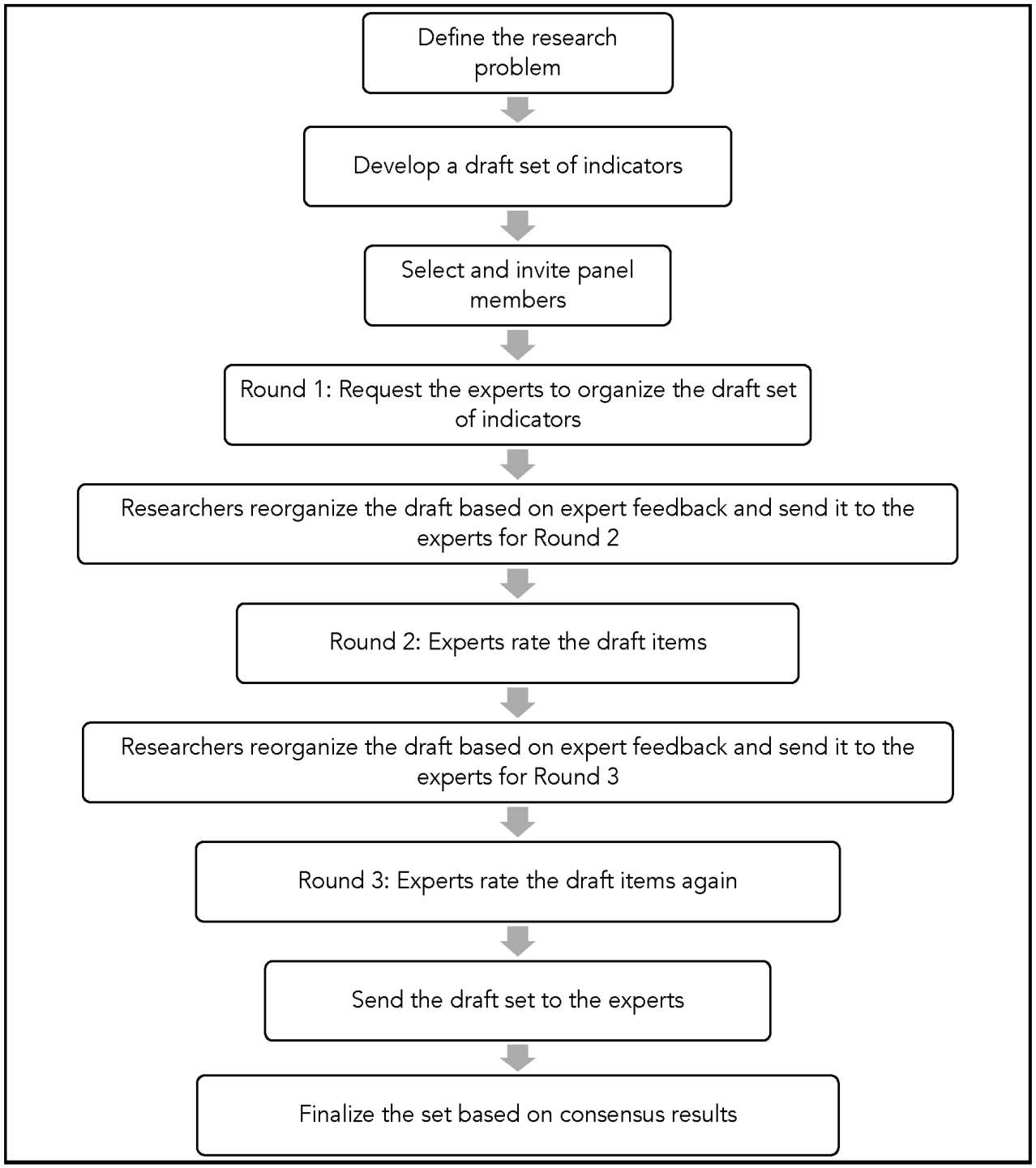
Having a degree of expertise in internal medicine, health management, hospital management, and geriatrics and gerontology

