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The Relationship Between Social Isolation and Psychological Distress in Older Adults During The COVID-19 Pandemic

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ABSTRACT

In this research, it was aimed to determine the relationship between social isolation and the level of psychological distress of participants during the COVID-19. Data were collected using a questionnaire technique, and a total of 400 individuals participated in the research. Statistical analysis and data evaluation were performed with the SPSS 23 program. Due to the social isolation during the COVID-19 Pandemic in Türkiye, it was determined that the lives of individuals over 60 were affected, and there was a significant relationship between this situation and the psychological distress levels of individuals. Multidisciplinary teams need to intervene to provide the psycho-social support needed by older adults who have been exposed to social isolation during the pandemic.

KEYWORDS: Older Adults; Social Isolation; Psychological Distress; COVID-19.

KEY PRACTITIONER MESSAGE

1. There is a need to develop psychosocial intervention programs for older adults whose levels of psychologi-cal distress increase due to social isolation.
2. Older adults need to be educated in health promotion in case of future pandemics or epidemics.
3. There is a need to develop home physical activity programs to protect and improve the health of older adults exposed to social isolation.
4. Informing older individuals about the use of technology is important in providing online psychosocial sup-port to older adults in pandemic and epidemic situations.

INTRODUCTION

COVID-19 is a type of coronavirus that threatens the respiratory system (Lipsitch et al., 2020; Rothan & By-rareddy, 2020). According to the report of the World Health Organization (WHO), the groups with severe disease and elevated risk of death consist of individuals over 60 years of age and individuals with chronic diseases such as hypertension, diabetes, cardiovascular disease, chronic respiratory disease, and cancer (WHO, 2020). The substantial risk of mortality, especially in individuals over 65, is due to the weakening of the immune system as age progresses and the high number of accompanying diseases. In addition, it has been determined that the risk of mortality increases in older adults who have chronic diseases and smoke (Duru, 2020). After the spread of COVID-19 gained momentum worldwide, a series of measures were taken throughout Türkiye and in Antalya, where the research was conducted, to prevent the epidemic from negatively affect-ing public health. The first COVID-19 case in Türkiye was detected on 11.03.2020, and the measures taken after this date gained momentum. Special precautions have to be taken for older individuals who are among those who will be adversely affected by the epidemic. The prominent measures taken for older adults are listed as follows according to the date of publication. According to the circular of the Ministry of the Interior dated 21.03.2020, after 24.00 on 21.03.2020, indi-viduals over 65 and with chronic diseases are prohibited from leaving their residences, being in open areas, and using public transport. For those who live alone and cannot meet their needs, a "Loyalty Social Support Group over 65" has been established under the chairmanship of the governors or district governors, and efforts are planned to prevent the citizens from experiencing victimization. For those over 65 and chroni-cally ill with a curfew, if they report their needs via 112, 155, and 156 phone numbers, teams will be as-signed, and their needs will be met (Ministry of Interior, 2020a). With the decision numbered 2020/48 taken by the Antalya Public Health Board according to the circular numbered E.9138 of the Ministry of Interior on 10.06.2020, it was decided that individuals over 65 can go out every day between 10.00 and 20.00, taking care of social distance and wearing a mask (Antalya Provin-cial Public Health Board, 2020). On 18.11.2020, a circular titled "Coronavirus Epidemic New Measures" was published by the Ministry of Interior, and decisions were taken to increase the restrictions. The measures taken for citizens over 65 are as follows: In 81 provinces, citizens aged 65 and over can go out between 10:00 and 13:00 during the day, citizens under 20 (those born on or after 01.01.2001) can go out on the street between 13:00 and 16:00 during the day (i.e., except for those

who present a document such as work/ Social Security Institution reg-istration). Outside of these hours, curfews of our citizens in the specified age groups are restricted (Ministry of Interior, 2020b). With the Presidency's circular numbered 2021/5 on 01.03.2021, the "controlled normalization" process started. In the controlled normalization process, different applications were made in each province accord-ing to the number of cases, and the province of Antalya, where the research was conducted, was included in the "high-risk group." In the province of Antalya, the curfew period for individuals over 65 has been in-creased from 3 hours to 4 hours (Ministry of Interior, 2021a). According to the Ministry of Interior circular published on May 16, 2021, a curfew will be implemented be-tween 21.00 and 05.00 on weekdays and from 21.00 on Fridays to 05.00 on Mondays. No curfew re-strictions will be applied to individuals over 65 who have received two doses of vaccine, apart from the re-strictions applied to everyone. Individuals over 65 who have not been vaccinated, despite the fact that they have the right to be vaccinated, will be able to go out on the street between 10.00 and 14.00 on weekdays and will be prohibited from going out on the weekends. Citizens over 65 will not be able to benefit from public transport during the gradual normalization (Ministry of Interior, 2021b). It is thought that the psychological distress levels of older individuals who struggle to adapt to the changes in their lives and cope with the pandemic are also affected by the conditions brought by the pandemic envi-ronment. Psychological distress is defined as the unique discomfort or emotional state experienced by an individual in response to a particular stress or demand that results in temporary or permanent harm (Ridner, 2004). Psychological distress refers to the state of emotional suffering, including depression and anxiety symptoms such as sadness, hopelessness, moodiness, and anger (Altun et al., 2019). Studies show that psychological distress is a predictor of cognitive impairment and dementia (Simard et al., 2009; Sutin et al., 2018). In addition, since psychological distress can be a harbinger of mental, physical, and emotional exhaustion, preventive and early interventions are needed to avoid this situation (Arvidsdotter et al., 2016). When the studies in the literature are examined, exposure to stressful conditions, living conditions, and lack of valuable social roles are seen as important risk factors for psychological distress, while internal re-sources such as self-esteem and external resources such as income are determined as important protective factors (Cairney & Krause, 2005; Drapeau et al., 2012; Gyasi et al., 2020). It is inevitable that the COVID-19 process will have emotional effects on individuals in the risk group and quarantine (Lima et al., 2020; Zhang et al., 2020).

It is thought that the psychological distress levels of older individuals who struggle to adapt to the changes in their lives and cope with the pandemic are also affected by the conditions brought by the pandemic envi-ronment. Psychological distress is defined as the unique discomfort or emotional state experienced by an individual in response to a particular stress or demand that results in temporary or permanent harm (Ridner, 2004). Psychological distress refers to the state of emotional suffering, including depression and anxiety symptoms such as sadness, hopelessness, moodiness, and anger (Altun et al., 2019). Psychological distress is a predictor of cognitive impairment and dementia (Simard et al., 2009; Sutin et al., 2018). In addition, since psychological distress can be a harbinger of mental, physical, and emotional ex-haustion, preventive and early interventions are needed to avoid this situation (Arvidsdotter et al., 2016). When the studies in the literature are examined, exposure to stressful conditions, living conditions, and lack of valuable social roles are seen as important risk factors for psychological distress, while internal re-sources such as self-esteem and external resources such as income are determined as important protective factors (Cairney & Krause, 2005; Drapeau et al., 2012; Gyasi et al., 2020).

It is inevitable that the COVID-19 process will have emotional effects on individuals in the risk group and quarantine (Lima et al., 2020; Zhang et al., 2020). Social environment, life events, and social support direct-ly and indirectly affect psychological distress (Ensel & Lin, 1991). In addition, the study by Brooks et al. re-vealed that the level of psychological distress is high in quarantined individuals (Brooks et al., 2020). In this process, older adults who have to stay away from their social environments need psycho-social support. In this study, the psychological distress levels of older adults who have been socially isolated due to the COVID-19 period will be examined.

This study aimed to determine whether there is a statistically significant relationship between the measures taken for the COVID-19 pandemic and the psychological distress levels of individuals over 60 living in the city center of Antalya, Türkiye.

METHOD

Sample

In order to represent the province of Antalya, the research participants were individuals aged 60 and over residing in the three big districts of Antalya: Konyaalti, Kepez, and Muratpasa. The number of participants constituting the universe of the research is known, and it was determined to be 149.279 (Turkish Statistical Institute, 2019). For this reason, the sample size of the study was determined by using the sample formula

$$n = \frac{N.P.Q.Z^2}{(N-1)d^2 + Z^2PQ}$$

with a known universe, with a 5% margin of error and a 95% confidence interval. As a result of the calcula-tion, the sample size was determined to be 384, which was rounded to 400 to increase reliability. The strati-fied sampling technique, which is one of the probability sampling methods, was used in the study. The num-ber of participants was calculated as 65 (31 Men, 34 Women) for Konyaalti, 138 (66 Men, 72 Women) for Kepez, and 197 (91 Men, 106 Women) for Muratpasa, by dividing the population of each district where the study will be conducted to the population over 60 years of age in the universe. During the research, ques-tions on the scales determined on a voluntary basis were asked of the participants. The research was conducted in social settings, including parks, gardens, and recreational spaces within the districts of Muratpasa, Konyaalti, and Kepez in Antalya province. In order to create suitable interview condi-tions, data were collected from individuals who voluntarily participated in the research by following the social distance rules, wearing masks, and staying away from distracting factors as much as possible. The face-to-face interviews took approximately 15 minutes each. The restrictions imposed due to the pandemic have also made it difficult to conduct the fieldwork. For this reason, a survey was also conducted through online programs, and some of the data was collected online.

Measures

In this study, data were collected using the questionnaire method, which is a quantitative study technique. The questionnaire consists of informed consent, in which the research is introduced, the purpose of the questionnaire is stated, and the Psychological Distress Scale, a Socio-Demographic Information Form created by examining the literature.

Socio-Demographic Information Form: The socio-demographic information form, which was developed by examining the literature, consists of 2 parts. Part-one includes demographic information about the partici-pants, such as their age, gender, marital status, education level, perceived income status, and health. In the second part, there are questions related to the COVID-19 period.

Psychological Distress Scale: The psychological distress scale developed by Kessler et al., its Turkish adapta-tion, and the validity and reliability study performed by Altun et al. were applied to the participants (Altun et al., 2019; Kessler et al., 2002). Participants were asked to answer the questions considering their last thirty days. While applying the psychological distress scale, ten questions under the S1 heading are taken into ac-count. Although the questions from S2 to S6 in the original scale contribute to the researcher's ability to obtain more in-depth information about the participant's psychological distress status, they have no effect on the evaluation of the scale (Kessler et al., 2002).

The psychological distress scale is evaluated according to the ten questions in the S1 section. The questions in the scale were arranged as "Constantly=1"..."Never=5". However, these items are reverse scored; it is calculated as constantly = 5 points, often = 4 points, occa-sionally = 3 points, rarely = 2 points, never = 1 point. According to this, as a result of the calculation to be made, the lowest 10 points and the highest 50 points can be obtained. According to the responses given to the psychological distress scale, the psychological distress level interpretations are as follows: 10-19 prob-ably good, 20-24 possible mild mental illness, 25-29 possible moderate mental illness, 30-50 possible severe mental illness.

Procedure

With informed consent, the participants were informed that no personal information would be included in the study and that the answers would only be used for scientific research. The individuals participating in the research were informed at the beginning of the interview that the questionnaire could be finished whenever they wanted and that they could not answer the questions they did not want to answer. The fieldwork of the research was conducted as a survey of individuals over 60 in public areas in the Kepez, Konyaaltı, and Muratpaşa districts of Antalya province. The surveys were completed by the participants in an average of 15 minutes.

The ethics committee's approval of the study was given unanimously by the Clinical Research Ethics Com-mittee of Akdeniz University Faculty of Medicine, with the decision number KAEK-510 on 08.07.2020.

Analysis of the Data

The obtained data was transferred to the computer environment for evaluation. Statistical Package for the Social Sciences 23 (SPSS 23.0) was used for statistical analysis. Number and percentage were used as de-scriptive statistics for the qualitative variables determined by counting.

Chi-square analysis was performed to reveal the relationship between qualitative type variables. The value of 0.05 was accepted as the signifi-cance level throughout the study. Obtained results were interpreted and reported considering the available literature.

