



Factors Affecting the Elderly's Quality of Life in the Middle East: A Systematic Review

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ABSTRACT

Aims Identifying the factors affecting the older adult's quality of life can be effective in finding ways to improve their quality of life. Therefore, this study aimed to investigate the factors affecting older adults' quality of life in Middle Eastern countries.

Information & Methods This systematic review study was conducted in March and April 2020. According to the World Health Organization classification, studies published up to April 2020 on older adults aged 60 years and older were included. STROBE was used to screen and evaluate articles. Articles were searched without language restrictions using Web of Science, Medline, Scopus, Magiran, Proquest, SID, Noormags, IranDoc, and the keywords of quality of life, elder, aging, seniors, and old age conducted in all Middle Eastern countries.

Findings In the initial search, 1606 articles were obtained. After screening, finally, 123 articles were reviewed. The results were classified into four categories, including socio-demographic, psychological, physical, and spiritual factors. The results showed that socio-demographic and physical factors were the most important factors. In Iran, demographic factors, in Turkey, diseases, and the Arab countries, health-related behaviors were more frequent and had a significant relationship with quality of life.

Conclusions The elderly's quality of life in the Middle East is related to various factors, including socio-demographic, psychological, physical, and spiritual factors; therefore, it is necessary to plan at different levels to increase their quality of life according to the relevant factors.

Keywords Quality of Life; Aged; Middle East; Demography

CITATION LINKS

[1] Why ... [2] Prevalence ... [3] World ... [4] the relationship ... [5] Identification ... [6] World ... [7] Assessing ... [8] Quality ... [9] Assessment ... [10] Quality ... [11] Tools ... [12] Global ... [13] Health ... [14] Factors ... [15] The relationship ... [16] A cross-sectional ... [17] Attitudes ... [18] Medical ... [19] Quality ... [20] The strobe ... [21] Use of the strobe ... [22] A survey ... [23] Effectiveness ... [24] Effect ... [25] The study ... [26] Social ... [27] Investigation ... [28] Evaluation ... [29] The relationship ... [30] Comparing ... [31] Study ... [32] The relationship ... [33] Association ... [34] Solitary ... [35] Quality ... [36] Assessing ... [37] Determinants ... [38] The association ... [39] The evaluation ... [40] The impact ... [41] The role ... [42] Quality ... [43] The effect ... [44] Comparison ... [45] Assessing ... [46] Comparison ... [47] The role ... [48] Designing ... [49] Evaluation ... [50] Quality ... [51] Relationship ... [52] Related ... [53] Comparison ... [54] Prediction ... [55] Study ... [56] Quality ... [57] Quality ... [58] The factor ... [59] The relationship ... [60] Relation ... [61] The role ... [62] Investigating ... [63] The relationship ... [64] The relationship ... [65] Comparison ... [66] Determining ... [67] Home ... [68] Socio-demographic ... [69] The association ... [70] The impact ... [71] The relationship ... [72] The role ... [73] Comparing ... [74] The association ... [75] Retirement ... [76] Investigating ... [77] Factors ... [78] The role ... [79] The relationship ... [80] The elders' ... [81] Association ... [82] The study ... [83] Oral ... [84] Socioeconomic ... [85] Investigating ... [86] Quality ... [87] The relationship ... [88] Investigating ... [89] Health ... [90] The relationship ... [91] The quality ... [92] A comparative ... [93] Loneliness ... [94] Pain ... [95] Quality ... [96] Life ... [97] The relationship ... [98] Impact ... [99] A new ... [100] The determination ... [101] Quality ... [102] Activities ... [103] Quality ... [104] Loneliness ... [105] The relationship ... [106] The relationship ... [107] Quality ... [108] Factors ... [109] Relationship ... [110] Fear ... [111] Sleep ... [112] Perceived ... [113] Life ... [114] Urinary ... [115] Study ... [116] Oral ... [117] The impact ... [118] Quality ... [119] Quality ... [120] Impact ... [121] Prevalence ... [122] The effect ... [123] Great ... [124] Determination ... [125] Correlation ... [126] Quality ... [127] Health ... [128] An evaluation ... [129] Quality ... [130] The relationship ... [131] Quality ... [132] Comparison ... [133] Determinants ... [134] Correlation ... [135] Factors ... [136] Relationship ... [137] Oral ... [138] Factors ... [139] Vital ... [140] Hope ... [141] Positive ... [142] Longitudinal ... [143] Physical ... [144] Innovative ... [145] Stress ...

Introduction

Although the age structure of Middle Eastern countries is relatively young compared with developed countries [1], the Middle East is also rapidly aging. The percentage of those aged over 65 in the Middle East varies from less than 2% in the UAE to about 10% in Lebanon. Over the past half-century, the Middle East and Central Africa have experienced the highest population growth rates than other parts of the world. At the same time, life expectancy in the Middle East has steadily increased, from 60 years in 1980 (58 years for men, 62 years for women) to more than 70 years in most Middle Eastern countries (range: 69 years in Iraq to 80 years in Israel). However, in some less developed societies, life expectancy is much lower than average [2]. The World Health Organization (WHO) estimates that from 2000 to 2050, population growth over the age of 65 will be 4 to 5%, and the average annual growth rate for the elderly (85 years and older) in 11 Arab countries is projected to exceed 5%. In countries like Lebanon, the proportion of older people is currently relatively high and will double by 2050, five times or more in other countries, including Qatar, Kuwait, and the United Arab Emirates, which should be considered for their population planning [3]. Iran is no exception to this rule, as according to the 2016 census, Iran, with 9.3% of the population over the age of 60, is transitioning to old age [4]; This rate is estimated to be more than 10% 2021 [5]. Thus, aging, which is an unprecedented, pervasive, profound, and enduring phenomenon [6], has multiplied the importance of paying attention to the health of the elderly. However, at present, for planning for the elderly, it is not only important to prolong life, but passing the last years of human life in peace along with physical and mental health should be considered, and if such conditions are not met, scientific advances to live longer will be ineffective and risky. Today, due to the increase in life expectancy and life expectancy, how to live life and, in other words, quality of life has been raised a more important issue [7]. According to the definition of the World Health Organization in 1966, quality of life is defined as a person's perception of his life situation according to the culture and value system in which he lives and the relationship between these perceptions and goals, expectations, standards, and priorities [8]. Quality of life is a multidimensional concept used in various fields, including sociology, occupational therapy, geriatrics, politics, and health, and is measured using various general and specific tools [9]. The quality of life of the elderly becomes more important when many physiological problems reduce the quality of life by aging. The elderly suffer from various sensory disorders, including vision, hearing, and other senses, which result in limited social situations and a gradual increase in dependence on others, and a decrease in quality of life [10].