Having academic publications on elderly care services and/or policies

Data Analysis

The draft consisted of items scored on a seven-point Likert-type scale. The researchers emailed

Figure 1: Steps of the Delphi Method (developed by the researchers)



it to the experts and asked them to assess and modify the items until they reached a consensus. This process was repeated three times (rounds). In each round, the researchers removed or reworded some items and added to others. A consensus was reached based on the quantitative analysis of the items rated by the experts. In this study, the Likert-type assessment involves the median (M), first quartile (Q1), third quartile (Q3), and interquartile range (IQR = Q3 - Q1) (13, 14). An interquartile range of < 1.2 indicates a consensus on an item (13). At the end of the third round, the researchers emailed each expert the questionnaire with the group decision and each expert's score. The data were analyzed. The items with an IQR of < 1.2 indicated a consensus, while those with an IQR of ≥ 1.2 indicated no consensus.

Ethical Approval

The study was approved by the Ethics Committee of the Bandırma Onyedi Eylül University (03.07.2020/2020-32).

RESULTS

Table 1 shows the indicators of elderly care and health as well as the consensus results on these indicators. The set of indicators consisted of 86 items under nine sections: the elderly population and their welfare status (15 items), elderly care institutions (six items), admission to elderly care (four items), elderly care recipients (four items), home care (12 items), caregivers (one item), healthcare expenditures of the elderly (11 items), and health status of the elderly (27 items). The experts reached a complete consensus on Items 1.1, 1.2, and 1.13 (IQR = 0) but did not reach a consensus on Items 1.8 and 1.17 (IQR ≥ 1.2) in Section 1. The experts also achieved a complete consensus on Items 2.1, 2.2, and 2.5 (IQR = 0) and achieved a consensus on all the other items (IQR < 1.2) with the exception of 2.6 in Section 2.

The experts achieved a complete consensus on all items in Sections 3 and 4 (IQR = 0). They also achieved a complete consensus on Items 5.1 to 5.7, and 5.12 (IQR = 0). A consensus was reached on Items 5.8 to 5.11 (IQR < 1.2) in Section 5 as well.

The experts reached a consensus on Item 6.2 (IQR < 1.2) but not on Items 6.1 and 6.3 (IQR ≥ 1.2) in Section 6. The experts did not reach a consensus on any of the items in Section 7 (IQR ≥ 1.2).

The experts achieved a consensus on Item 8.7 (IQR < 1.2) and a complete consensus on all the other items (IQR = 0) in Section 8. They reached a complete consensus on Items 9.1, 9.2, 9.3, 9.6, 9.7, 9.10, 9.13, 9.16, 9.20, 9.24, 9.25, 9.26, and 9.27 (IQR = 0) and a consensus on the other items (IQR < 1.2) in Section 9.

DISCUSSION

The number of elderly individuals in Turkey is increasing rapidly, causing numerous changes in social life. However, Turkey has been caught off guard and unprepared in regards to health and social policies for the elderly. Old age is a social risk causing a loss of income. Elderly individuals often face poverty and poor quality of life, as they must deal with additional expenses with limited employment opportunities. Therefore, we need to monitor changes in indicators concerning the population and welfare level of the elderly (15, 16).

Elderly care institutions are an essential part of holistic healthcare. There are different types of elderly care, such as home care, hospitals, retirement homes, nursing homes, palliative care, and so on (17). Elderly care in Turkey does not have an institutional structure. It comes mainly in the form of aging-in-place, home care, and alternative institutional models (18). Public institutions and private or non-profit organizations deliver health services to the elderly. There are live-in care agencies, as well as daycare facilities and senior living communities. What distinguishes them from boarding pensions is that they do not offer 24/7 care, and residents contact their families. However, the implementation of