RESULTS

The socio-demographic characteristics of the research participants are as follows: Four hundred partici-pants participated in the research. Among the participants, 142 persons were aged 60 to 64 years, 216 were aged 65 to 74 years, 35 were aged 75 to 84 years, and 7 were aged 85 years or more. Of the partici-pants, 212 were women, and 188 were men. Geographically, 138 participants resided in Kepez, 65 in Kon-yaaltı, and 197 in Muratpaşa districts. The marital status of the participants is as follows: 282

individuals were married, 58 had experienced the loss of a spouse, 11 were single, 46 were divorced, and 3 were living separately from their spouse. The educational background of the participants was as follows: 24 individuals were illiterate, 127 had completed primary school, 33 had completed middle school, 88 had completed high school, 112 had a bachelor's degree, and 16 held a postgraduate degree. Regarding employment, the par-ticipants' occupations were as follows: 250 individuals were retired, 89 were homemakers, 34 were small business owners, and 27 indicated having other professions. The perceived income status of the partici-pants was as follows: 44 individuals reported that their income was greater than their expenses, 221 indi-viduals reported that their income equaled their expenses, and 135 individuals reported that their income was less than their expenses. The numerical and percentage equivalents of the participants' responses to questions regarding the COVID-19 Period are shown in Table-1

Table 1: Participants' Responses Regarding the COVID-19 Period (N=400)

The number of participants participating in the research during the period of normalization and increased restrictions	
Normalization Period (between 10.06.2020 and 18.11.2020)	164 (41.0%)
Period of Increased Restrictions (between 18.11.2020 and 02.03.2021)	236 (59.0%)
Have the measures affected participants' life socially?	
Yes	257 (64.3%)
No	143 (35.8%)
Have the measures affected participants' life psychologically?	
Yes	193 (48.3%)
No	207 (51.8%)
Have the measures affected participants' life economically?	
Yes	97 (24.3%)
No	303 (75.8%)
Have the measures affected participants' life physiologically?	
Yes	62 (15.5%)
No	338 (84.5%)
Have participants been diagnosed with COVID-19?	
Yes	23 (5.8%)
No	376 (94.0%)
Did not answer	1 (0.3%)
Have any of the participants' acquaintances been diagnosed with COVID-19?	
Yes	212 (53.0%)
No	184 (46.0%)
Did not answer	4 (1.0%)

According to Table-1, the participants 64.3% stated that they were affect-ed socially, 48.3% psychologically, 24.3% economically, and 15.5% physiologically. In addition, when the COVID-19 diagnosis status of the participants was examined, it was understood that 94% of the partici-pants had not been diagnosed with COVID-19 before, but 53% had acquaintances diagnosed with COVID-19, according to the information they provided during the research .

The Psychological Distress Scale Normality Test is shown in Table-2. Since the p-value of the Kolmogorov-Smirnov test is less than 0.05 significance level (0.000<0.05), it is understood that the Psychological Distress Scale is unsuitable for normal distribution. For this reason, the non-parametric Mann-Whitney U test was used to compare whether there was a change in the level of psychological distress compared to the period of restrictions and the period of normalization.

Considering the Mann-Whitney U test results, the p-value (0.338) was greater than the significance level of 0.05. This shows that there was no significant difference in the psychological distress level of the partici-pants in terms of the period of restrictions and the normalization period.

The relationship between the measures taken and the level of psychological distress is shown in Table-3. There is a statistically significant relationship at the 5% significance level between the measures taken to affect the lives of individuals in the social sphere and the level of psychological distress (X^2 = 9.24; p = .0262). The impact of measures on social life varies across levels of psychological distress. Among those experiencing severe psychological distress, 78% reported that their social life was negatively affected, which is a higher percentage than in other groups. The more severe the psychological distress, the more pronounced the social impact.

There is a statistically significant relationship at the 5% significance level between the psychological effects of the measures taken on the participants' lives and their levels of psychological distress (X2=9.58; p=0.0225). The psychological impact of the measures also varies depending on psychological distress levels. Among those with possible moderate and severe mental illness, 65.6% and 55.9%, respectively, reported that the measures affected their psychological life. This suggests a clear relationship between psychologi-cal distress and the psychological effects of the measures.

There is a statistically significant relationship at the 5% significance level between the economic impact of the measures taken on the lives of individuals and the level of psychological distress (X2=12.04; p=0.0073). Economic impacts also significantly differ across groups. Among those with severe psychological distress, 40.7% reported economic difficulties due to the measures. This is a higher percentage compared

Table 2. Psychological Distress Scale Normality Test

Period	Test	Statistics	N	p
Normalization Period (10.06.2020–18.11.2020)	Kolmogorov-Smirnov[a]	.149	164	< .001
	Shapiro-Wilk	.876	164	< .001
Period of Increased Restrictions (18.11.2020–02.03.2021)	Kolmogorov-Smirnov[a]	.159	236	< .001
	Shapiro-Wilk	.897	236	< .001

a. Lilliefors Significance Correction

to other groups, indicating that as psychological distress increases, so do the economic challenges faced by individuals. There is a statistically significant correlation at the 5% significance level between the physiological effects of the measures taken on the participants' lives and their levels of psychological distress (X2=10.45; p=0.0151). Similar patterns are observed for physiological impacts. Among those with severe psychological distress, 25.4% reported that the measures negatively affected their physiological health. Again, as the level of psychological distress increases, the likelihood

Table 3. The Relationship Between the Taken Measures and the Level of Psychological Distress

	Level of Psychological Distress					
	Probably good (N=249)	Possible mild mental illness (N=60)	Possible moderate mental illness (N=32)	Possible severe mental illness (N=59)	Test Value	p
Have the measures affected participants' life socially?					9.24	.0262
Yes	147 (59.0%)	43 (71.7%)	21 (65.6%)	46 (78.0%)		
No	102 (41.0%)	17 (28.3%)	11 (34.4%)	13 (22.0%)		
Have the measures affected participants' life psychologically?					9.58	.0225
Yes	106 (42.6%)	33 (55.0%)	21 (65.6%)	33 (55.9%)		
No	143 (57.4%)	27 (45.0%)	11 (34.4%)	26 (44.1%)		
Have the measures affected participants' life economically?					12.04	.0073
Yes	51 (20.5%)	12 (20.0%)	10 (31.3%)	24 (40.7%)		
No	198 (79.5%)	48 (80.0%)	22 (68.8%)	35 (59.3%)		
Have the measures affected participants' life physiologically?					10.45	.0151
Yes	28 (11.2%)	11 (18.3%)	8 (25.0%)	15 (25.4%)		
No	221 (88.8%)	49 (81.7%)	24 (75.0%)	44 (74.6%)		

of reporting negative physiological effects also increases.

DISCUSSION

When the psychological distress level of the participants was compared in terms of the normalization peri-od (between 10.06.2020 and 18.11.2020) and the period when restrictions increased (between 18.11.2020 and 02.03.2021), no significant difference was found.

With the measures taken after the appearance of COVID-19 in Türkiye, people over 65 were restricted on 21.03.2020. Considering the measures taken After the first case of the COVID-19 pandemic was seen in our country, it was seen that the first measures taken were extremely strict. Individuals over 65 could not go out at all for about a month and a half, and for the following month, they only had a few hours of leave once a week. In the restriction period following the normalization period, there are curfews every week-day, albeit at certain hours. By comparing these two restraint periods, it is thought that the participants remained more psychologically stable in the second restraint period. When evaluated from this point of view, Although the normalization period causes psychological relief for individuals over 65, it is thought that there is no significant difference when compared to the dates when the restrictions were reinstated.

The psychological distress levels of older adults who have been away from their social networks and whose social support has decreased due to pandemic measures have also been affected by these situations. As psychological distress increases, the negative impact on social life becomes more pronounced. Among those with severe psychological distress, 78% reported that their social life was negatively affected, whereas this percentage drops to 59% among those in the "probably good" group. These findings suggest that COVID-19 measures, such as social isolation and quarantine, have led to disruptions in social relation-ships, and individuals experiencing higher psychological distress are more affected by these changes. This indicates that social connections are crucial for psychological well-being, and the loss of these connections can exacerbate distress. Social isolation and quarantine processes place older adults in the high-risk cate-gory for physical and mental health problems, as well as for COVID-19 (Girdhar et al., 2020). In the litera-ture, there are findings that social isolation and lack of social support networks are associated with anxiety, depression, and cognitive decline in studies conducted with older adults (Barbosa Neves et al., 2019; Chu et al., 2020; Hernández-Ascanio et al., 2020). In the study by Kotwal et al. (2021) with older adults, it has been determined that the depression and anxiety of socially isolated individuals worsen in relation to

COVID-19 (Kotwal et al., 2021). Bøen et al. (2012) found that there is a strong relationship between lack of social sup-port and psychological distress. According to Couture et al.'s study, older adults who rely on others for daily activities, lack strong social support, and use avoidance strategies to deal with declining levels of function-ing may experience greater psychological distress (Couture et al., 2005). In the study of Menec et al. (2020), it was determined that socially isolated and lonely individuals have more psychological distress than isolat-ed and non-lonely individuals. Best et al. (2021), even short-term social distancing, determined that it caused an increase in panic, emotional discomfort, and depression, and they found that it was associated with psychological distress. It is thought that there are similar changes in the psychological states of social-ly isolated older individuals.

A significant number of participants reported that COVID-19 measures negatively impacted their psycholog-ical life, and this effect is more pronounced in those with higher psychological distress. Among those with possible moderate and severe mental illness, 65.6% and 55.9%, respectively, reported that the measures affected their psychological well-being (Table 3). These results suggest that COVID-19 measures acted as a significant stressor, with the most pronounced effects on those already experiencing psychological distress. The increased psychological stress caused by the pandemic, including isolation and uncertainty, likely wors-ened the mental health of individuals in more vulnerable groups. The isolation of older adults from social environments, their targeting, and discrimination by society during the COVID-19 period had negative ef-fects on their psychology. While coping with all these negativities due to social isolation, they were left alone with feelings of loneliness and abandonment due to insufficient social support resources. Considering all these factors, it is inevitable that the COVID-19 process will negatively affect psychological distress lev-els for older adults. Losada-Baltar et al. (2021), in their study on the level of psychological distress during the quarantine period, They found a relationship between greater exposure to news about COVID-19, con-tact with relatives other than their cohabitants, having less positive emotions, a lower sense of self-efficacy, lower sleep quality, and a greater sense of loneliness and psychological distress. In another study, a group with emotional distress reported more loneliness, less endurance, less physical exercise, and worse physical health (Sams et al., 2021). In the study of Bilge and Bilge (2020) on the psychological states of indi-viduals before and after the call to "stay at home" due to the COVID-19 epidemic, An increase was ob-served in the symptoms of anxiety, depression and phobic anxiety of the participants in the period after the

"stay at home" call. Durak and Senol Durak (2020) stated that the COVID-19 pandemic affected older adults, disrupted their daily routines, and caused emotional reactions similar to those typically associated with grief.

The economic impact also significantly differed across the groups, with individuals in higher distress levels experiencing greater economic challenges due to COVID-19 measures. Among those with severe psycho-logical distress, 40.7% reported economic difficulties, compared to 20.5% in the "probably good" group (Table 3). This highlights that COVID-19 not only affected people psychologically but also created financial hardships, particularly for those already in distress. Job losses, income reductions, and economic uncertain-ties likely compounded the difficulties faced by these individuals. People in economically vulnerable situa-tions and with higher psychological distress were particularly affected. In the study conducted by Ugurlu and Akın (2008) on the symptoms of psychological distress, Participants with low socio-economic status had more symptoms of psychological distress than participants with higher socio-economic status. It is thought that the socio-economic status of individuals who are economically affected by the measures also changes, and therefore, their psychological distress increases. In the study of Ulbrich et al. (1989) on race, socio-economic status, and psychological distress, they found that individuals with lower socio-economic status, regardless of race, showed more signs of psychological distress compared to others. This finding of Ulbrich et al. revealed that individuals who have been discriminated against are more likely to suffer from psychological distress due to their low economic status. In addition to the increasing perception of ageism during the COVID-19 period, it supports the determination of the level of psychological distress at the level of "possible severe mental illness" in individuals whose lives were also affected in the economic field due to the measures.

The physiological effects indicate that COVID-19 measures also had negative consequences on participants' physical health, with individuals with higher psychological distress being more severely affected. Among those with severe psychological distress, 25.4% reported that the measures negatively affected their physi-cal health, a higher percentage than in other groups (Table 3). Psychological distress appears to have a di-rect impact on physical health, as stress and anxiety can weaken the immune system and affect overall physical well-being. The combination of COVID-19 measures and psychological stress likely led to negative health outcomes, further compounding the burden on already vulnerable individuals. There has been a de-crease in the physical activity levels of older individuals who are restricted from going

out due to the measures and who can perform their daily activities at certain times of the day or not at all. Considering the studies in the literature examining the relationship between physical activity and psychological distress lev-els, George et al. (2012) determined that the symptoms of psychological distress increased with the de-crease in physical activity, and the symptoms of psychological distress decreased when physical activity increased. Awick et al. (2017) found that increases in physical activity reduce psychological distress, and a decrease in psychological distress improves quality of life. Cairney et al. found a significant relationship be-tween physical activity and psychological distress (Cairney et al., 2009).