On the other hand, changing the pattern of infectious diseases to chronic diseases has led to increased attention to health and quality of life. The quality of life and health status is highly important as in the present century, the experts have considered health care as a factor for the improvement and factors affecting the quality of life and health status [11]. In addition to biological changes, there are also changes in the social role of the elderly that are associated with indicators, such as retirement and illness. Therefore, one of the important concepts in geriatrics to improve the lives of the elderly in the transition to the third stage of life is the quality of life and factors related to its promotion [12].

In recent decades, many studies have been done on the quality of life of the elderly. Farajzadeh *et al.*, in a review study, showed that the quality of life of the Iranian elderly is at a moderate level [13]. In another review study conducted by Sajjadi *et al.* on the quality of life of the elderly, they concluded that the quality of life of the Iranian elderly was influenced by social support, economic factors, social class, demographic characteristics, physical health status, place of residence and educational, sports and nutritional interventions [14]. It has also been reported that many older people have depressive symptoms, which can affect their quality of life [15]. Abd al-Basit *et al.* in Egypt showed that high and moderate physical activity levels have a positive relationship with the quality of life of the elderly in Egypt [16]. Attitudes toward aging, physical changes, and mental development were other factors reported in a study in Turkey [17]. Perceived body image, self-care, self-efficacy, social support, anxiety, and gender are factors that affect the quality of life of Israeli seniors [18], and satisfaction with health and higher education were factors related to the quality of life of the elderly in the Gaza Strip [19].

Accordingly, the studies conducted in the Middle East regarding the quality of life of the elderly have their point of view, and in each study, one or more influential factors have been examined. However, due to the multifactorial nature of the problems of the elderly at this age, which can affect their quality and satisfaction of life and health and considering the heterogeneous social, cultural, economic, and religious situations among the populations living in the Middle East [2], it is necessary to review all studies conducted on the factors affecting the quality of life of the elderly in these countries. There is a need to obtain a comparative and general summary. Because no review study at the level of Middle Eastern countries has examined and reported the quality of life of the elderly in these countries, the purpose of this study was to investigate the factors affecting the quality of life of the elderly in Middle Eastern countries. The results of this study can be used to develop and implement policies and programs for the quality of life of the elderly, and as a result, not only

will people have a longer life, but this long life will be associated with better health and quality of life for them.

Information and Methods

This review study was a systematic search conducted in March and April 2020 without language restrictions. According to the World Health Organization classification, studies published up to April 2020 on elderly aged 60 years and older were included. Studies on the determinants of quality of life in the elderly were included, and letters to the editor, dissertations, and intervention studies were excluded from the study.

The list of obtained articles was saved in English in Endnote 9x software to remove duplicates. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement [20] was used to screen and evaluate articles. This checklist contains 18 items, including a clear and comprehensive title, appropriate problem statement, background or theoretical framework, the use of method appropriate to the problem statement, the generalizability of the sample, appropriate inclusion and exclusion criteria, the use of appropriate measurement tools, reliability of the instrument, the validity of the instrument, selection of appropriate sampling method, providing an appropriate description of the study population, indicating the time or period of the research, selection of appropriate statistical method for analysis, performing the correct analysis, paying attention to the intervening variables, discussing the data analysis, and indicating the limitations of the research and each option is scored one or zero. Articles with a total score of more than 13 from the checklist [21] meet the inclusion criterion for the review study.

For a systematic search, first, the keywords of quality of life in Persian and English ("quality of life"), elderly in Persian and English (elder *, older, aging, aging, seniors, "old age") and all the Middle East countries (Iran, Egypt, Turkey, Iraq, Saudi Arabia, Yemen, Syria, Jordan, United Arab Emirates, Israel, Lebanon, Oman, Palestine, Kuwait, Qatar, and Bahrain) were searched in the databases of Magiran, SID, Noormags, Scopus, WOS, Medline, IranDoc, Proquest using OR and AND. For example, in the Web of Science database, the following phrase was used to search for factors related to the quality of life of the elderly in Iran:

TI= ("quality of life) AND TI= (elder* OR older OR seniors OR aging OR aging) AND CU=Iran)

After the initial search and the removal of duplicate and irrelevant items related to the subject of the elderly, the abstract of the articles was read. The bibliography of the reviewed articles was also used to find further studies. In the next step, the full text of

the articles was evaluated by two evaluators separately based on the STROBE checklist, and the final decision was made on the articles by disagreeing, rejecting, or accepting their inclusion in the study.

An initial search resulted in finding 1606 articles. After removing repetitive and irrelevant articles, 532 articles remained. After studying their abstracts, studies on the determinants of the quality of life of the elderly entered the study, and the letter to the editors, dissertations, and interventional studies were excluded from the study. At this stage, 171 articles were deleted, and 361 articles remained. After screening and final review, 123 articles were included in this study to examine the factors related to the quality of life of the elderly in Middle Eastern countries (Diagram 1). Data were extracted based on the name of the first author, year of publication, type of study, tools used, country name, number and characteristics of participants, and the most important findings (factors related to the quality of life of the Middle East elderly) (Table 1).