Table 1. Indicators of Elderly Care and Health

Section	No.	Indicators (Items)	Q1	M	Q3	IQR
1. The elderly population and their welfare status	**1.1**	Year-by-year changes in the number and proportion of families with elderly members	7	7	7	0
	1.2	Year-by-year changes in the average income of families (household) with elderly members	7	7	7	0
	1.3	Year-by-year changes in the number and percentage distribution of households with elderly members living on a retirement pension	6	7	7	1
	1.4	Year-by-year distribution of the elderly population by the number of households	6	6.5	7	1
	1.5	Year-by-year changes in the number of the elderly living alone (households)	6	7	7	1
	1.6	Income type (one/two/more than two) of elderly family members and their average income by household	6	7	7	1
	1.7	The number and structure of elderly households by city (one/two/more than two)	6	6.5	7	1
	1.8	Year-by-year changes in the number of elderly associations and their members (under 65 and over 65)	5	6	7	**2**
	1.9	Year-by-year changes in the number of the elderly aged 65-74, 75-84, 85-99, and 100 years or more	6	7	7	1
	1.10	International comparison of the elderly population rate (2050)	6	7	7	1
	1.11	Distribution of the elderly population by marital status, age, and gender	6	7	7	1
	1.12	The education level of the elderly population	6.25	7	7	0.75
	1.13	The participation rate of the elderly population in the labor market by gender and age group	7	7	7	0
	1.14	Landlord and tenant status of the elderly	6.25	7	7	0.75
	1.15	Who makes the spending decisions? Who cashes in your pension?	6	6	6.75	0.75
	1.16	The evaluation of the quality of life	6.25	7	7	0.75
	1.17	The number and percentage of the elderly by gender for districts and neighborhoods	5	6	7	**2**

2. Elderly care institutions	**2.1**	The type, scope, and number of elderly care institutions	7	7	7	0
	2.2	The distribution of elderly care institutions by city and service type (hospitals and others separately) (number of beds per 1,000 the elderly)	7	7	7	0
	2.3	The distribution of elderly care institutions by type of management (public, private sector, non-profit organizations)	6	7	7	1
	2.4	The distribution and number of full-time employees in elderly care institutions by occupation	6.25	7	7	0.75
	2.5	The distribution of elderly care institutions by city and service type (hospitals and others separately) (number of beds per 1,000 the elderly)	7	7	7	0
	2.6	The distribution of full-time employees in elderly care institutions by type of degree	5.25	6	7	1.75
	2.7	The number of palliative care centers in hospitals	6	6	6.75	0.75
3. Admission to elderly care	**3.1**	The number of elderly care recipients by year and service type	7	7	7	0
	3.2	The type and number of elderly care services (per 1,000 elderly individuals)	7	7	7	0
	3.3	The distribution of elderly care recipients by age group	7	7	7	0
	3.4	The care type, age, and gender characteristics of first-time elderly care recipients	7	7	7	0
4. Elderly care recipients	**4.1**	The percentage distribution of elderly care recipients by care type (home support, home care, nursing home care, short-term social support)	7	7	7	0
	4.2	Who uses elderly care services more? Classification of users by type of care, age, sex, and dementia and other medical diagnoses	7	7	7	0
	4.3	Does the use of elderly care services differ by region? (rate of elderly care use by region)	7	7	7	0

5. Care Needs of Home Care Recipients	**5.1**	The number of home care recipients by sector and age group	7	7	7	0
	5.2	The distribution of elderly home care recipients by the level of care (low, medium, high)	7	7	7	0
	5.3	Year-by-year changes in the demand for home care in the elderly population	7	7	7	0
	5.4	The number and percentage distribution of the elderly in need of home care by the level of care	7	7	7	0
	5.5	What is the proportion of the elderly in need of home care, and what are their cognitive and behavioral traits by age and gender?	7	7	7	0
	5.6	The average duration of use of elderly home care services	7	7	7	0
	5.7	The average duration of use of short-term elderly home care services	7	7	7	0
	5.8	The number of home visits per elderly individual	6	6.5	7	1
	5.9	The classification of services in-home care units	6.25	7	7	0.75
	5.10	The classification of diagnoses of patients registered in in-home care units	6	6	7	1
	5.11	The degree of proximity of caregivers of the elderly registered in in-home care units	6	6	7	1
	5.12	The percentage of bedridden elderly patients registered in in-home care units	7	7	7	0
6. Caregivers	**6.1**	The percentage distribution (by age and gender) of family members or paid caregivers caring for the elderly at home (permanent caregiver)	5.25	7	7	1.75
	6.2	The percentage distribution of elderly home care recipients (permanent caregivers) by family structure and type of care use	6	7	7	1
	6.3	The turnover rate of caregivers	5.25	6	7	1.75
7. Individuals Withdrawing from Elderly Care	**7.1**	Year-by-year changes in the average duration of care for the elderly who withdrew from care	5	6	7	2
	7.2	Changes in reasons for elderly care recipients' withdrawal from care over time	5	6	6.75	1.75
	7.3	Changes by age group in the average duration of care received by the elderly before withdrawing from care	5	6	7	2