There is no significant relationship between the participants who have a source or resources of psychoso-cial support during the COVID-19 period and the participants who do not in terms of the level of psycholog-ical distress. The fact that individuals say "we are self-sufficient" during the interviews suggests that they have low awareness about the source or sources of psychosocial support or that they are likely to deny their psychosocial support resources.

No significant relationship was found between the status of the participants and their acquaintances being diagnosed with COVID-19 and their psychological distress levels. The reason for this situation Is that the participants may not care about COVID-19, underestimate the effects of the disease, or act as if they are not affected by isolating themselves from these feelings. However, they are affected by negative emotions such as anxiety and fear caused by COVID-19 by using the emotional isolation coping mechanism.

CONCLUSION

It is necessary to prevent the exposure of older adults, who are among the groups most affected by the pandemic, to the negative effects of the process, for which special precautions are taken due to their being in the risk group. Psychological interventions that recognize both individual and cultural similarities and dif-ferences, along with social dynamics, are crucial for addressing the impact of the COVID-19 pandemic, promoting new viewpoints, and helping individuals acquire new life skills (Durak, 2021).

Psychosocial support should be given to families living with older adults, and guidance should be given about old age and biopsychosocial changes in old age. Older adults should be informed about healthy life-styles, and they should be ensured that they can take measures to protect themselves from the epidemic. For older adults, whose daily activities are interrupted, and their physical activities are restricted, an envi-ronment where they can exercise at home should be created. Having older adults do

this type of physical activity will allow them to stay physically active and adopt a healthier lifestyle.

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Barriers and Facilitators to Implementing Nutrition Intervention for Older Adults Living in Nursing Homes: A Scoping Review

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ABSTRACT

In North America, the rate of malnutrition among older people is increasing, especially in care facilities. This is mainly associated with increased mortality rates, prolonged hospitalization, and other health problems. Despite the potential benefits of nutritional interventions, there are knowledge gaps in the implementation of nutritional interventions in care homes. A scoping review was conducted to identify the factors and barriers to implementing nutrition interven-tions for older adults who are malnourished or at risk of malnutrition and living in nursing homes. The review included information on adults aged 60 and over and nursing home staff but excluded hospitals and community settings. A search of four electronic databases yielded 16.290 citations, of which 25 studies were eligible for the review. Seventeen themes emerged, which were categorized into six main domains: Organization, staff, intervention, environment, residents, and support. Barriers identified included inadequate education and training, staff turnover, and inconsistent nutritional care. Potential facilitators included training, support strategies, the presence of family or volunteers, consistency, and a focus on specific eating difficulties.

KEYWORDS: Nutrition Intervention; Nutritional Care; Skilled Facilities; Older Adults; Nursing Home.

KEY PRACTITIONER MESSAGE

1. Promoting education, training, socialization, effective management strategies, staff in-volvement, and multimodal interventions can improve the quality of care and reduce nutrition intervention inconsistency in nursing homes.

INTRODUCTION

In North America, the number of people aged 65 and over has increased due to longer life expectancy. In the United States, 17% of the population was 65 or older in 2020 (Admin-istration on Aging, 2022), while in Canada, 18.8% of the population was at least 65 years old (Government of Canada, 2022). In some of North America's poorest countries by Gross National Income (GNI) per capita, including Jamaica, Grenada, and Mexico, about 10 to 16 percent of the population is 60 years of age or older (Eldemire-Shearer et al., 2014; Angel et al., 2016; Wong, 2020). This suggests that the malnutrition rate in this region is likely to increase as the older adult population increases. Malnutrition is characterized by a deficiency, excess, or imbalance in energy and/or nutrient intake.

Nursing homes, which include long-term care facilities, geriatric care facilities, skilled nursing facilities, and residential care homes, are places where older adults or people with dis-abilities receive inpatient care. Nursing home residents are more likely to be malnourished and at high nutritional risk, which is associated with higher mortality rates, longer hospital stays, disability, medical problems, and other health issues. Addressing the nutritional needs of older people is critical to achieving Sustainable Development Goal 3 (Target 2.2), which aims to en-sure that everyone has the opportunity to live a long and healthy life.

Nutrition plays a crucial role in healthcare as it reduces mortality rates, readmissions, length of hospitalization, complications, and care costs for people over 65. However, there are inconsist-encies and gaps in the treatment of malnourished older or vulnerable people.

Nutritional interventions such as oral nutritional supplements, medical nutrition therapy, fortification, enrichment, and nutrition education are commonly used to prevent or treat malnu-trition in older people. Oral nutritional supplementation is the most successful measure for achieving meaningful results. However, resources for oral supplements are limited. In addition, there is a need for improved evaluation of intervention outcomes, integration of treatment across all settings, and education about age-related issues (The Institute of Medicine (2012)).

The treatment of malnutrition is hampered by factors that affect both patients and healthcare providers. Harris et al. (2019) and Ezezika et al. (2021) have identified significant problems with nutritional care, including unrecognized malnourished patients, inadequate staffing, delayed care, lack of dietary instructions, consultation times, and patients struggling to finish their meals. These issues highlight the need to improve nutritional care and the im-portance of rapidly implementing extensive nutrition interventions. However, barriers to im-plementing nutrition interventions remain, such

as the characteristics of the intervention, lack of program incentives, external support, and social support from the community. Nutrition interventions in nursing homes and the community differ in their limitations and enablers, such as support, accessibility, education, and training.

Understanding these barriers is crucial for developing effective nutrition programs for older people. A review was conducted to identify facilitators and barriers to implementing nu-trition interventions for older adults who are malnourished/at risk of malnutrition and living in nursing homes. The aim was also to discover strategies for sustainable nutritional interventions and determine the nursing home staff's role in effective implementation. This review has the potential to inform future research on organizational, staffing, and resident-related factors that influence nutritional interventions.

Review Questions

The primary study question is: "What factors influence the successful implementation of nutrition interventions for older adults at risk of malnutrition in nursing homes?" In addition, this review investigated the following sub-questions: (1) How does nursing home staff in North America contribute to implementing nutrition interventions for older adults who are malnourished/at risk of malnutrition? (2) What is the implementation of nutritional interventions for older adults at risk of malnutrition in for-profit nursing homes compared to non-profit nursing homes in North America? (3) What measures are in place to monitor the delivery of nutrition interventions for older adults who are malnourished/at risk of malnutrition in nursing homes in North America? (4) How sustainable are nutritional interventions for older adults who are malnourished/at risk of malnutrition in nursing homes in North America?

METHOD

Eligibility

The study aimed to gather comprehensive knowledge about nutrition interventions implemented in North American nursing homes. Therefore, articles focusing on older adults aged 60 years living in nursing homes were included. Nursing home staff and employees were also consid-ered. Concepts describing nutrition interventions and care to prevent malnutrition were includ-ed, while articles focussing on pharmaceutical therapies were excluded. The review considered quantitative, qualitative, and mixed-methods papers published between 2009 and 2023, with no restriction on language. Non-traditional sources such as reports, clinical trials, theses, and dis-sertations were also considered.

Search Strategy

The protocol identified keywords and search terms related to nutrition intervention, nursing homes,

staff. The JBI Manual for Evidence Synthesis' three-step search technique was used to conduct a focused search on electronic databases EBSCOhost, Medline (PubMed), Science Direct, and Cochrane Library. The search strategy was updated based on the four research questions. The EBSCOhost database was the first to be searched, followed by PubMed, using advanced search features and Boolean operators to extract recent papers from 2009 to 2023. A second search was conducted from February 18 to February 26, 2023, using Science Direct and Cochrane Li-brary. All prospective grey literature was retrieved from the four databases, and additional sources were reviewed in the reference lists of the papers and publications included.

Study Selection

The search phase involved evaluating titles, abstracts, and full text of publications for potential inclusion. Duplicates were removed, and the selected articles were imported into the Rayyan web tool. The selection was based on abstract screening and full-text screening. A more thorough full-text screening was performed on articles chosen from the abstract phase.

Charting of Data

The process involved several iterations to ensure consistency and relevancy. The study characteristics and variables were extracted, including author(s), year of publication, country of origin, aims/purpose, methodology, nutrition intervention, duration, outcome measures, role of staff, monitoring tool, sustainability and cost-effectiveness of interventions, types of facilities, and key findings related to the review questions. The results provided a broad overview of the research field without ranking the quality of individual studies, adhering to the methodology for scoping reviews advised by the Joanna Briggs Institute.

Synthesis of Result

The study presents geographic distribution and publications of studies on nutrition intervention in nursing homes using charts and narratives. It identifies factors influencing its implementa-tion, including duration, outcome measures, methodologies, sustainability, cost-effectiveness, and facilities. Key findings were coded, and themes emerged.

RESULTS

Identification of Potential Studies

The searches from four electronic databases yielded a total of 16290 records (EBSCOhost: 754, Medline (PubMed): 386, Science Direct: 15023, and Cochrane Library:127) from which 11.470 titles and abstracts were screened after duplicate records were eliminated. Ten thousand four hundred seventy were journal articles, and 1.000 were chapters. Most abstracts, 8.627, were written in English, followed by 137 in Spanish, 85 in French, 30 in Portuguese, and 3 in German. The titles and abstract screening phase resulted in a final list of 351 potential articles.

There were nine records for which full-text access was not available. A total of 29 possible publications pertinent to the study emerged from the full-text screening stage, including one found in the reference list. There were 25 publications, including the data extraction and narrative ac-count. Following the full-text screening, four more articles were eliminated for the reasons mentioned in Figure 1.