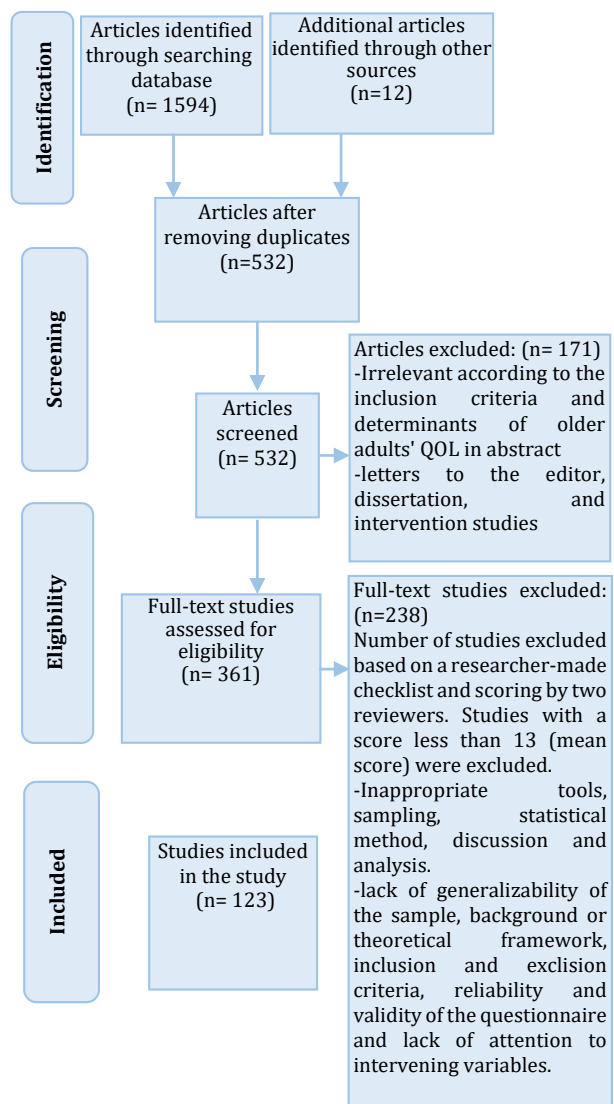


Diagram 1) The number of identified and included studies in the study

Table 1) Characteristics and dimensions of the factors affecting the elderly's quality of life in the Middle East (Research method was cross-sectional in all studies)

Ref.	Tools	Number of samples	Factors affecting QOL	Socio-demographic		Psychological Physical Spiritual		
				Soc.	Dem.	MI	WB	PDI
[22]	SF36	424 (M=154, F=270)	Osteoporosis, age, sex, education, income	*				*
[23]	SF36	160 (M=46, F=114)	Physical activity					*
[24]	SF36	277 (M=122, F=155)	Musculoskeletal pain, age, education and employment	*				*
[25]	SF36	383 (M=192, F=191)	Social support	*				
[26]	Leipad Quality of Life Questionnaire	100 (M=46, F=36)	Social support	*				
[27]	SF12	330 (M=142, F=188)	Individual trust, solidarity and social support, social trust and association	*				
[28]	SF36	F=73	Social support	*				
[29]	Leipad Quality of Life Questionnaire	240 (M=127, F=113)	Social support	*				
[30]	SF-12	54 (M=18, F=36)	Social support and depression	*		*		
[31]	Leipad Quality of Life Questionnaire	356 (M=182, F=174)	Social support	*				
[32]	SF36	141 (M=73, F=68)	Spiritual health and community characteristics	*				*
[33]	SF36	200 (M=78, F=122)	Religious coping					*
[34]	SF36	750 (M=375, F=375)	Obesity, diabetes, high blood pressure					*
[35]	SF36	117 (M=60, F=75)	Spiritual well-being					*
[36]	WHOQOL-BRIEF	184 (M=97, F=87)	Cardiovascular diseases, Respiratory diseases, Gastrointestinal diseases, Hearing disorders, Visual disorders					*
[37]	SF36	400 (M=226, F=174)	Age, sex, education and economic status, mental health, economic status, physical health	*		*		*
[38]	SF36	500 (M=268, F=232)	Age, gender, education, marriage, lifestyle, health promotion	*				*
[39]	OHIP-14	300 (M=183, F=117)	Pain, mental disorders, education, using prosthesis, need for dental treatment, dental condition	*	*			*
[40]	SF36	447 (M=125, F=322)	Nutrition status					*
[41]	WHOQOL-BREF	150 (M=115, F=35)	Fear of death, avoidance of death, acceptance or escape from death, belief in helplessness against change, emotional irresponsibility, active acceptance of death, neutral acceptance of death			*		
[42]	SF36	238 (M=92, F=146)	Age, Gender, marital status, level of education	*				
[43]	SF36	200 (M=144, F=56)	Physical activity					*
[44]	Leipad Quality of Life Questionnaire	434	Self-concept				*	
[45]	NEI VFQ- 25	566 (M=322, F=244)	Age, gender, level of education	*				
[46]	Leipad Quality of Life Questionnaire	217 (M=73, F=144)	Accommodation in nursing homes	*				
[47]	WHOQOL-BREF	M= 200	Performance on the Stroop test and how to pay attention				*	
[48]	WHOQOL-BREF	377 (M=191, F=186)	Perceived stress, distress tolerance			*	*	
[4]	Leipad Quality of Life Questionnaire	146 (M=132, F=14)	Social support	*				
[49]	SF36	270 (M=142, F=128)	Place of residence [elderly living in the community and nursing home]	*				
[50]	SF36	450 (M=242, F=208)	Occupation, age, sex, education, source of income	*				