8. Healthcare expenditures of the elderly	**8.1**	What is the distribution of total elderly care expenditures by years and type (public sector, private sector, and paying out-of-pocket)?	7	7	7	0
	8.2	The distribution of elderly care expenditures by the institution (Ministry of Health, municipalities, ministry of family and social policies, private sector, and paying out-of-pocket)	7	7	7	0
	8.3	The percentage distribution of elderly care institutions by type of financial resources	7	7	7	0
	8.4	The yearly distribution of total social care expenditures for the elderly (write in parentheses what you mean by social care)	7	7	7	0
	8.5	Changes in elderly health and social care expenditures across regions	7	7	7	0
	8.6	The ratio of elderly care expenditures to the total elderly population	7	7	7	0
	8.7	Elderly healthcare expenditure per capita by age group (65-74, 75-84, 85 or more)	6	7	7	1
	8.8	Elderly healthcare expenditure by age group (65-74, 75-84, 85 or more), year, and type of treatment	7	7	7	0
	8.9	Elderly social care (long-term care) expenditure by age group (65-74, 75-84, 85 or more) and year	7	7	7	0
	8.10	Annual prescription drug expenditures of the elderly	7	7	7	0
	8.11	The percentage distribution of the health insurance status of the elderly (65 years or older) (general, private, or complementary health coverage)	7	7	7	0

9. Health status of the elderly (9.1 - 9.18)	**9.1**	The average life expectancy of individuals over the age of 65 and 80 by gender and year	7	7	7	0
	9.2	The causes of death of the elderly and their distribution over the years (cause of death)	7	7	7	0
	9.3	The rate of chronic diseases in the elderly and their change over the years	7	7	7	0
	9.4	Prosthesis rate in the elderly and its change over the years	6.25	7	7	0.75
	9.5	The distribution of satisfaction of the elderly with their health conditions by age and gender (proportion of those who describe it as bad, neither bad nor good, good, and excellent)	6	7	7	1
	9.6	The number of the elderly diagnosed with dementia and its ratio by age group (dementia)	7	7	7	0
	9.7	The rate of the elderly diagnosed with dementia by sex, age, and education (dementia)	7	7	7	0
	9.8	The rate of the elderly with symptoms of clinical depression by age group and gender (symptoms of depression)	6	7	7	1
	9.9	The distribution of the elderly in need of care by gender	7	7	7	0
	9.10	What is the functional status of the elderly (stool, urinary incontinence, etc.)? Are they self-sufficient?	6	6.5	7	1
	9.11	The rate of home-care elderly individuals receiving nutritional support	6	6	7	1
	9.12	The rate of the elderly who are on five (5) or more drugs	7	7	7	0
	9.13	The rate of falls in the elderly and their post-fall conditions	6	7	7	1
	9.14	The rate of the elderly with hearing and vision problems	6	7	7	1
	9.15	Use of aids (hearing aid, glasses, walking stick, etc.)	7	7	7	0
	9.16	The percentage of the elderly who got their flu and pneumonia shots (vaccines)	6	7	7	1
	9.17	The percentage of women aged 50-74 who have been screened for breast cancer and its distribution by age group (cancer screening)	6	7	7	1
	9.18	The percentage of people aged 50-74 who have been screened for colorectal cancer and its distribution by sex and age group (cancer screening)	6	6.5	7	1