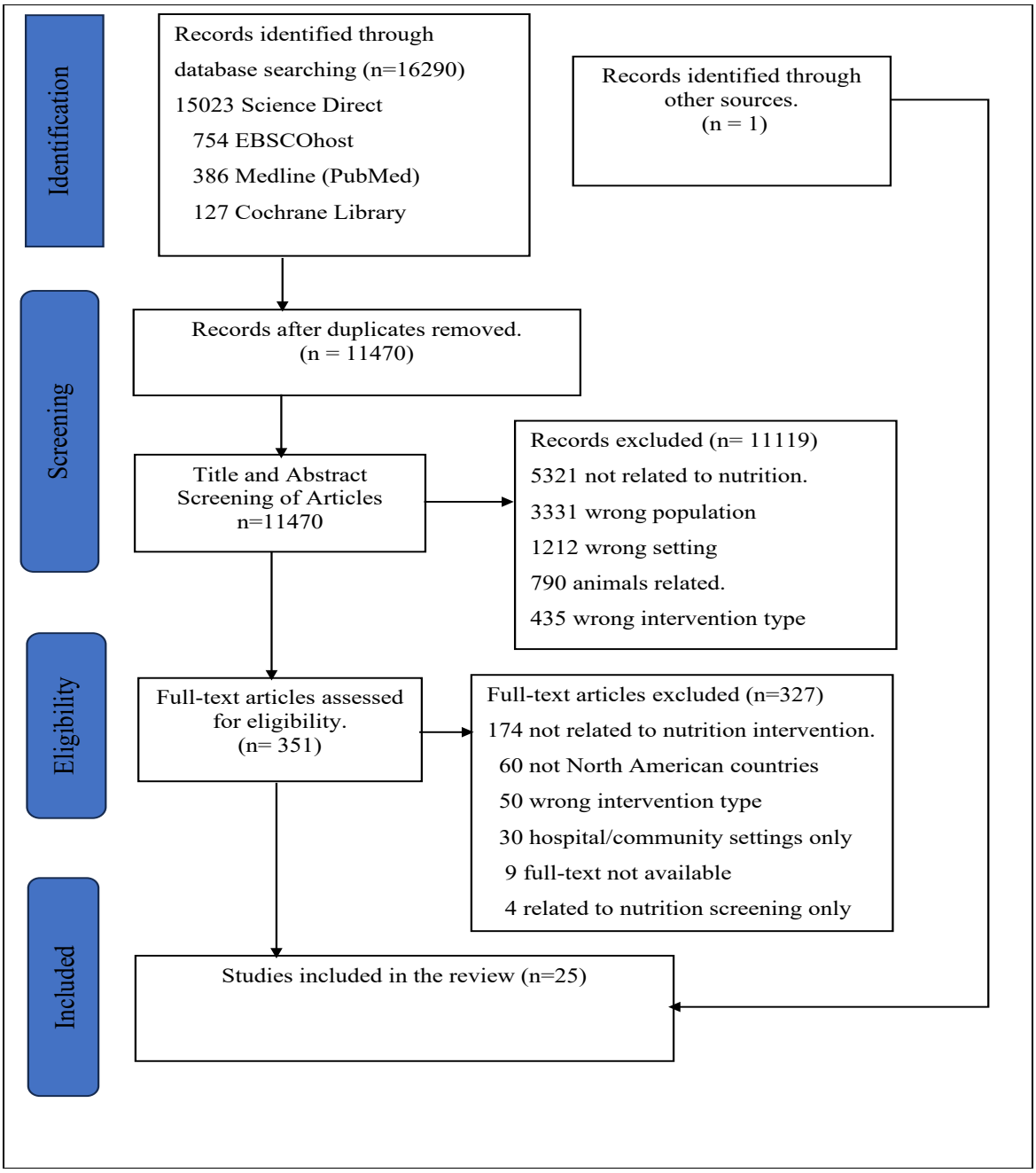

Figure 1. *Flow Chart of Data Extraction Process*

First Author and Year	Country of Origin	Method and Study Design	Type of Nutrition Intervention	Outcomes measures	Nursing Staff Role in Intervention	Monitoring System / Tool	Sustainability /Cost-effectiveness Strategies	Type of Facility (For Profit/ Not-for-Profit	Key findings relate to the scoping review questions
Simmons, 2013 (Simmons et al., 2013)	USA	Quantitative Randomized translational study	Food and/ or nutrient delivery Education	nutritional status dietary intake weight change	Feeding Assistance Care	Minimum Data Set quality indicator (MDS) Standardized weighing and Observation protocol	Mult-faceted Intervention	Not stated	Multifaceted intervention enhances feeding assistance care quality, but staffing levels are below optimal.
Simmons, 2015 (Simmons et al., 2015)	USA	Quantitative Randomized controlled trial	Food and/or nutrient delivery	nutritional status dietary intake, weight change	FAC Weigh and record the weight of residents	MDS Standard weighing protocol. Nutrition Data System for Research Software - Calore	cost-effective in increasing caloric intake, Meals, and Snacks (M&S) Interventions	Four for-profits and one non-profit	Staff time spent promoting snack consumption increases during interventions, with M&S and ONS providing cost-effective caloric intake improvements but no significant weight impact.
Simmons, 2010 (Simmons, Zhuo, and Keeler, 2010)	USA	Quantitative Randomized controlled trial	Food and/or nutrient delivery	nutritional status dietary intake weight change		MDS Standardized weighing and Observation protocol Photography	M&S intervention was more cost-effective than ONS intervention in caloric gain, staff time, refusal rates, and costs.	Not stated	The snack intervention was more cost-effective than the supplement intervention in terms of cost, staff time caloric gain, and refusal rates
Smith, 2017 (Smith et al., 2017)	USA	Quantitative Secondary Data analysis							Administrative decisions impact residents' care. Staffing higher, more apparent roles and adequate education in feeding, food handling, and dietary aspects can improve nutritional care.
Carrier, 2009 (Carrier, West, and Ouellet, 2009)	Canada	Quantitative Cross-sectional study						Not stated	Enhancing the quality of life in cognitively intact and cognitively impaired residents can be achieved by encouraging dining with others and increasing food autonomy.
Harding, 2016 (Harding et al., 2016)	USA	Quantitative Retrospective Chart Review	Food and/or nutrient delivery	Biochemical marker - nutrition status	Prescribe and administer supplements	MDS		Not stated	Skilled Nursing Facilities patients with protein supplementation showed increased prealbumin levels after 30 days. Barriers to implementation included taste, timing, time constraints, and dietitian buy-in. Sharing program evaluation results could increase staff participation in malnutrition screening.

First Author and Year	Country of Origin	Method and Study Design	Type of Nutrition Intervention	Outcomes measures	Nursing Staff Role in Intervention	Monitoring System / Tool	Sustainability /Cost-effectiveness Strategies	Type of Facility (For Profit/ Not-for-Profit	Key findings relate to the scoping review questions
Barnhart, 2016 (Barnhart et al., 2016)	USA	Qualitative Semi-structured, In-depth interviews						Not stated	NH residents and their physicians viewed diabetes and diabetes intervention as burdensome.
Blumberg, 2018 (Blumberg et al., 2018)	USA	Qualitative Focus group						Not stated	Frontline workers possess extensive knowledge about food and nutrition care, but their skills are often overlooked in management strategies, leading to understaffing and employee dissatisfaction.
Mallidou, 2013 (Mallidou et al., 2013)	Canada	Qualitative Observational pilot study						Not stated	The study revealed that the working environment, caregiver workload, and time use led to fragmented care for residents, with limited interactions and no evidence of alignment with their needs.
Morrison, 2021 (Morrison-Koechl et al., 2021)	Canada	Quantitative Secondary analysis - a cross-sectional multisite study						Not stated	Social engagement predicts energy intake but not eating challenges. Low social engagement leads to appetite loss, suggesting appetite as the relevant mechanism.
Batchelor-Murphy, 2019 (Batchelor-Murphy et al., 2019)	USA & Canada	Quantitative Secondary data analysis / archival study						Not stated	Dementia residents require 59.92% more feeding assistance than non-dementia residents, highlighting the need for staff to play a role in meal-eating support.
Leydon, 2023 (Leydon and Dahl, 2023)	Canada	Report Project report						Not stated	Areas for improvement are food selection, adequate time, meal presentation, and staff-resident relationships.

First Author and Year	Country of Origin	Method and Study Design	Type of Nutrition Intervention	Outcomes measures	Nursing Staff Role in Intervention	Monitoring System / Tool	Sustainability /Cost-effectiveness Strategies	Type of Facility (For Profit/ Not-for-Profit	Key findings relate to the scoping review questions
Ilhamto, 2014 (Ilhamto et al., 2014)	Canada	Qualitative Semi-structured interviews and observation						Not stated	No harmonized guidelines exist for textured-modified foods. Education is needed for optimal texture outcomes.
Namasivayam-MacDonald, 2018 (Namasivayam-MacDonald et al., 2018)	Canada	Quantitative Secondary analysis cross-sectional, multisite project	Food and/or nutrient delivery	dietary intake	FAC report food and beverage intake	MDS Mealtime Scan. Dining Environment Audit Protocol		Not stated	Inadequate fluid intake is linked to cognitive impairment, older age, eating challenges, gender, and lack of physical assistance.
Trinca, 2019 (Trinca et al., 2019)	Canada	Quantitative Secondary analysis of the cross-sectional study	Food and/or nutrient delivery	dietary intake	FAC report food and beverage intake	MDS		Not stated	Residents' energy and protein intake in LTC are linked to eating occasions, with age, sex, family/volunteer presence, and dementia care unit living influencing protein intake.
Keller, 2017 (Keller et al., 2017)	Canada	Quantitative Multisite cross-sectional study						Not stated	Recent menu revisions have increased protein and energy intake, suggesting interventions like pureed food, restorative dining, eating assistance, and person-centered care practices may improve food intake.
Velázquez-Alva, 2020 (Velázquez-Alva et al., 2020	Mexico	Quantitative cross-sectional study						Private Nursing Homes (NHs) - 3 For Profit	Malnutrition is linked to depression, and daily use of three or more prescription drugs is linked to a worsening nutritional status in older adults nursing home residents.
Simmons, 2008 (Simmons et al., 2008)	USA	Quantitative Crossover randomized controlled trial	Food and/or nutrient delivery	Nutritional status, BMI/ weight checks dietary intake	FAC	MDS Observational protocol. Photography method		four NHs 3 - for profit	Optimal feeding assistance during or between meals significantly impacts weight loss. Depression patients lost more weight. Convenient snacking is preferred.

First Author and Year	Country of Origin	Method and Study Design	Type of Nutrition Intervention	Outcomes measures	Nursing Staff Role in Intervention	Monitoring System / Tool	Sustainability /Cost-effectiveness Strategies	Type of Facility (For Profit/ Not-for-Profit	Key findings relate to the scoping review questions
Simmons, 2009 (Simmons and Rahman, 2009)	USA	Chapter review				LTC residents' intake increased due to a feeding aid regimen, but facilities must improve availability and address issues like errors and missing medical records to improve care quality.	Simmons, 2009 (Simmons and Rahman, 2009)	USA	Chapter review
Johnson, 2018 (Johnson et al., 2018)	Canada	Qualitative Exploratory						Not stated	Nutrition screening and assessment by Registered Dietitians face challenges due to time constraints and understaffing.
Colón-Emeric, 2015 (Colón-Emeric et al., 2015)	USA	Qualitative Focus groups							LTC intervention sustainability is challenging due to staff diversity and education levels.
Simmons, 2009 (Simmons, Peterson, and You, 2009)	USA	Quantitative Longitudinal study						four NHs, (one for-profit)	NH staff struggle to monitor residents' monthly weight changes, potentially affecting nutrition recommendations. A systematic weighing routine can help detect weight loss and aid in early dietary management.
Rahman, 2011 (Rahman et al., 2011)	USA	Qualitative Observational study					The course model was designed to provide more support over a longer period	Not stated	Supervisors reported that the coaching course model effectively provides support and care interventions in NH care practice despite barriers to change.
Durkin, 2014 (Durkin, Shotwell, and Simmons, 2014)	USA	Qualitative Observational Sub tudy	**Food and Nutrient Delivery**	dietary intake	FAC Physical assistance Reports	MDS Standardized observation protocol.		Not stated	Mealtime visitation, while infrequent, significantly enhances residents' quality of care, meaningful activity, and well-being, similar to minimal eating dependence in residents with minimal dependence.

Characteristics of the Included Studies

Apart from 2012, for which no articles were found, only one to three publications on the factors influencing the implementation of nutrition interventions in nursing homes were pub-lished each year from 2009 to 2023. Additionally, one paper from 2008 was found in the refer-ence list of included articles. With a total of 14 studies, the United States of America was the main source for these publications, followed by Canada with nine studies and Mexico with one. In one article, the research was conducted in the United States and Canada. Table 1 illustrates the data extracted from each publication.

Types of Methods and Design

This review included both quantitative and qualitative study methods. Crossover control stud-ies, randomized trials, secondary data analyses, cross-sectional studies, and one longitudinal study were used in 14 studies.

Nutrition Intervention Studies and Outcome Measures

Nine studies focused on nutrition-related interventions, with food and/or nutrient delivery being the most employed strategy. The interventions were categorized into six classes: enteral and parenteral nutrition, nutrition supplements, feeding assistance, managing the feeding environ-ment, and nutrition-related medication management. The outcomes measured were nutrition status, food intake, BMI/Weight Change, and biochemical markers.

The Roles of Nursing Staff in Nutrition Intervention Studies

Nursing staff were instrumental in carrying out the nutrition intervention in nursing homes. Their roles included feeding assistance care, prescribing and administering supplements, sup-porting the program, reporting food and beverage intake, weighing residents' weight, providing physical assistance, and data documentation.

Monitoring Procedures and Tools for Nutrition Interventions

Nine nutrition intervention trials utilized the minimum data set (MDS) instrument for monitoring adult health and other technologies like weighing, photography, performance-based assess-ment forms, and dining environment audit protocol for research software.

Sustainability, Cost-effectiveness, and Types of Facilities

Of the nine nutrition intervention studies, three addressed cost-effectiveness, and one sustainable cost savings. Five of 25 publications classified nursing homes as for-profit or non-profit institutions. Two studies were conducted in for-profit facilities and one non-profit, while the other used one for-profit facility and three non-profit ones.

Reporting of Barriers and Facilitators

Most studies focused primarily on the efficacy of the intervention (n=19) and reported barriers and

facilitators as secondary data. Only a few studies (n=6) directly addressed barriers to implementing dietary interventions. There was no direct evidence from studies (n=0) of what makes dietary interventions effective; however, the interventions' effectiveness or outcomes allowed for identifying potential facilitators.

Factors Influencing the Implementation of Nutrition Interventions

There were 17 identified themes from the key findings related to barriers and facilita-tors to implementing nutrition intervention. The themes were then grouped into six main do-mains: organizational, staff, intervention, environmental, residents, and support. The identified barriers and facilitators were mapped onto the six domains.

Barriers and Facilitators to Implementing Nutrition Intervention

Domain 1: Organization

Theme 1: Education and Training

Five studies (Ilhamto et al., 2014; Smith et al., 2017; Blumberg et al., 2018; Namasivayam-MacDonald et al., 2018) mentioned the requirement for a sufficient level of education. A suffi-cient dietary education and training level is required (Smith et al., 2017). Additionally, it was found that staff education level impacted the intervention's sustainability (Colón-Emeric et al., 2015). However, when training was put into practice, the effect was noticeable and reported to improve the quality of care (Simmons et al., 2013), which explained the variations in nursing homes (Trinca et al., 2019). Training nonnursing personnel was also noted as a facilitator; Simmons et al. (2016) emphasized the requirement for nonnursing staff to supplement tradi-tional nursing assistant staff, particularly in nursing homes with nursing aide staff that falls be-low the national standard. According to Rahman et al. (2011), the coaching course model was adaptable and reliable enough to incorporate a variety of everyday interventions into nursing home care practice. Additionally, according to Colón-Emeric et al. (2015) and Leydon and Dahl (2023), offering orientation materials, indicators, and techniques to measure and monitor edu-cation and training is essential for long-term effectiveness.