[51]	WHOQOL-BREF	408 (M=299, F=109)	Gender, type of home, marital status, level of education, income level, having a mobile phone, duration and field of use, living arrangements	*	*			
[52]	IRDQOL questionnaire	88 (M=58, F=30)	Tingling, limb anesthesia and vision loss, type of treatment, kidney failure, limb numbness				*	
[53]	Leipad Quality of Life Questionnaire	212 (M=122, F=90)	Gender, marriage, living in a nursing home		*			
[54]	WHOQOL-BREF	237 (M=109, F=128)	Spiritual intelligence, mindfulness, and perceptibility			*		*
[55]	Leipad Quality of Life Questionnaire	400	Social participation, social support, and education	*	*			
[56]	EHRQoL	1147 (M=631, F=516)	Life satisfaction, the activity level in the elderly, age, marital status, health insurance, companions, income, gender, length of stay, education, supplementary insurance, employment status, housing, type of residence		*	*		*
[57]	VFQ-25	94 (M=38, F=56)	Age, marital status, awareness, enabling factors, marriage, education, income		*			
[58]	WHOQOL-BREF	80 (M=33, F=47)	Age, marital status, awareness, enabling factors, marriage, education, income	*		*		*
[15]	SF- 12	294 (M=163, F=131)	Depression			*		
[59]	Leipad Quality of Life Questionnaire	210 (M=70, F=140)	Age, level of education		*			
[60]	SF36	350 (M=103, F=247)	Different aspects of lifestyle					*
[61]	Leipad Quality of Life Questionnaire	100 (M=55, F=45)	Health-promoting lifestyle components, internal religious orientation, self-Prosperity, health responsibility			*		* * *
[62]	SF36	120 (M=63, F=57)	The meaning of life and self-esteem			*		
[63]	WHOQOL-BREF	263 (M=113, F=130)	Psychiatry, hope			*		
[64]	Leipad Quality of Life Questionnaire	430	Spiritual Intelligence					*
[65]	Leipad Quality of Life Questionnaire	96 (M=53, F=43)	Gender, marriage, residency in nursing homes, level of education		*			
[66]	Control, Autonomy, Pleasure and Self-realization questionnaire [CASP]	175 (M=108, F=67)	Health literacy					*
[67]	Control, Autonomy, Self-realization and Pleasure scale [CASP-19]	100 (M=51, F=49)	Features of the home environment		*			
[68]	WHOQOL-BREF	250 (M=115, F=135)	Social participation, level of education, gender, occupation	*	*			
[69]	Leipad Quality of Life Questionnaire	246 (M=91, F=155)	BMI					*
[70]	Leipad Quality of Life Questionnaire	386 (M=186, F=200)	Elderly abuse (physical, emotional, financial exploitation), gender, musculoskeletal disorders, chronic disease, cardiovascular disease, level of education, sleep disorders, hospitalization, violation of personal rights	*	*	*		*
[71]	Elderly Quality of Life Questionnaire [LIPAD]	177 (M=82, F=95)	Sleep quality, age, level of education, marital status		*			*
[72]	WHOQOL-BREF and Diabetes-specific Quality	739 (M=436, F=357)	Social support, religious compatibility, and drug adherence	*				* *

	of Life Questionnaire Module								
[73]	SF36	80 (M=38, F=42)	Gender, income	*					
[74]	SF36	421 (M=131, F=290)	Overweight					*	
[75]	Leipad Quality of Life Questionnaire	M= 35	Artistic, sporting, and leisure activities, physical function, depression and anxiety, sexual function, life satisfaction, spiritual and charitable activities		*	*	*	*	*
[76]	Life quality of the elderly questionnaires	262 (M=152, F=110)	Self-care					*	
[8]	SF-36	100 (M=69, F=51)	Gender, education, complications of diabetes, income, age, duration of diabetes, and BMI	*				*	
[77]	WHOQOL - BREF	380 (M=201, F=179)	Education, marital status, illness, disability, living arrangements	*				*	
[78]	Persian version of the Visual Function Questionnaire [VFQ-14]	168 (M=72, F=96)	Preoperative self-efficacy					*	
[79]	WHOQOL-BREF	M= 132	Positive transcendence method					*	
[80]	OPQOL-35	400 (M=244, F=156)	Spiritual life, marital status, level of education	*					*
[81]	SF36	425 (M=231, F=194)	Cognitive function		*				
[82]	Oral Health-Related Quality of Life Questionnaire	144 (M=67, F=77)	Oral health, age, sex	*				*	
[83]	OHRQOL	500 (M= 293, F=207)	Oral health, marital status, education, smoking, using a toothbrush, mouthwash, and floss	*				*	*
[84]	Leipad Quality of Life Questionnaire	F=164	Age, education, economic status, source of income, ethnicity	*					
[85]	Leipad Quality of Life Questionnaire	F=86	Long-term cooperation of the elderly as a health volunteer, physical, social, mental function, self-care, depression, and anxiety, life satisfaction	*	*	*	*	*	*
[86]	WHOQOL - BREF	300 (M=152, F=148)	Marital status, income level, and number of children	*					
[87]	SF36	180 (M=61, F=119)	Age, marital status, chronic diseases	*				*	
[88]	Wir and Sherborne's Quality of Life Questionnaire	300	Introverted and extroverted personality					*	
[89]	WHOQOL-BREF	150 (M=77, F=73)	Age, sex, marital status, education, illness	*				*	
[90]	EQ-5D	120 (M= 74, F=46)	Diseases of the locomotor system					*	
[91]	QOL-31-lipad	297	Age, education, life partner, and marital status	*					
[92]	Lipad Life Quality questionnaire	344 (M= 80, F=264)	Education, housing status, illness	*				*	
[93]	SF12	F=218	Loneliness					*	
[94]	HR QOL	275 (M=66, F=209)	Pain, gender, income, social support, disability associated with multiple illnesses and depression	*	*	*		*	
[95]	WHOQOL-OLD	300 (M=155, F=145)	Gender, marriage, social security, having children, age, income, education, having an illness, living arrangements	*	*			*	
[96]	WHOQOL-BREF	1301 (M=626, F=675)	Feeling lonely, sick				*	*	
[97]	Nottingham health profile [NHP]	100 (M=57, F=43)	Physical and functional capacity					*	
[98]	OHIP-14 OHQoL-UK	78	New prosthesis					*	
[99]	HRQOL	900 (M=508, F=392)	Musculoskeletal pain					*	