9. Health status of the elderly (9.19 - 9.26)	**9.19**	The average total HEI-2015 (Healthy Eating Index-2015) scores of the elderly population (diet quality)	7	7	7	0
	9.20	The rate of physical activity in individuals over the age of 65	7	7	7	0
	9.21	The most common physical activity	6	7	7	1
	9.22	The most common activity in everyday life	6	7	7	1
	9.23	The percentage of overweight and obese (by BMI) elderly individuals by gender and age group (obesity)	7	7	7	0
	9.24	The rate of tobacco addiction in the elderly (depending on gender, age group, and duration of smoking)	7	7	7	0
	9.25	The percentage of alcohol consumption in the elderly by gender and age group	7	7	7	0
	9.26	The percentage of the elderly living in provinces with "bad weather conditions" (published by the Ministry of Environment and Urbanization) (air quality)	7	7	7	0

care models is less than ideal due to the fact that such institutions are uncommon, unaware of the social service model, and have limited access; another reason is the difficulty in accessing precise institutional data (19). The Ministry of Development aims to provide long-term, quality care in institutions for the elderly who may be difficult to care for at home or who may prefer institutional care (7). Therefore, it is anticipated that data is needed on elderly care institutions, people in need of elderly care, types of care, and age and gender characteristics of care recipients.

It is necessary for Turkey to develop care policies and diversify institutional and home care services (19). The increase in life expectancy worldwide has increased the number of people in need of home care (20). The Ministry of Development aims to organize and spread home healthcare throughout the country based on needs and demands. Authorities require detailed data on home care services and recipients in order to do the following: develop home care models involving social care; integrate them into social security systems; manage resources effectively; set care standards, practice guidelines, and inspection criteria; and arrange home care budgets.

The elderly population continues to grow, meaning an inevitable increase in burdens for present caregivers. Therefore, more caregivers are required (21). It is anticipated that, in the near future, there will be reductions in the number of family members (informal caregivers) caring for older family members (22). This trend must be monitored, and more formal caregivers will be required. The USA, Japan, and Australia monitor indicators concerning people withdrawing from elderly care (10, 11, 12). However, this was not deemed necessary due to the current conditions in Turkey.

General health insurance in Turkey is mandatory and has universal coverage. The care expenses

of older people with no income are covered by the health insurance of those liable for their care (23). Aging results in a decrease in workforce participation, and hence tax revenues and an increase in dependency rates and healthcare spending (22). Therefore, it is concluded that the healthcare costs of the elderly should be monitored.

As individuals age, they experience deterioration in their physiological and psychological functions and present more health problems and disabilities. Old-age health problems make elderly individuals more in need of social care (24). The goal is to ensure that the elderly can access healthcare for disease prevention and treatment and rehabilitation, lead active and independent lives, and benefit from positive discrimination in healthcare. In the present study, the experts reached a consensus that the health status of the elderly should be monitored based on the following indicators: life expectancy by sex and year; chronic diseases; prosthesis use; perceived satisfaction with health; dementia; symptoms of depression; need for care; eating habits; medication; falling; using hearing and vision aids; influenza and pneumonia shots; cancer screening; physical activity; weight; tobacco and alcohol use; living in bad weather conditions; and causes of death (25; 10).

CONCLUSION

Successful care planning, monitoring, and evaluation should depend on evidence-based information. Indicators on aging affect all areas of health, social, and demographic statistics, as well as public finance and all public indicators. Feasible and reliable indicators can assist in planning and managing elderly care services, and it can also assist in their incorporation into health and social services. In addition, these indicators can pave the way for further scientific research and evidence-based interventions. Data should be regularly collected to evaluate the current situation of the elderly from a multidimensional perspective (biological, psychological, economic, social, and cultural) in order to increase their life satisfaction and quality of life, as well as to ensure that they lead active lives in society. This research identified 79 key indicators that should be used in Turkey. It is recommended that public institutions use information systems to collect and publish data annually through these indicators.

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