Theme 2: Staffing Level and Turnover

Three studies mentioned low staffing levels as an implementation barrier (Rahman et al., 2011; Simmons et al., 2013; Johnson et al., 2018). The shortage of healthcare professionals was one of the most significant issues noted (Johnson et al., 2018). Additionally, it was noted that significant leadership turnover made it difficult for the intervention to be sustained (Colón-Emeric et al., 2015). Furthermore, understaffing leads to unhappiness (Blumberg et al., 2018) and affects residents' quality of life. In contrast, greater staffing could potentially support high-quality nutrition care (Smith et al., 2017).

According to Carrier, West, and Ouellet (2009), the ratio of residents to registered assistance correlated favorably with quality of life.

Theme 3: Management Strategies and Staff Involvement

One of the barriers noted was the lack of integration of employee knowledge in management methods. Frontline staff members, such as nurses and dietary assistants, were highly knowl-edgeable about food and nutrition care, but management failed to take this into account (Blum-berg et al., 2018). The enablers were recognized as implementing tactics that increased the intervention's efficacy (Trinca et al., 2019), integrating the intervention into staff members' regular workdays (Leydon and Dahl, 2023), balancing complexity, employing a variety of meth-odologies, and being inclusive (Colón-Emeric et al., 2015). It was also advantageous to train nonnursing workers to supplement the usual nurse aide workforce (Simmons et al., 2016).

Theme 4: Standard Nutrition Care

The absence of guidelines was identified as a challenge. For instance, no standards or objec-tive methods were created to prepare textured-modified foods (Ilhamto et al., 2014). Addition-ally, better coordinated and consistent nutrition care systems were required (Johnson et al., 2018). The feeding assistance protocol (Simmons and Rahman, 2009) and a standardized weighing methodology (Simmons, Peterson, and You, 2009) were mentioned as examples of protocols that were shown to be facilitators. Additionally recognized as a facilitator for nutrition care was institutions' optimal feeding assistance (Simmons et al., 2008).

Theme 5: Workload and Time

Five studies (Rahman et al., 2011; Mallidou et al., 2013; Simmons et al., 2015; Harding et al., 2016; Johnson et al., 2018) indicated a high workload with limited time as a barrier. According to Johnson et al. (2018), lack of time was the most frequently encountered obstacle. For this theme, neither enablers nor coping mechanisms were explicitly mentioned. Samra (2021) con-tends that organizations should prioritize workload management in corporate policies and practices by creating detailed job descriptions, conducting reviews, and identifying areas that could benefit from improvement.

Theme 6: Work Diversity and Workforce Composition

In one study, the staff's composition was seen as a challenge. Smith et al. (2017) claim that the staff composition affects how well residents are cared for. The diversity of the employees fur-ther presents a problem to the sustainability of the intervention. Unfortunately, none of the in-cluded studies addressed this issue, and neither of those two papers contained any enablers or practical solutions. However, according to Durkin, Shotwell,

and Simmons (2014), managers need to foster an inclusive culture, resolve conflicts among diverse staff members, and foster a safe environment to boost creativity and patient care. In addition to managing workplace diver-sity, assessing organizational culture, establishing objective standards, treating employees as individuals, building relationships with mentors, and promoting inclusion are crucial (The George Washington University, 2021).

Theme: 7 Food Service Management

The food selection at the time of serving, allowing for appropriate eating time (Leydon and Dahl, 2023), and not adhering to a harmonized guideline (Ilhamto et al., 2014) are a few areas of food service that need to be improved. Other factors, such as menu changes and the provi-sion of a tray meal delivery system in addition to therapeutic meals, were recognized as facili-tators for food service management (Carrier, West, and Ouellet, 2009).

Theme 8: Feedback and Communication

Two studies identified poor communication as a barrier (Simmons et al., 2013; Colón-Emeric et al., 2015). Long-term care facilities' issues with intervention sustainability are ascribed to communication breakdowns or a lack of trust between managerial and direct care workers (Colón-Emeric et al., 2015). Sharing and implementing feedback, on the other hand, was noted as a nutrition management enabler. Staff involvement in managing patients at risk for malnutri-tion may increase because of staff feedback being incorporated into program evaluation out-comes (Harding et al., 2016).

Domain 2: Staff

Theme 9: Social Interaction

Two studies (Mallidou et al., 2013; Leydon and Dahl, 2023) identified a barrier as having little interaction between the caregiver and the resident. There was little evidence that residents' needs or preferences were considered in their interactions (Mallidou et al., 2013). However, social interaction was found to be a facilitator of high-quality nutrition care in situations where it was promoted. Social interaction was the most important predictor of energy intake (Morri-son-Koechl et al., 2021). Dining events are ideal for fostering interaction. Carrier, West, and Ouellet (2009) contend that promoting interconnected dining can improve residents' quality of life.

Theme 10: Person-centred care practice

Three studies (Simmons, Zhuo, and Keeler, 2010; Simmons et al., 2015; Namasivayam-MacDonald et al., 2018) highlighted inadequate person-centered care as a barrier. In those studies, insufficient physical or eating support was the obstacle to an effective intervention. As stated by Namasivayam-MacDonald et al. (2018), interventions to increase total intake should concentrate on the unique eating challenges of residents and staff education to improve sup-port at mealtime. In agreement, Keller et al. (2017)

pointed out that a person-centered care practices-focused intervention may enhance increased food intake. Trinca et al. (2019) acknowledged greater person-centered care practices as the cause of the distinction between different types of facilities.

Theme 11: Work knowledge and quality

Two studies cited performance and product quality as barriers. Simmons, Peterson, and You (2009) identified the challenges staff experienced in keeping track of residents' body weight fluctuations monthly, while Simmons and Rahman (2009) noted errors and missing medical da-ta. This might be one of the reasons the MDS's "prevalence of weight loss" quality indicator may not be entirely reliable. The detection and treatment of malnutrition may be delayed, which could have implications for nutrition intervention. Limited enablers have been identified in this area. However, according to two studies (Simmons et al., 2008; Simmons et al., 2013), delivering the highest possible standard of care is an important part of nutrition intervention. After the intervention period, quality care was still provided (Simmons et al., 2013). The neces-sity for training, which has been emphasized in numerous studies, may enhance the effective-ness and caliber of staff work.

Theme 12: Workplace Identity and Relationship

Three studies identified barriers relating to staff roles and relationships. Colón-Emeric et al. (2015) observed mistrust between direct care and managerial workers, while Smith et al. (2017) noted the necessity for better role descriptions. Blumberg et al. (2018) noted the unhap-piness between aides and other employees. Under this theme, no enablers were identified. However, Waters (2022) asserts that developing effective working connections requires an in-dividual to comprehend their team, practice active listening, using non-verbal cues, planning breaks, asking for help, consulting human resources, setting boundaries, and expressing ap-preciation.

Theme 13: Resistance to Change and Absenteeism

Rahman et al. (2011) identified staff absence and opposition to schedule changes as obstacles to nutrition intervention. However, no other articles addressed this barrier, and no facilitators were found for this theme. Nevertheless, Hayashi (2017) suggests that to address this issue effectively, leaders must instill a sense of vision, give assurance, respond calmly, relate per-formance to collaboration, discuss progress, promote emotional awareness, and establish a schedule for evaluating progress.

Domain 3: Intervention

Theme 14: Intervention Characteristics

Three intervention characteristics were recognized as enablers, while two were barriers to nu-trition intervention. In two studies (Barnhart et al., 2016; Harding et al., 2016), the nature and practicability of the intervention were identified as barriers. Residents viewed dietary re-striction, a type of

nutrition intervention, as the most burdensome intervention (Barnhart et al., 2016). Additionally, residents had trouble taking the supplement at the designated time (Har-ding et al., 2016). This proved how ineffective the nutrition intervention was in helping those residents. However, two studies identified the type and practicality of the intervention as an enabler. According to Simmons et al. (2013), a multifaceted training intervention was found to increase care quality. In addition, it was more practical to serve snacks in between meals than supplements (Simmons et al., 2008). In two studies, consistency and cost-effectiveness (Sim-mons, Zhuo, and Keeler, 2010; Simmons et al., 2015) were also identified as enablers. Calorie intake was improved by consistently providing meals, snacks, and oral nutrition supplements (Simmons et al., 2015). However, it was discovered that the snack intervention was more eco-nomical than the supplement intervention (Simmons, Zhuo, and Keeler, 2010).

Domain 4: Environment

Theme 15: Work and Dining Environments

In one study, the place of dining was identified as a barrier. Staff demands are increased by residents eating in their rooms during meals (Simmons et al., 2013). This is viewed as a barrier to intervention since it might need more staff to provide residents individual attention rather than in a group environment, or it might result in insufficient feeding assistance and low oral intake because of a staffing shortage. Poor working conditions are another barrier that can be exacerbated by insufficient employees (Mallidou et al., 2013), and this can have an adverse ef-fect on the care provided to residents. On the other hand, a different study identified the dining setting as an enabler. The quality of life of residents was positively correlated with employing Chinese dishes and a tray meal delivery system (Carrier, West, and Ouellet, 2009). Many long-term care institutions are adopting the idea of "home" to give their residents comfortable living spaces. According to Keller et al. (2017), restorative dining is advised in place of physical alter-ations to foster home-likeness to improve residents' nutritional status.

Domain 5: Residents

Theme 16: Residents-related

Three studies (Simmons et al., 2008; Batchelor-Murphy et al., 2019; Velázquez-Alva et al., 2020) identified the residents' health status as a barrier. Residents with dementia were more likely to have low intake. Depression and the daily use of three or more prescription drugs have been associated with deteriorating nutritional status in senior nursing home pa-tients (Batchelor-Murphy et al., 2019; Simmons et al., 2008; Velázquez-Alva et al., 2020). Nutri-tion intervention was also found to be hindered by residents' resistance to new routines

(Rahman et al., 2011), loss of appetite (Morrison-Koechl et al., 2021), and non-modifiable factors like age, sex, impairment, and eating challenges (Namasivayam-MacDonald et al., 2018; Trinca et al., 2019). Such circumstances may affect not only the nutritional status of the population but also the efficacy of nutrition programs. Residents' views and taste prefer-ences were mentioned as additional impediments. Examples of obstacles to nutrition interven-tions include the flavor of the nutritious drink (Harding et al., 2016) and the resident's opinion of the dietary limitations and fingerstick monitoring (Barnhart et al., 2016).

Providing a variety of options, mealtime visitation (Durkin, Shotwell, and Simmons, 2014), mealtime autonomy, and meal-eating support were all identified as enablers (Carrier, West, and Ouellet, 2009; Simmons et al., 2015; Batchelor-Murphy et al., 2019; Trinca et al., 2019). Namasivayam-MacDonald et al. (2018) also recommended that interventions to enhance total intake should concentrate on residents' specific eating challenges.

Domain 6: Support

Theme 17: Internal and External Support

Insufficient internal support was reported in three studies (Rahman et al., 2011; Harding et al., 2016; Batchelor-Murphy et al., 2019). Lack of staff support, such as buy-in from administrators and dietitians (Harding et al., 2016; Batchelor-Murphy et al., 2019), had an impact on how con-sistently nutrition intervention programs were carried out. While Colón-Emeric et al. (2015) emphasized the significance of external support to ensure the success of interventions, Batch-elor-Murphy et al. (2019) stressed the requirement for meal-eating support, a staff-to-resident kind of internal support. Two studies (Durkin, Shotwell, and Simmons, 2014; Trinca et al., 2019) advocated family and volunteer assistance. According to Durkin, Shotwell, and Simmons (2014) and Trinca et al. (2019), encouraging and supporting family participation in mealtime assis-tance has the potential to improve care quality, offer meaningful activity, and improve the qual-ity of life and well-being of residents.

DISCUSSION

The analysis of 25 publications published between 2008 and 2023 revealed numerous parameters influencing the implementation of nutrition interventions in nursing homes. Six do-mains—Organisational level, Staff level, Intervention level, Environmental level, Resident level, and support—were used to group the 17 overarching themes discovered throughout this analy-sis. Even though only six of the included research expressly addressed these obstacles, the primary findings indicated roughly 32 barriers and 26 facilitators. Thirteen of the barriers iden-tified were at the organizational level,

seven at the staff level, two at the intervention level, two at the environmental level, six at the residents' level, and two at the support domain. Twelve potential facilitators were identified at the organizational level, five at the staff level, three at the intervention level, one at the environmental level, four at the residents' level, and one at the support domain.