		F=392)							
[100]	SF-36	81 (M=65, F=16)	Age, functional independence	*					*
[101]	WHOQOL-OLD	550 (M=65, F=270)	Attitude to old age					*	
[102]	European Quality of Life-5 Dimensions scale	912 (M=402, F=509)	Daily life activities, depression, social support	*		*			*
[103]	SF-36	136 (M=81, F=55)	Fatigue						*
[104]	SF-36	174 (M=87, F=87)	Feeling lonely			*			
[105]	WHOQOL-OLD	243 (M=137, F=106)	Cognitive impairment, social activities, depression, anxiety symptoms	*		*	*		
[106]	WHOQOL-OLD	136 (M=81, F=55)	Health-promoting behaviors						*
[107]	Incontinence Quality of Life Questionnaire	F=427	Age, Smoking, Episiotomy status, BMI	*				*	*
[108]	WHOQOL-OLD EUROHIS-QOL.8-WHOQOL-8.Tr	450 (M=231, F=219)	Depression			*			
[109]	SF-36	109 (M=51, F=58)	Urinary incontinence						*
[17]	WHOQOL-OLD	999 (M=496, F=503)	Attitudes towards old age, physical changes, mental development				*		*
[110]	the Nottingham Health Profile [NHP]	151 (M=78, F=73)	Fall risk, fear of falling, age, sex, chronic diseases, mobility aids, past falls	*		*			*
[111]	Incontinence-Quality of Life Instrument [I-QOL]	F=210	sleep quality						*
[112]	WHOQOL-OLD	517 (M=271, F=246)	Life satisfaction, perceived social support	*			*		
[113]	WHOQOL-OLD	360 (M=182, F=178)	Adequacy of perceived individual income, monthly income, level of education, life satisfaction, daily life activities	*		*			*
[114]	Urinary Incontinence Quality of Life Scale	F=95	Incompleteness, stress incontinence, mixed incontinence, and emergency incontinence						*
[16]	EuroQol-5D-3L	184 (M=129, F=55)	Levels of physical activity						*
[115]	St George's Respiratory Questionnaire [SGRQ] SF36	90	Gender	*					
[116]	GOHAI-Ar	200 (M=157, F=43)	Gender, prosthodontic status	*					*
[117]	Oral Health Impact Profile-14 [OHIP-14]	M=138	Oral care						*
[19]	Arabic WHOQOL-BREF questionnaire	201 (M=85, F=111)	Health satisfaction, education	*		*			
[118]	EURO QOL EQ-50 QOL	220 (M=82, F=1138)	Movement position, level of personnel care						*
[18]	The Fecal Incontinence QOL Scales	5 (M=53, F=22)	Perceived body image, self-care, self-efficacy, social support, anxiety, gender	*	*	*	*	*	*
[119]	QOL questionnaire	342 (M=159, F=183)	Relationships with children, relationships with friends, life satisfaction, health status, and direct responsibility for care	*			*	*	*
[120]	KHQ	F=100	Age, marital status, pre-retirement occupation, income, self-esteem, duration of urinary incontinence	*		*		*	
[121]	EQ-5D-5L	155 (M=129, F=26)	Depression			*			
[122]	WHOQOL-OLD	108 (M=57, F=51)	Intensity of pain						*
[123]	WHOQOL	103 (M=24, F=79)	Having the role of father / grandmother,	*		*			

		negative emotions				
[124]	I-QOL	F=108	Urinary incontinence			*
[125]	EQ-5D-5L	176 (M=61, F=115)	Age, chronic disease, grip strength	*		*
[126]	Urogenital Distress Inventory and Adapted Incontinence Impact Questionnaires	395 (M=135, F=260)	Urinary incontinence			*
[127]	WHOQOL-BREF	300 (M=156, F=144)	Health promotion behaviors			*
[128]	WHOQOL	118 (M=75, F=43)	Depression, independence, future-past activities, social participation and intimacy	*	*	*
[129]	Quality of life assessment questionnaire	100 (M=60, F=40)	Age, education, duration of diabetes, visual function	*		*
[130]	WHOQOL-Old	119 (M=56, F=63)	Depression, stress, sleep quality, fatigue		*	*
[131]	OPQOL	300 (M=113, F=187)	Age, gender, income	*		
[132]	SWLS	204 (M=41, F=163)	Self-esteem		*	
[133]	MNA-SF	407 (M=142, F=265)	Gender, polypharmacy, high BMI	*		*
[134]	WHO QOL	80 (M=33, F=47)	Age, level of education, physical disability, chronic diseases, equipment used, gender, spirituality, marital status, living arrangements, income, social security, health perception	*	*	* * *
[135]	SF-36	100 (M=27, F=73)	sleep disorders		*	
[136]	WHOQOL OLD	60 (M=27, F=33)	Life arrangements	*		
[137]	OHRQOL	987 (M=475, F=512)	Gender, place of birth, economic status, mental health assessment, dentures	*	*	*

Soc.: Social; Dem.: Demography; MI: Mental impairment; WB: Well-being; PDI: Physical disease and impairment; HRB: Health-related behavior

Findings

Articles had been published between 2008 and 2020 and had been mostly done in 2017 and 2019. Most studies had used the WHOQOL quality of life measurement tool. All studies had been performed using the cross-sectional method (descriptive or analytical) using correlation coefficient, analysis of variance, and regression to analyze the data. Studies had been conducted in Iran, Turkey, Saudi Arabia, Egypt, Jordan, Israel, Lebanon, and Palestine, and most of them were found on the quality of life of the elderly in Iran (due to searching Iranian databases). After analysis of 123 studies, affecting factors were identified and classified into four main categories of socio-demographic factors with two subcategories of social and demographic factors, psychological factors with two subclasses of mental disorders and factors related to psychological living, physical factors with two subclasses of diseases and physical disorders and behaviors related to health and spiritual factors (Figure 2).

In studies conducted in Iran, mostly socio-demographic factors and in studies of other countries, mostly physical factors had been studied. In general, demographic characteristics and health-related behaviors were a common factor for almost all studies in Middle Eastern countries.

Socio-demographic: About 36.5% of the studies had examined socio-demographic factors related to the

quality of life of the elderly. Social factors, such as social support, individual and social trust, and association, social participation, social security, personal rights violations, elder abuse, and the use of technology, such as mobile and in about 11.5% of the studies, a significant relationship had been reported between social factors and quality of life in the elderly. Demographic factors included age, sex, marital status, ethnicity, having children, level of education, residence, living arrangements, characteristics of the home environment, occupation, type of insurance, and economic status. Various studies have examined the impact of these factors on the quality of life of the elderly. Among the studies on the elderly in the Middle East, about 25% of them had found a significant relationship between demographic factors and the quality of life of the elderly. Socio-demographic factors had been more considered in Iran than in other countries.

Physical factors: Physical factors were found in 35.5% of studies and the subclass of diseases and physical disorders and 21.8% of studies as factors, such as chronic diseases and disability, fatigue, hospitalization, episiotomy status, BMI, functional independence, physical activity, physical and functional capacity, self-efficacy, care level of the staff, use of prostheses and mobility aids in the subcategory of health-related behaviors. In 13.7% of all studies, factors such as lifestyle, enabling factors,

daily life activities, health literacy, self-care, health responsibility, and drug adherence showed a significant relationship with the quality of life of the elderly. Lifestyle factors had been mostly studied in Arab countries, and disease-related factors had been mostly assessed in Turkey.

Psychological factors: factors, such as depression, stress and anxiety, loneliness, fear of falling, sleep disorders, cognitive impairment, and attention from the subclass of mental disorders had been considered in 10.9% of all studies and hope, the meaning of life, self-esteem, self-actualization, life satisfaction, personality traits, sexual function, stress tolerance, awareness, and perceptibility, perceived body image,

self-concept, attitudes toward old age and attitudes about death from the subclass of psychological well-being had been studied in 12.3% of the studies as psychological factors affecting the quality of life of the elderly, which was found in 23.2% of the total studies. Factors related to mental disorders had been mostly considered in Turkey, and factors related to psychological well-being had been studied more in Iran.

Spiritual factors: This factor was seen in 4.7% of studies as factors, such as spiritual health, spiritual living, spiritual intelligence, religious confrontation, and internal religious orientation, and had been mostly considered in Iran.