The Malnutrition Task Force (2015), Harris et al. (2019), and Ezezika et al. (2021) identi-fied several factors that influenced the implementation of nutrition interventions, including in-tervention characteristics, support, cost, staff knowledge, workload, time, resources, educa-tion, and training. Some of the barriers identified in this review are comparable to those seen in community settings, such as the health of residents, a lack of resources (staff, time), inade-quate training, erroneous data entry, and a lack of resources (staff). However, whereas cost was cited as a facilitator in our study, it was viewed as a barrier in other community-based studies (Brunner et al., 2021; Ezezika et al., 2021; Harris et al., 2019). Additionally, certain ob-stacles, such as difficulties with shopping and meal preparation, found in previous studies con-ducted in a community setting are not relevant to implementing nutrition interventions in nurs-ing homes (Harris et al., 2019). This illustrates how knowing the facilitators and barriers to their implementation and the setting are essential for modifying or developing effective nutri-tion treatments that benefit older adults.

In nursing home settings, meals and snacks and ONS were employed as the most com-mon nutrition intervention; however, in prior research about the community environment, only ONS was used (McKeever et al., 2019; Sulo et al., 2020). In this study and previous studies (Poscia et al., 2017; McKeever et al., 2019; Sulo et al., 2020), the ONS was rated as extremely successful. On the other hand, meal and snack intervention proved to be more useful and effi-cient than ONS (Simmons et al., 2008; Simmons, Zhuo, and Keeler, 2010).

For older people who are malnourished or at risk of becoming malnourished, interven-tions that take a comprehensive approach and incorporate additional nutrition intervention components, such as education, are preferred. Previous research has shown the benefits of a multifaceted nutrition intervention on older people's nutritional status (Smith et al., 2020). The multimodal intervention was recognized in this study as a facilitator, which supported this strategy. Additionally, the improvement persisted even after the intervention period (Simmons et al., 2013), demonstrating the efficacy of the intervention.

It takes a multidisciplinary team to ensure that residents' nutritional needs are met to the level necessary for high-quality care. Most frequently, the interventions were incorporated into the regular duties of the staff members. The dietitian's role

encompasses problem diagnosis, nutritional status assessment, diet plan preparation, and counseling regarding dietary alterations (Tappenden et al., 2013). Unfortunately, only a few nutritionists were working in nursing homes full-time.

The choice of outcome measures relied on the intervention study; for instance, dietary intake was employed as an outcome measure in a study that sought to describe fluid consump-tion in long-term care residents and identify the factors related to fluid intake (Namasivayam-MacDonald et al., 2018). The biochemical data and nutrition status outcome measures were used in a different study (Harding et al., 2016) to compare prealbumin levels of patients before and after 30 days of protein supplementation as well as between patients who received proto-col treatment and those who did not. In most cases, several outcome measures were utilized, and the outcome measure selection might have been adjusted for the population.

Nursing home performance and quality are monitored using the Minimum Data Set (MDS), also utilized for research. The MDS was employed by the researchers of the studies in-cluded in the nutrition intervention process together with additional techniques like standard weighting and observation procedures, photography, and standard performance-based skilled evaluation 13-item forms. MDS accurately captures measures like admission, transfer, and mortality, however, it does not include additional healthcare uses (Doupe et al., 2018). So, it seemed logical to combine the MDS with other suitable technologies.

The review aimed to identify barriers and facilitators in nutrition interventions, but only four out of nine studies explicitly mentioned barriers, and sustainability was not effectively re-ported. The review also compared nutrition interventions in for-profit and not-for-profit facili-ties but found no variance in treatment across the two settings.

Organizational, staff, and resident levels influence nutrition interventions in nursing homes. To be successful, these three levels must be considered in unison. Owners and admin-istrators must ensure that staff have the necessary skills and knowledge to provide residents with the highest standard of care.

Staff involvement in nutrition care programs, suitable staff-ing levels, training, good communication, and harmonized standards are crucial. Addressing resident-level variables and offering solutions on an individual basis is essential.

This review of nutrition studies from 2008 to 2023 was conducted using a methodical search technique. However, because the search was conducted in February 2023, research that might have been available after that time was excluded. The search criteria were in English, potentially

missing other relevant studies. The review only used grey literature found in data-bases, which may have overlooked relevant publications. Most studies were from the United States and Canada. Further studies should include diverse nutritional strategies, including education and the coor-dination of nutritional care, with effective food and nutrient delivery technology, to improve the effectiveness of dietary treatments. Comparing the nutrition care of for-profit and non-profit facilities and examining long-term effects is also essential. Addressing barriers like workload, absenteeism, and staff composition is crucial. Additionally, assessing the outcomes of inter-ventions tailored to individual residents' needs and attitudes is essential.

CONCLUSION

The review focuses on nutrition interventions for older adults at risk of malnutrition in North America's nursing homes. Most interventions involve food and nutrient delivery, followed by nutrition education. Staff plays crucial roles in feeding assistance, supplement administration, supporting programs, reporting intake, weighing residents, providing physical assistance, and documenting data. The review highlights the importance of education, training, management strategies, and staff involvement in implementing nutrition interventions. Multimodal interven-tions are recognized as facilitators, and staff participation is essential for improving care quali-ty and reducing variations in nursing homes.

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Three Decades of Gerontology in Türkiye: Historical Foundations, Multidisciplinary Growth, and Future Horizons

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ABSTRACT

The history of science is a field that not only outlines the chronological progression of studies across various disciplines but also reveals the social, historical, and economic developments that led to the emergence and growth of these fields. It involves compiling research in different areas and evaluating the historical conditions that interact with these studies. Although "Geron-tology in Türkiye" has included numerous struggles and noteworthy developments over the past 30 years, few studies still assess this brief period. This paper will examine the phenomenon of demographic change in Türkiye, utilizing a combination of externalist approaches to the history of science and addressing gerontology's past, present, and future. By nature, the mission of sci-ence to improve human life quality and clarify the contextual frameworks surrounding human beings has triggered the birth and rapid development of gerontology after these transformations. Understanding and shaping these phenomena related to aging and old age from a gerontological perspective may serve as an effective key to achieving goals such as improved quality of life, social integration, productivity, and sustainable development.

KEYWORDS: Gerontology in Türkiye; History of Gerontology; Aging Policies and Interventions; Multidisciplinary Aging Studies; Demographic Transformation; Gerontological Education and Practice.

KEY PRACTITIONER MESSAGE

1. Gerontology is inherently a multidisciplinary and complex field that cannot be associat-ed with a single area of science.
2. Türkiye, one of the fastest-aging countries in the world, has experienced at least four transformative periods in the development of gerontology in a short time.
3. Scientific-historical studies on gerontology are essential for comprehending the future of the field in Türkiye, which evolved from an incubation period from 1998 to the early 2000s to development and institutionalization in the early 2000s and to general ac-ceptance in the 2020s.
4. To identify and understand the developmental stages of gerontology in Türkiye, exter-nalist and vertical approaches to the history of science would be most appropriate.

INTRODUCTION

The sources used in such studies are typically based on primary and secondary historical materi-als. Writing the history of a scientific discipline involves two principal approaches: horizontal and vertical (Unat, 2021). The horizontal approach generally addresses regional or overarching histo-ries of science, such as the history of Chinese science, classical scientific studies, or Ottoman sci-ence. In contrast, the vertical approach focuses on the history of a specific scientific field, as ex-emplified by studies on the history of gerontology. This particular study adopts a vertical ap-proach, concentrating on the historical development of gerontology. In writing scientific histories, both internalist and externalist perspectives can be employed. Ignoring political events, economic factors, and cultural influences when examining developments in the history of gerontology can lead to significant gaps in explaining chronological advancements. Consequently, this study adopts an externalist approach, which emphasizes the societal influences on scientific develop-ment, opposing the idea that scientific advancements should be considered solely based on their intrinsic characteristics. For instance, Alexander Koyré's assertion that "Florence does not explain Galileo" contrasts with the externalist focus on societal impacts. The externalist perspective ar-gues that scientific advancements cannot be isolated from societal, economic, ideological, or po-litical contexts (Acot, 1999, p. 95).

Similarly, in the introduction to "The Structure of Scientific Revolutions," Kuhn highlights the inter-twined nature of science and belief systems:

> *"If we are to call past beliefs myths, then it is evident that the methods and logic underpinning what is now considered scientific knowledge would also produce myths. If, however, we call those beliefs science, then science encompasses belief systems that are entirely incompatible with what we hold today"* (Kuhn, 2006, p. 73).

Thus, it becomes essential to document and analyze the myths and realities surrounding aging, old age, and gerontology in both recent history and contemporary times through scholarly works.

A Comprehensive Definition of Gerontology Informed by Scientific Research

The question of which scientific discipline gerontology belongs to may arise. If this question is be-ing asked, it indicates a fundamental misunderstanding of gerontology. As a relatively new field of science in Türkiye, it is necessary to define gerontology to address potential confusion. Gerontolo-gy is the scientific study of aging and old age (Tufan, 2021). The term derives from two ancient Greek words: geron (older) and logos (science, among other meanings). The concept of gerontol-ogy was first introduced by

Metschnikoff in 1903 (Baltes & Baltes, 1992), though the definition of gerontology as "the study of aging" was proposed by Rybnikov in 1929 (Jasper, 2002).

The literature presents a range of conceptualizations and definitions of gerontology. The National Institute on Aging (NIA) in the United States defines gerontology as *"The study of aging from the broadest perspective"* (Wahl & Heyl, 2004, p. 37). Another definition states, *"Gerontology concerns itself with the description, explanation, and modification of the physical, psychological, social, historical, and cultural aspects of aging and old age. This also includes the environments and social institutions that structure aging"* (Baltes & Baltes, 1992, p. 8). Also according to Marwedel, *"Gerontology positions itself as an overarching concept above the sub-disciplines concerned with old age, such as medicine, sociology, and psychology"* (Marwedel, 2005, p. 17). Gerontology generates knowledge on aging and old age, primarily through empirical research, and participates in nation-al and international research programs (Wahl, 2004). Kruse and Martin emphasize, *"Gerontology interprets the theories, concepts, methods, and findings of various sciences from its own perspective to describe, explain, and predict phenomena related to aging"* (Kruse & Martin, 2004, p. 9).

These definitions underline that gerontology cannot be classified as a sub-discipline of any single scientific field. Experts today refer to gerontology as a "cross-sectional science" (Wahl, 2004), highlighting its interdisciplinary and multidisciplinary nature. For instance, the decision to transfer the Gerontology Department at Akdeniz University from the Faculty of Literature to the Faculty of Health Sciences does not signify a view of gerontology solely as a health science. Instead, it re-flects the more significant intersections between health sciences and gerontology.

Gerontology is not confined to a single scientific domain but is inherently interdisciplinary and multidisciplinary (Kruse & Martin, 2004). It focuses on the aging individual throughout their lifespan, examining the processes that influence aging within the social structures they are born into and live within, as well as external factors. Gerontology aims to address or prevent deficien-cies and sacrifices arising from a lack of knowledge about these processes.

Gerontology provides a multidimensional and multifaceted explanation of aging and old age. Ag-ing represents positive developments in these dimensions, such as health, sociopolitical, socioeconomic, and sociocultural factors. For example, new and complex perspectives on aging and shifts in perceptions of old age should be understood and explained by considering these dimen-sions. This understanding can lead to more effective intervention strategies. Therefore, successful aging encompasses

not only the personal aging processes of individuals but also the conditions affecting these pro-cesses and their complex interrelationships (Tufan, 2020).

Table-1 illustrates how the development periods of gerontology relate to significant historical events within their cohorts, as will be examined in subsequent sections.

The Incubation and Establishment Period of Gerontology in Türkiye: 1998–2009

The history of gerontology in Türkiye officially begins in 1998. However, the groundwork for this initiative was laid in Berlin between 1991 and 1998 (Tufan, 2016). During this period, it became necessary to demonstrate the significance and relevance of gerontology for Türkiye, which was then described as a young and dynamic country. This need culminated in the launch of the "Türkiye Gerontology Atlas" (GeroAtlas) research project on January 1, 2000.

However, Prof. Dr. İsmail Tufan's interest in aging and gerontology dates back to his student years, well before the formal establishment of the field in Türkiye. His fascination was partly driv-en by his awareness of the growing demographic challenges, including the “gray tsunami” and the circumstances of Turkish immigrants in Europe (Borazan, 2019). From his work in a hospice in Germany to his studies in gerontology at the University of Vechta, Tufan recognized the pressing need for gerontological research in Türkiye and the lack of existing data. This realization inspired him to lay the groundwork for the country's first gerontology department.

In a 2019 dated oral history study by Borazan, Tufan reflected on his early vision for gerontology in Türkiye:

> *“... During my student years, my desire to work on aging in Türkiye stemmed from a curiosity to know who was researching aging and what topics were being studied in my country. ... I wondered, why can’t we foresee the future? Will our country always remain young? Are we so confident that our people will always live long and healthy lives? Or where does this lack of interest stem from? These questions occupied my mind a lot.”*

To address these questions, Tufan initiated GeroAtlas, Türkiye's first and, as of 2024, only longitu-dinal gerontological research project. From 2000 to 2023, GeroAtlas aimed to map Türkiye’s aging demographics, uncover the needs and risks of older adults, and identify their potential contribu-tions. Supported by the Scientific and Technological Research Council of Türkiye (TUBITAK), the project gathered data from 5,523 participants aged 40 and above across Türkiye's seven regions. Over time, GeroAtlas became the foundation for various projects and applied service models, sig-nificantly advancing gerontology education, research, and policy-making in Türkiye. Despite these strides, gerontology

faced challenges in gaining recognition due to its multidisciplinary nature, which delayed potential collaborations. Tufan expressed his struggles during this period:

"Interestingly, two studies I sent to GEBAM (Research and Application Center for Geriatric Sciences) and YASAD (Journal of Aging Issues) were rejected. This was around 2003–2004. ... The concept of gerontology started with me in Türkiye. Before that, there was geriatrics. For example, if Hacettepe University's 'Center for Geriatric Research' had been named the 'Center for Gerontological and Geriatric Research,' it would have been better, as it would encompass sociology and social work. ... Ger-ontology was seen outside medicine and considered a social science. There were misunderstand-ings, but one must see these as part of the scientist's journey. Scientific development is possible through the clash of ideas. ..."

Thomas Kuhn's (2006) notion of a "scientific revolution" aptly describes gerontology's transformative phase in Türkiye, especially after 2020, leading to collaborations that shaped public policies. However, in the early 2000s, Tufan and his contemporaries could not foresee these advancements.

The findings from the initial phase of GeroAtlas (2000–2004) were shared with relevant ministries and the Council of Higher Education (YÖK). In 2005, Tufan proposed the establishment of Türkiye's first gerontology department. Following deliberations by the Cabinet, the Department of Geron-tology was established at Akdeniz University's Faculty of Arts and Sciences in 2006, with Tufan serving as its founding chair. The department made history by becoming the first in Türkiye with an official logo, overcoming initial rejections (Akdeniz University, 2022).

Parallel to these developments, Tufan published the first gerontological book in Türkiye (Tufan, 2001) and organized the First International Symposium on Social and Applied Gerontology in An-talya in 2005. The same year, a report emphasizing the need for a "new culture of care" and social care insurance was submitted to political parties (Tufan, 2006). Two other milestones were achieved in 2005: the founding of the National Association of Social and Applied Gerontology, which became a member of the International Association of Gerontology and Geriatrics, and the publication of Türkiye's first "aging report" (Tufan, 2007).

Support from prominent figures like İlhan Tekeli, a founding member of the History Foundation of Türkiye and a former YÖK member, and Cigdem Kagitcibasi, Türkiye's first social psychology professor, played a crucial role in establishing the department. Despite challenges, the teaching staff was assembled in 2009, and the first graduates emerged in 2013. This marked a significant milestone, as Türkiye now had a generation of experts

Table 1: Türkiye's Chronological Gerontology Agenda

1991–1998	Preparatory work to introduce gerontology as a field of science in Türkiye	2000	Start of the Türkiye GeroAtlas study (GeroAtlas, 2000–2023)
2001	First edition of *Aging and Old Age from Antiquity to the Present* by Prof. Dr. İsmail Tufan	2005	• The 1st International Türkiye Gerontology Symposium was held • Establishment of the İsmail Tufan Gerontology Institute (ITGE)
2006	The first gerontology chair in Türkiye was established at Akdeniz University	2007	• Establishment of the National Association of Social and Applied Gerontology (USUGD) • Publication of Türkiye's First Aging Report
2008	• Establishment of the National Council on Aging (UYAK) • Organization of the 1st Türkiye Gerontology Awards	2009	• Akdeniz University's Gerontology Department admitted its first students • Establishment of the Turkish Advanced Aging and Geriatrics Research Center
2010	Türkiye's first Alzheimer-Dementia Patient and Caregiver Meeting and Consultation Center was established in Nazilli, Aydın	2012	Türkiye's first age-friendly model house was established in Nazilli
2013	Türkiye's first gerontologists graduated	2012–2015	• Alzheimer-Dementia Patient and Caregiver Meeting and Consultation Centers (Antalya, Dinar, İzmir, Gölköy-Ordu) • DemoS: Mobile health services for dementia patients
2016	• YADOO: Development of age-friendly organizations • Establishment of the 60+ Refreshment University • GeroLib: Library for gerontology publications • 1st International Care Network for Older People and Local Governments Symposium held	2017	• Establishment of the Senior Parliament • Establishment of YAÇUMER • Faculty of Health Sciences transition completed
2018	• Fresh Companion Project • Refreshed Orchestra • Refreshed Solidarity	2019	Development of MesGeroDes (Professional Gerontological Support) program
2020	• Launch of the first doctoral program in gerontology • Public appointments of gerontologists • Graduation of the first cohort from Refreshment University (COVID-19 online lectures) • The 9th International Social and Applied Gerontology Symposium was held online		

Note: Adapted from Prof. Dr. İsmail Tufan's lecture notes in the Department of Gerontology, Akdeniz University, with verbal permission

trained to address aging and aging-related issues from diverse perspectives.

In 2008–2009, significant public policy initiatives also emerged. For example, the Waste Building Evaluation Concept [Atık Bina Değerlendirme Konsepti: ABİDE] enabled unused public buildings, such as meteorology offices and district governorate properties, for innovative aging services. This approach laid the foundation for the Care Network for Older People]Yaşlı Bakım Ağı-YBA] in Anatolia.

Development and Institutionalization of Gerontology in Türkiye: 2010-2020

Chronologically organizing the institutionalization process of gerontology in Türkiye is challenging.

Initiatives such as the establishment of the department, symposiums, and the founding of associ-ations can be considered part of this institutionalization process. Significant milestones include the establishment of Türkiye's first gerontology department, the creation of the first logo, the graduation of the first cohort of gerontologists, and the organization of the first gerontology sym-posium. During this period, networks established with numerous key figures created opportunities for enhancing national and international recognition. The Gerontology Oath, written by İsmail Tufan on January 27, 2010, in the ancient city of Nysa dur-ing the establishment process of AYBA (Aydın Care Network for Older People), was not a coinci-dence. Shortly after that, the location for the İbrahim Şencan Gerontology Center, affiliated with Türkiye's first and only gerontology department with its own building, was selected, and construc-tion began. On October 25, 2013, Türkiye's first Gerontology Center was inaugurated at Akdeniz University. This milestone can be regarded as the genesis of gerontology's institutionalization in Türkiye. However, an earlier event in 2009 also significantly contributed to the development of gerontolo-gy. Media coverage of efforts to increase the academic recognition of gerontology led Aydın Mu-nicipality to request the preparation of an action plan on aging and older people's care during local elections. Following the establishment of AYBA, the first gerontological center in Türkiye serving Alzheimer's patients and their families, NAYBA (Nazilli Care Network for Older People) was im-plemented in 2010 without any financial demands. It was transferred to the municipality as a fully operational system in 2012. This system, built on the theoretical foundation of the Tufan-Cark Gerontological Service Model, was later adopted by Dinar Municipality. Subsequently, it played a pivotal role in the establishment of the "Blue House" [Mavi Ev] Alzheimer's Center in Antalya in 2016, similar to previous Alzheimer's centers, without financial expectations (Demiroren Haber Ajansi, 2024) The Tufan-Cark Service Model, developed based on findings from Tufan's GeroAtlas, aimed to es-tablish and manage service models for aging and older people's care in Türkiye. According to this model, gerontology services should commence with research and data, identifying needs and primary intervention areas, planning the distribution of resources and services, monitoring trans-formations, addressing new questions arising from these transformations, and designing new re-search within a dynamic framework. Examples of gerontological services and application centers produced using this model across Türkiye include: (1) Alzheimer's Patients and Relatives Meeting and Counseling Center, (2) Counseling Center for Aging and Older People, (3) DeMos (Dementia and

Aging Mobile Services), (4) Dementia School, (5) Parkinson's School, (6) National Dementia Program, (7) Workplace Training for Public Sector Employees Beyond national initiatives, international collaborations with Japan, the USA, Austria, and Germa-ny have been crucial. These partnerships aimed to observe services for older people in these countries meet experts to benefit from their experiences, and share information about Türkiye's gerontological efforts. With Prof. Dr. İsmail Tufan's leadership, close relations with German and Austrian gerontologists facilitated knowledge transfer and experience through seminars, confer-ences, and symposiums. Many of these experts' names have been commemorated by naming classrooms at the İbrahim Sencan Gerontology Center. In 2014, Biruni University established a gerontology department under the Faculty of Health Sci-ences, followed by Istanbul University in 2015 (Biruni University, 2015). The same year, Gumushane University initiated a two-year gerontology program, but it was closed before admit-ting students. Other universities, such as Zonguldak Bulent Ecevit University and Dogu Akdeniz University, also began offering gerontology education. By 2019, Istanbul Gelisim University had established a gerontology department, marking the first time a gerontologist chaired and taught in a department. However, the department became inactive after producing only eight graduates. Gerontology education in Türkiye achieved accreditation by AGHE (The Academy for Gerontology in Higher Education) in 2014 and gained professional legitimacy with the Level 6 health personnel designation for undergraduate education in 2016 (Vocational High Council of Turkey [Meslek Yuksek Kurulu], 2016). Since 2015, gerontologists have been employed in municipalities, private sectors, and universities. By 2020, the first gerontologists were appointed within the Ministry of Family, Labor, and Social Services. Efforts for recognition within the Ministry of Health also pro-gressed, producing significant outcomes for the dissemination of gerontology. Since 2011, Türkiye has offered master's degree programs in gerontology, with doctoral pro-grams beginning in 2019. Deniz Pamuk was the first graduate to have an undergraduate degree and a PhD in the gerontology program. Additionally, on February 11, 2016, the first cohort of ger-ontologists from Akdeniz University, led by Faruk Yasar Gurdal, established the "Association of Gerontologists in Türkiye." This development has been instrumental in advancing professional sol-idarity and promoting gerontologists' work within the Ministry of Health. Educational efforts include Türkiye's first Third Age University, the 60+ Refreshment University. Initiated by Prof. Dr. İsmail Tufan as a social

responsibility project, this innovative education model aims to address demographic changes and their consequences (Tazelenme University, 2017). Starting with 350 students at Akdeniz University in 2016, the university now boasts over 10,000 students nationwide. The program provides theoretical and practical courses tailored to partici-pants' needs and interests, fostering functional adequacy among older adults. Notable awards attest to his success, such as the 2018 "Educator of the Year" by the Antalya Chamber of Industry and Commerce (ACCI) (Akdeniz University, 2018). On November 21, 2019, the Ministry of Family, Labor, and Social Services declared November 21 as Gerontologists' Day, marking another milestone in the profession's recognition and develop-ment in Türkiye (Tufan, 2019).