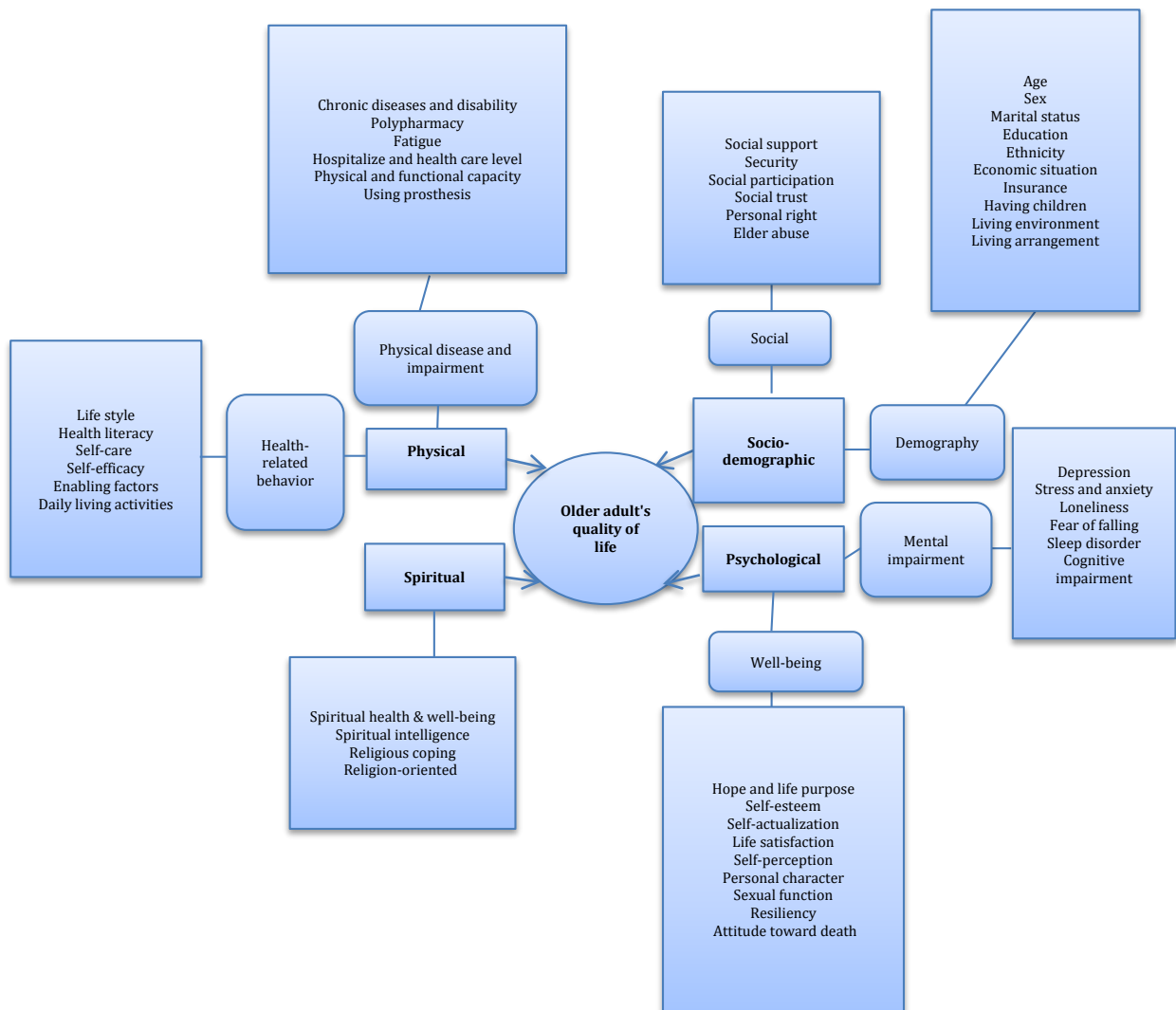


Figure 2) Determinants of the elderly's quality of life in the Middle East

Discussion

Quality of life is affected by various factors, including personal, socio-economic, and health characteristics. In this article, the studies conducted in the Middle East on the quality of life of the elderly, based on factors or determinants of quality of life, were reviewed, and most of the studies had been performed in Iran, followed by Turkey. This can be Perhaps the reason for this can be explained by the fact that in Arab countries, due to the young age pyramid, problems and issues related to the elderly have not yet become the main concerns in these countries, and as a result, few studies have been done in this field. In this study, a review on articles on the quality of life of the elderly in Middle Eastern countries, related factors were identified and classified in 4 main categories of socio-demographic factors with two subclasses of social and demographic factors, psychological factors with two subcategories of mental disorders and factors related to psychological well-being, physical factors with two subcategories of diseases and physical disorders and behaviors related to health and spiritual factors.

Social and demographic factors: In most studies, the socio-demographic dimension of the factors determining the quality of life of the elderly had been studied. Social protection, personal and social trust and association relations, social participation, social security, personal rights violations, elder abuse, and the use of technology, such as mobile, are among the factors in the social subclass related to the quality of life. Social support and communication with family members and friends, the degree of respect for the elderly, and intimate relationships are positive determinants of the quality of life of the elderly [26]. For example, examining the relationship between different social support and dimensions of quality of life shows that emotional, financial, and functional support had a significant relationship with all dimensions of quality of life. [26]. Shahin *et al.* in Turkey showed that the higher the perceived social support of the elderly, the higher their quality of life [112]. Hosseini Nesar *et al.* also showed a significant relationship between the four types of social support (emotional, financial, information, and nursing) and total social support and quality of life of the elderly [55]. Yoshni *et al.* pointed to the use of mobile phones by the elderly and considered it an effective factor in increasing the awareness of the elderly and their elevated communication level with the network and social institutions that increase their quality of life [51]. Studies have shown that other social components, such as personal and social trust and association [27], social participation [55], social security [134], and violation of personal rights [70], also play an effective role in increasing the quality of life of the elderly. Another subclass included socio-demographic dimension of the factors affecting the quality of life of the elderly, their demographic characteristics, including age, sex, marital status, having children,

level of education, place of residence, living arrangements, characteristics of the home environment, job, type of insurance, and economic status. Studies have shown that age and gender affect the quality of life of the elderly; as the age increases, the quality of life decreases and women have a lower quality of life than men [131]. These results are also confirmed by Cheraghi *et al.* [42] and Fazli *et al.* [50]. Optimal economic status and high income are other factors in improving the quality of life of the elderly mentioned in several studies [58,113]. However, Taheri, perhaps due to the differences in society and the study of the elderly living in nursing homes, reported a different result [138]. Structural inequalities that create different classes in society also affect the quality of life of the elderly so that the elderly with higher economic and social classes have a better quality of life [50].

Physical factors: In the physical dimension, in the subclass of diseases and physical disorders, factors such as chronic diseases and disabilities, multidrug, fatigue, hospitalization, episiotomy status, BMI, functional independence, physical activity, physical and functional capacity, self-efficacy, use of prostheses and mobility aids, and in the subclass of health-related behaviors, such as lifestyle, enabling factors, daily life activities, health literacy, self-care, and health responsibility and drug adherence showed a significant relationship with the quality of life of the elderly. Numerous studies have pointed to the role of diseases in reducing the quality of life [70, 99] and stated that the patient elderly have a much lower quality of life than healthy elderly [22,36]. Ismaili *et al.* showed that osteoporosis affects the quality of life in physical function, playing a role affected by physical and emotional problems, pain, general health, vitality, social functioning, mental health, and overall quality of life [22]. Turkish researchers have also concluded that musculoskeletal pain has a negative relationship with health-related quality of life (HRQOL) and increases unhealthy days, and decreases physical and mental function in the elderly [99]. Khajeh *et al.* showed a significant difference between cardiovascular diseases, respiratory and gastrointestinal diseases, hearing and vision disorders, and the total quality of life score [36].

On the other hand, studies on health-related factors showed that health-promoting lifestyle components have a positive relationship with quality of life [61]. This result was confirmed even in the elderly living in nursing homes in Isfahan [60]. Abd al-Basit *et al.* found a positive relationship between high and moderate levels of HRQOL and physical activity in the elderly in Egypt [16]. A healthy lifestyle (exercise, non-smoking, healthy eating, etc.) prevents disease, plays an effective role in physical and mental health, and improves the quality of life [106]. Comparing the results of Shahnazi research with different studies shows that lifestyle is the most important determinant of quality of life in the elderly [60].

Psychological factors: Although psychological factors, including mental disorders and factors related to psychological well-being, had been studied in fewer studies than the socio-demographic and physical dimensions, they included more factors than other dimensions. In the reviewed articles, there was also a significant and positive relationship among the positive psychological factors, such as hope [63] meaning of life, self-esteem [62], self-actualization [61], life satisfaction [112], stress tolerance [48], awareness [58], perceptibility [54], perceived body image [18], and a positive attitude toward aging [17] and Negative factors, such as depression [15, 30], stress and anxiety [48], loneliness [93], fear of falling [110], sleep disorders [70], cognitive impairment [81] and attention to the quality of life had a negative effect of the quality of life elderly. According to Erickson's developmental theory, human life aims to achieve unity in the face of despair, which becomes more important during life and through aging by reducing a person's health status [139]. Hope is considered as one of the constructs of positive psychology, and the theory of hope proposed by Schneider is based on the assumption that human actions are purposeful and meaningful [140]; however, the lack of meaning in life is one of the psychological issues that may be faced by the elderly. Physical changes and mental, psychological, and mental disorders in this period and approaching the end of life lead to the lack of meaning in life in the elderly. Finding meaning in life and making it purposeful even in this period is necessary to enjoy a good and happy life and achieve satisfaction and better quality of life [141]. Attitude toward old age is another psychological factor affecting the quality of life. Aging is a process and a unique and personal experience; therefore, people's attitudes toward aging may affect the quality of life in later years and their long-term health consequences [142]. Attitudes toward aging also have a long-term and potentially positive impact on general health and life span. One of the cumulative benefits of having a more positive perception of aging is the increase in life expectancy, which shows that a positive attitude towards aging and being elderly adds an average of 7.5 years to life expectancy [143]. Negative factors and mental disorders have the same effects as positive and motivating psychological factors on the quality of life of the elderly. Safavid's study conducted in Iran showed that depression reduces the quality of life of the elderly, and there is a relationship between these two factors [30]. Also, Ali Mohammadi *et al.* showed a negative and significant relationship between perceived stress and quality of life in the elderly [48]. Ayalon *et al.* in Israel also indicated the negative impact of anxiety on the quality of life of the elderly [18]. In this regard, Ballard *et al.* acknowledged that stress, anxiety, and psychological pressures in the lives of the elderly, which are full of various problems and stressors, can have a negative impact on their health and quality of life [144]. Therefore, according to