The Expansion of Gerontology and Its Developments in the Last Four Years: 2020–2024

Since 2014, professional consultancy and training services have been consolidated under the MesGeroDes [PgA Professional Gerontological Assistance] Program as of 2020. This pro-gram offers two distinct models for applied and academic professionals, providing free training and internship opportunities at leading institutions worldwide. The participation rules for the MesGeroDes Program are as follows: (1) Only gerontologists with a bachelor's degree are eligible to apply. (2) Candidates must apply to their desired programs by the application deadline announced at least a year before the pro-gram's start date. (3) Both theoretical and applied programs last 14 days. (4) For applied training, accommodation and daily meal expenses are covered by the host in-stitutions. (5) Theoretical training does not include accommodation or meal allowances. (6) Candidates can apply for only one program per year (theoretical or applied). (7) Candidates may apply for both programs con-secutively (e.g., theoretical in 2021 and ap-plied in 2022). (8) After completing the theoretical and applied programs, candidates must wait two years before applying to another MesGeroDes program. The program is structured under the leadership of an internationally recognized Program Director and an esteemed advisory board. The Program Director, serving from 2020 to 2024, is Prof. Dr. Bernd Seeberger. The advisory board comprises a distinguished group of scholars and profes-sionals, including Prof. Dr. Gerhard Naegele, Prof. Dr. Rolf Heinze, Prof. Dr. Andrea Helmer-Denzel, Prof. Dr. Monika Reichert, Prof. Dr. Andreas Ehgartner, Dr. Martin Pallauf, Dr. Denis Roth, Dr. Esfendar Tabari, and Dr. Gerd Schuster. A significant milestone was achieved on November 20, 2021, when gerontologists were included under the regulation titled *"Regulation on the Amendment to the Regulation on the*

Job and Duty Definitions of Healthcare Professionals and Other Professionals Working in Health Services." This inclusion formally recognized the roles and responsibilities of gerontol-ogists in public service. According to the regulation, gerontologists are tasked with: (1) con-ducting primary consultations with older individuals, their families, and caregivers, planning geriatric services, and ensuring coordination, (2) identifying services accessed by older adults and organizing medical, social, legal, and other service processes, (3) preparing Gerontological Assessment Reports (GAR), (4) identifying and addressing the needs of older adults through home visits, (5) organizing activities to prevent social isolation and strengthen social networks for healthy aging, (6) identifying and arranging ergonomic needs in gerontological service de-livery, (7) managing crises related to acute health issues and emergencies in older adults, and (8) facilitating the placement of older adults in nursing homes or providing financial assistance in coordination with relevant authorities.

This development has facilitated the appointment of gerontologists in the public sector, marking a significant achievement. By 2023, the number of gerontologists working in public hospitals and the YASAM [Healthy Aging Centers Project by Ministry of Health] exceeded 100 (Geron-tologlar Dernegi, 2023). Increased collaboration with public institutions since 2021 has transformed service models into more institutionalized structures. For instance, Türkiye's first 60+ Refreshment University, established at Akdeniz University, served as a model for other institutions. Following protocols with the Ministry of Family and Social Services, this initiative was transferred to the ministry under the public interest clause. At the time of the transfer, the project was active in six universities, and protocols were signed with three additional universities while discussions were underway with eight others.

The establishment of the Gerontology Departments Advisory Board (GeDaK) in 2021 contributed significantly to expanding academic and practical studies in the field. Universities affiliated with GeDaK include: (1) Akdeniz University, (2) Balikesir University, (3) Bandirma Onyedi Eylül University, (4) Bartin University, (5) Bolu Abant Izzet Baysal University, (6) Burdur Mehmet Akif Ersoy University, (7) Cankiri Karatekin University, (8) Gumushane University, (9) Inonu University, (10) Istanbul Gelisim University, (11) Istanbul University-Cerrahpasa, (12) Kirsehir Ahi Evran University, (13) Malatya Turgut Ozal University, (14) Mugla Sitki Kocman University, (15) Mus Alparslan University, (16) Nevsehir Haci Bektas Veli University, (17) Ondokuz Mayis University, (18) Osmaniye Korkut Ata University, (19) Selcuk University, (20) Suleyman Demirel University, (21) Tokat Gaziosmanpasa University, (22) Zonguldak Bülent Ecevit University, (23) Dogu Akdeniz

University, and (24) Erzurum Technical University.

These departments have collaborated on the Türkiye Aging Profile Research Project, using a unified questionnaire and presenting their findings at Zonguldak Bulent Ecevit University (BEUN, 2024).

Among the actively teaching institutions are Akdeniz University, Mus Alparslan University, Istan-bul University-Cerrahpasa, Istanbul Rumeli University, Osmaniye Korkut Ata University, Inonu University, Burdur Mehmet Akif Ersoy University, and Mugla Sıtkı Kocman University (YOKA-TLAS,2024).

As of 2024, the Gerontology Department at Akdeniz University continues its work under the lead-ership of its new head, Prof. Dr. Nilufer Korkmaz Yaylagul. Meanwhile, Prof. Dr. İsmail Tufan con-tributes to the development of Mus Alparslan University. The department at Akdeniz University is expected to maintain its longstanding International Social and Applied Gerontology Symposium (USUGS) tradition (Akdeniz University, 2024).

Forecasts for the Future of Gerontology

The development of gerontology in Türkiye must continue. What has been achieved so far in ger-ontology pales compared to what still needs to be done. The development of gerontology should follow a "maturation" phase, where gerontologists will have important roles and responsibilities. Despite the 20-year history of gerontology, there has been no significant shift in the perception of old age, which is still primarily viewed as "exhaustion," "collapse," and "dissolution" (Urfalioglu et.al.2018, 2008, p. 22). The “theory of life force depletion” from the 19th century, which posited that humans have a finite life force that results in death when it is exhausted (Lehr, 1988, p. 4), continues to find support in Türkiye today, indicating the tasks gerontology will face in the future.

Humans have been concerned with diagnosing aging signs, the forms of aging processes, and how to influence them for centuries. In the past, people resigned to the aging process, convinced they could not significantly influence it. In the early 20th century, the focus was mainly on what diminished, deteriorated, or what abilities were lost. Long-term strategies to counteract or inter-vene in these changes were not considered. Now, along with the development of diagnostic op-tions, there needs to be a strong focus on therapy, rehabilitation, and prevention (Lehr, 1988, p. 3).

Gerontological research has provided ample evidence that reaching advanced old age does not necessarily mean the deterioration of skills and abilities, nor does it always decrease quality of life and satisfaction. Under specific conditions, the health competence of future older generations can be improved. This requires opportunities for lifelong skill acquisition and application, en-hanced prevention strategies for diseases associated with immobility and functional

decline, increased awareness of health behaviors through medical and caregiving resources, im-proved diagnostic methods for geriatric conditions, and timely therapeutic and rehabilitation inter-ventions to address or mitigate diseases and functional impairments (Gorres & Martin, 2004, p. 463).

In Türkiye, the increase in life expectancy has led to a growing population of older individuals. This trend will continue in the future. At the same time, the number of older people needing care is ris-ing rapidly.

The reasons for needing care are diverse, and family members often provide care at home (Tufan, 2007; 2016a). However, in the context of work division and organization, public life also represents a societal agent of professional care and solidarity. Even though most are older, individuals in need of care, regardless of age, should be considered both direct recipients and indi-rect clients of care services (Schwerdt, 2004, p. 492).

Today, in cases where "care allowances" are provided, the criteria for receiving the allowance are no longer solely based on a need for care but also on "income." In non-professional care settings, family members who provide care are the "recipients" of care allowances, and the care-dependent individual becomes their "customer."In the social care insurance system proposed by Tufan (2006), the roles of the care-dependent per-son and the caregiver are completely reversed. The care-dependent individual becomes the "em-ployer," and the caregiver is the "employee" assigned by them. The care-dependent person has the right to choose and change the care provider. This "caregiver" can be a family member, neigh-bor, friend, or professional caregiver.

In addition to health and care policies, one of the most important objectives of gerontology in Tü-rkiye should be its involvement in the design, delivery, and development of aging policies that take into account living conditions based on social policies. Therefore, the relationship between geron-tology and scientific social policy must be strengthened (Schulz-Nieswandt, 2006).

Gerontology should focus on successful interventions in aging processes that align with social policy goals, take responsibility to create conditions that help individuals successfully age, and offer social policy proposals based on empirical findings that reduce or prevent the risks of aging for both individuals and society. As a result, gerontology must acquire the skills and capabilities necessary to advance beyond its current position.

Türkiye is facing a critical and rapid demographic transformation, which makes focusing on scien-tific and applied aging and old-age studies an especially vital need. Although Türkiye's gerontology journey is short, it has already achieved significant strides in this brief history, with strong founda-tions to

bloom shortly. Over the past 20 years, Türkiye has completed its first institutional estab-lishment and organizational process in gerontology, entering the development phase. Education, academic, and applied services will continue to evolve and expand.

The Journal of Aging and Long-Term Care (JALTC): Pioneering Contributions to the History and Development of Gerontology in Türkiye

The inclusion of a discussion on the history of gerontology within the Journal of Aging and Long-term Care (JALTC) is far from coincidental. Since its inception in 2017, under the visionary leader-ship of Prof. Dr. Emre Şenol Durak, Assoc. Prof. Dr. Mithat Durak and Prof. Dr. İsmail Tufan, JALTC, have established themselves as a cornerstone in advancing gerontology, particularly in Turkey. This journal not only serves as a critical platform for disseminating scholarly insights but also bridges national and international perspectives in the field of aging and long-term care. By fostering interdisciplinary dialogue, JALTC has significantly contributed to gerontology's theoreti-cal, clinical, and practical dimensions.

Published triannually as an open-access, peer-reviewed journal, JALTC is guided by a distin-guished editorial board comprising globally respected academicians. It invites diverse scholarly works, including original research, review articles, brief reports, theoretical analyses, clinical tri-als, and systematic reviews, from a wide array of disciplines such as gerontology, geriatrics, psy-chology, sociology, nursing, engineering, and public policy, among others. This inclusive approach underscores the journal's commitment to embracing both quantitative and qualitative methodolo-gies, as well as mixed-method research designs.

JALTC's ongoing efforts to expand indexed resources and promote high-quality research continue to play a pivotal role in shaping the gerontological landscape. The journal remains a vital re-source, facilitating the growth of gerontology and fostering collaborations between Turkish and international researchers. I extend my heartfelt gratitude to the exceptional editorial and publish-ing team of JALTC for their invaluable contributions to the field and their enduring impact on the history and future of gerontology.

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The Journal of Aging and Long-Term Care (JALTC) is being established as open access and quarterly peer-reviewed journal that accepts articles in English. Open Access publishing allows higher visibility of an author's research as articles are available for anyone to access worldwide. Articles published in JALTC are highly visible and gather more citations and publicity than stand-alone articles.

JALTC is published three times a year. Articles submitted should not have been previously published or be currently under consideration for publication any place else and should report original unpublished research results. The journal does not expect any fees for publication. All articles are available on the website of the journal with membership.

The quantitative, qualitative and mixed-method research approaches are welcome from disciplines including but not limited to education, gerontology, geriatrics, nursing, care and hospice, social work, psychology, sociology, biology, anthropology, economics and business administration, engineering, gerontechnology, law, human rights, public policy, architecture, women studies, rehabilitation, and dietetics.

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Vision and Mission

The major goal of the Journal of Aging and Long-Term Care (JALTC) is to advance the scholarly contributions that address the theoretical, clinical and practical issues related to aging and long-term care. The JALTC, while making efforts to create care services for older people at the best quality available that are more humane, that pay special attention to people's dignity, aims from the perspective of the whole aging process to discuss Social Care Insurance as a human right, to contribute care for older people to be transformed into an interdisciplinary field, to integrate care services for older people and gerontological concepts and to create more effective collaboration between them, to enhance the quality of care services for older people and the quality of life of caregivers from medical, psychological and sociological perspectives, to highlight the cultural factors in care for older people, to increase the potential of formal and informal care services, to provide wide and reachable gerontological education and training opportunities for caregivers, families and the older people.

Aims and Scope

"National Association of Social and Applied Gerontology (NASAG)"has recently assumed responsibility for the planning and introduction of a new international journal, namely, the Journal of Aging and Long-Term Care (JALTC). With world societies facing rapid increases in their respective older populations, there is a need for new 21st century visions, practices, cultural sensitivities and evidenced-based policies that assist in balancing the tensions between informal and formal longterm care support and services as well as examining topics about aging.

The JALTC is being launched as the official journal of the NASAG. The preceding journal aims to foster new scholarship contributions that address theoretical, clinical and practical issues related to aging and long-term care. It is intended that the JALTC will be the first and foremost a multidisciplinary and interdisciplinary journal seeking to use research to build quality-based public policies for long-term health care for older people.

It is accepted that aging and long-term care is open to a diverse range of interpretations which in turn creates a differential set of implications for research, policy, and practice. As a consequence, the focus of the journal will be to include the full gamut of health, family, and social services that are available in the home and the wider community to assist those older people who have or are losing the capacity to fully care for themselves. The adoption of a broader view of aging and long term care allows for a continuum of care support and service systems that include home base family and nursing care, respite day care centers, hospital and hospice care, residential care, and rehabilitation services. It is also crucial to be aware that life circumstances can change suddenly and dramatically resulting in the need for transitional care arrange ments requiring responsive, available, accessible, affordable and flexible health care service provision.

For further assistance and more detailed information about the JALTC and the publishing process, please do not hesitate to contact Editor-in-Chief of the JALTC via sending an e-mail: editor-in-chief@jaltc.net Editor-in-Chief: Emre SENOL-DURAK

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