the theory of Lazarus *et al.*, the use of adaptive methods of coping with stress and appropriate cognitive assessments of stressful conditions is one of the key factors to increase the quality of life and psychological well-being [145]. Another factor affecting the quality of life of the elderly in the psychological dimension is their view about death. Basharpour *et al.* showed that the overall quality of life score was negatively related to fear of death, avoidance of death, and acceptance with an escape from death, but positively related to active acceptance of death. Attitude toward death also explains about 30% of the total variance of the quality of life of the elderly [41]. Fear of death, especially in old age, is reported in almost most people, and its psychological consequences are determined depending on the people's attitude towards death and the end of life. People who have a positive attitude towards death and see it as a way to attain eternal happiness and accept the fact that death is not nothingness and annihilation, but a transfer from one world to another, always hope for a better quality of life and mental life. In addition, people with attitudes toward active acceptance of death accept the fact that human life is not limited to this world; thus, they do not become deeply saddened or excited about losing or gaining benefits in this world, and as a result, they can have a higher quality of life [41].

Spiritual factors: The last dimension of the quality of life factors of the elderly is spiritual factors. Spirituality included spiritual health, spiritual well-being, spiritual intelligence, religious conflict, and internal religious orientation that affects the quality of life of the elderly in the Middle East. The elderly with spiritual health and those with religious beliefs had a higher quality of life. Seraji *et al.* [35] reported a positive relationship between spiritual well-being and the quality of life of the elderly. Atadakhth *et al.* showed that internal religious orientation has a positive relationship with the quality of life of the elderly. Internal orientation is more stable because it is formed by one's inner interest and need and can improve the quality of life [61]. Safari *et al.* also showed that religion affects the quality of life through religious adjustment [72]. Heydarifard *et al.* found the relationship between religious confrontation and health-related quality of life [33]. However, Mortazavi *et al.* showed a significant but inverse relationship between spiritual intelligence and the quality of life of the elderly [64]. Overall, it can be said that people with more spirituality can achieve more stable adjustment in life and have a more balanced spirit to determine a better quality of life for themselves [64, 134]. On the other hand, using religion and religious practices, the elderly play a dynamic role in society, which can be indicated by an increase in social relations, and according to the definition of quality of life, leads to a better quality of life [61].

In general, in Middle Eastern countries, demographic factors affecting the quality of life of the elderly had

been highly considered, followed by diseases, whereas spirituality had been less considered. In Iran, most studies had been performed on demographic and social factors, but in Turkey, most studies were found on diseases, followed by mental disorders, and in Arabic-speaking countries, most studies had assessed health-related behaviors and diseases, respectively. Accordingly, in most policies in physical variables focusing on the management of chronic diseases of the elderly, for social factors, the focus is on the more presence of elderly in the society, and for demographic variables, gender and age have been widely considered. Therefore, it is necessary to plan according to the gender and age groups (young, middle-aged, and elderly) in the elderly. Also, according to the development of countries, economic and social status has a decisive role in the quality of life of the elderly in the Middle East. Therefore, pensions and financial and non-financial support and creating the conditions for working at old age can be helpful. In the psychological and psychological well-being dimension, many positive and negative factors affect the lives of the elderly. The prevalence of mental health problems in old age increases due to changes in living arrangements, such as loneliness, retirement, and becoming a widow or widower; therefore, timely identification and sending the elderly to cultural and sports centers can be with their peers helpful. Also, due to the importance of spirituality in increasing the quality of life and mental health of the individual, spiritual paths and religious rituals can help increase the quality of life of the elderly. Notably, most studies have focused on risk factors for reduced quality of life, such as illness and mental disorders or underlying and demographic variables, and less research has been done on factors that protect and promote quality of life, such as mental health/happiness and spirituality; therefore, more studied are needed in this field.

One of the limitations of this study was considering Iranian and Turkish studies more than studies done other Middle Eastern countries, which provide less knowledge about the factors affecting the quality of life of the elderly in these countries; however, due to the limited number of relevant studies in other Middle Eastern countries or the lack of inclusion criteria, it is beyond the scope of researchers. Another limitation of this study was the diversity of elderly communities in this study, which made this article a methodical review, but regarding the searching stage, a systematic search was done, and in the screening of titles and abstracts, the STROBE standards were used. Another limitation of this study was the variety of statistical methods to study factors affecting the quality of life of the elderly, which eliminates the possibility of meta-analysis for review studies. Therefore, in future studies, it is recommended that factors affecting the quality of life of the elderly with various chronic diseases be

studied in separate studies. Due to the lack of intervention studies in the present study, a review study on the interventions performed based on factors affecting the quality of life of the elderly should be performed, and the results are needed to be reported.

Conclusion

The quality of life of the elderly in the Middle East is related to various factors, including socio-demographic, psychological, physical, and spiritual factors; therefore, it is necessary to plan at different levels to increase the quality of life of the elderly according to the relevant factors.

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