Research Article

The Health Related Quality of Life in Elderly

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Abstract:
Background: Quality of life is a significant indicator of the course treatment process, lifestyle, and the influence of other variables. The purpose of this study was to analyze the health-related quality of life (HRQoL) and its predictors among elderly persons. It allowed us to identify the most crucial factors influencing the HRQoL in the process of "good ageing."
Method: The systematic review followed the “Preferred Reporting Results of Systematic Reviews and Meta-Analyses” (PRISMA) guidelines. Three electronic databases (PubMed, MDPI and Science Direct) were used to retrieve the data. Articles electronically accessible investigating the health-related quality of life in the elderly and the factors influencing it were included. Pertinent studies were assessed based on set inclusion and exclusion criteria, data were extracted to pore over the related variables and propositional values. The extract comprised information regarding general details, study details, participants, and results.
Results: 15 articles were included in this systematic review including 11 cross-sectional, 2 prospective cohort studies and 2 systematic reviews. These studies collected data from different countries with most being from China and South Korea between January 2013 and 2022. The most commonly used questionnaires were EQ-5D and SF-36. The studies showed poor HRQoL scores in females, institutionalized individuals, frail cancer patients, disabled ones, kidney non-transplanted patients on prolonged dialysis and women suffering from depression. Good HRQoL scores were seen in older individuals with greater serum folate concentrations, good diet intake, receiving chemotherapy, high BMI, high level of physical activity, and those undergone kidney transplant and hip arthroplasty.
Conclusion: Oldest old had generically poor scores. Health policy formulators should place HRQoL among the elderly as a priority for providing socio-economic and psychological support, as well as raising their community participation.

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INTRODUCTION:

World Health Organization (WHO) defines health as a "state of complete physical, mental and social well-being, not merely the absence of disease or infirmity". Despite being a hot topic, quality of life hasn't been adequately defined but it includes the complete well-being of a person. It is highly dependent on the health of a person giving rise to the term Health-related Quality of Life1. It holds great significance in the elderly because the total number of years a person lives is rising day by day and elements like genetics, lifestyle, healthy diet, avoidance of smoking, and physical activity can cause longevity of health2. Aging is a natural process, and overall body degeneration leads to negative health effects. Thus, studying the health-related quality of life in the elderly is important for researchers and healthcare providers to optimally use finite financial and medical resources for the betterment of this population 3.

Health varies individually due to inherent differences in genetics, fluctuations in diet, exercise, and environment but on average it is poor in the elderly due to a plethora of diseases. They include long-term conditions like diabetes mellitus, coronary heart disease, osteoporosis, and cerebrovascular incidents 4. The elderly also have inadequate social interactions, poor access to health care, and inadequate educational, economic, and cultural facilities 5. These imbalances lead to medical, social, and psychological issues that might impair senior people's physical capabilities and quality of life, increasing the overall burden of diseases. Therefore, the elderly forms a massive proportion of patients requiring high-level medical and social services.

According to research, the old population is rising significantly in number. By 2050, there will be 21% (2 billion people) more over the age of 60 than there were in 2000(11% or 605 million)6. The oldest old (those over 80 years old) who made up 14% of the older population in 2014 is projected to comprise nearly 19% by 2050 and are the group in this demographic that is expanding the fastest7. This requires the placement of better knowledge of the needs of the elderly in healthcare as well as in societies. Most governments in developed countries offer subsidies to their aged population including home packages, nursing care, adult day care services, and necessary support for their recovery to become a better part of society 6. These conveniences are however mostly absent in developing countries in addition to debilitating health infrastructure and poor environment severely decreasing the quality of life here.

Viewing studies on the quality of life and related characteristics in senior people living in the community and the region are vital given the vulnerability of the elderly and the significance of health status in this population. These studies offer data on aspects of non-health parameters like environmental security, independence, and sense of connectedness in addition to the physical quality of life and health characteristics8. This paper's objective is to investigate the quality of life among the senior population by thoroughly evaluating earlier research.

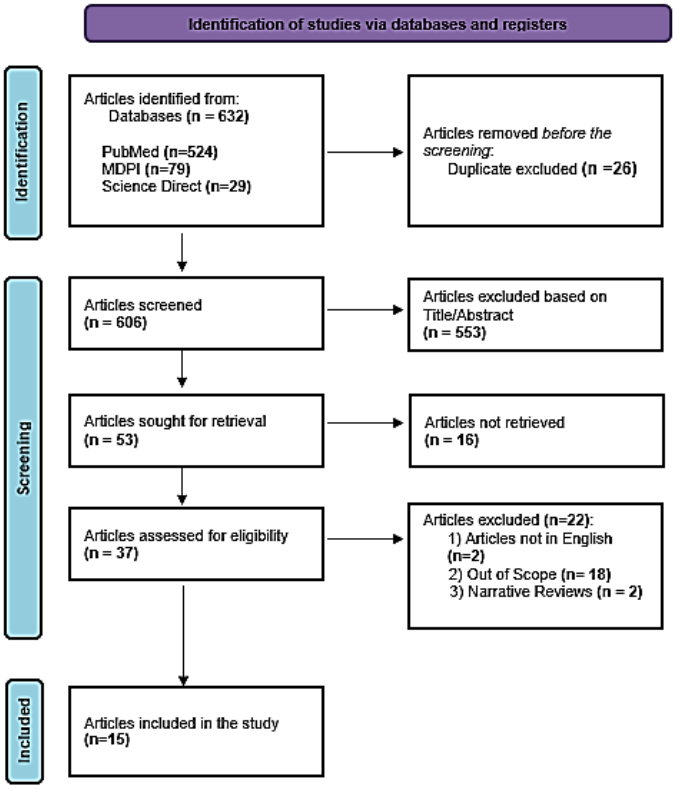
METHODS AND MEASURES:

PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) standards were used to conduct this review. Three electronic databases were used to retrieve data—PubMed, MDPI, and Science Direct. Time restriction was added from 2017 to the present. The "related citations" and bibliography searches of the selected articles were employed for manual searching. Three sets of keywords utilized in the search were: "Elderly" "Quality of Life" and "Health". All items were reviewed before searches to find literature already published for this review. Peer-reviewed articles were considered limiting the search to those which studied the elderly and explored their quality of life-related to health through validated methods.

The article's language setting was English. To be added for additional review articles should contain the full-text form. Articles and abstracts electronically accessible investigating the health-related quality of life in the elderly and their psychosocial or economic aspects of life were included. Articles were excluded based on non-English publication, duplication, incompleteness, irrelevance, and ambiguity of data. Conferences, editorial notes, opinion articles, and conceptual evaluations were excluded from the study. The extraction of data was done in two groups. One group each was assigned to search the three search engines i.e., Science Direct, PubMed, and MDPI. The relevant articles were selected and screened according to the inclusion-exclusion criteria. The other group read and reviewed 15 articles to be able to summarize the approaches, techniques, samples, and conclusions. Data was gathered from the literature and incorporated into a table. In multiple rounds of conversations with other members, discrepancies were cleared out and results were verified. The extract comprised information regarding; mean age, date of publication, country/region in which the study was conducted, target population (e.g., the general public, elderly women, disabled, cancer patients.), the total number of respondents, and health-related quality of life score.

RESULTS:

A total of 632 records were identified and after the screening process, 15 articles were included in this systematic review.



A total of 15 published articles were analyzed in this review. These studies collected data on health-related quality of life in the elderly from different countries with most being from China (n=4) followed by South Korea (n=2). Four studies were conducted in Europe

and 2 studies involved global participants. There was a total of 11 cross-sectional studies and 2 prospective cohort studies and systematic reviews identified. The studies were done between January 2013 and 2022 but published after 2017.

According to the sample size the largest study was carried out in China (N=3336) and the smallest study was conducted in Athens, Greece (N=104). The target population was highly variable. Out of 15 studies, 5 were done on the general population, 4 on cancer patients, 2 on elderly women, 2 on disabled elderly, 1 on elderly with kidney disease wait-listed for transplant, and 1 on elderly who have undergone hip arthroplasty.

Sr. No.	Study and Country	Publication Date	N	Mean age	Target population	HRQoL-Measure	HRQoL score	Factors affecting HRQoL
1	C. Chen et al. China	January 2020	1278	93.6	The oldest old general population	EQ-5D	79	Lower in females and with poor Sleep, Exercise, Social connection, BMI
2	Eunmi Lee et al. South Korea	December 2021	1021	72.5	General population	EQ-5D	88-90	Serum Folate concentration
3	Vasiliki Tsarpal et al Norwegia	July 2021	289	71.1	Kidney patients wait-listed for transplant	SF-36	Pre-KT:55 Post- KT:70	Kidney Transplant, Lower in long-term dialysis patients
4	Andela Đošic et al. Serbia	December 2021	156	67.7	Women	IPAQ-LF	-	Better with moderate physical activity, high BMI, and leisure time activities
5	Xiaona Zhang et al. China	February 2018	1369	73.3	General Population	SF-36	73	Institutionalized individuals have poor scores. Better in urban areas.
6	Mingzhu Su et al. China	August 2022	260	68	Cancer patients	EQ-5D	Frail patients:89Non-frail:83	Frail patients had lower scores. Pain, anxiety/depression were the most common problems.
7	Aida Moarrefzadeh et al. Iran	March 2022	187	69.1	Hip arthroplasty patients	SF-36	Before Surgery:32 After:55	Improved by arthroplasty surgery in the elderly after 1 month.
8	Kyujin Lee et al. Korea	July 2019	1504	72.8	Elderly with activity-limiting disabilities	EQ-5D	-	Disability lowers it due to decrease physical activity stress and depression.
9	Min Zhan et al. China	February 2022	3336	>70	Elderly with functional disabilities	EQ-5D	-	Lower in elderly with immobility, diminished life activities, social participation, and with cognitive deterioration.
10	Roy Rillera Marzo et al. Iran, Iraq,	March 2022	1644	69.1	General Population during COVID-	Stark-QoL	PCS:17.9 MCS:7.5	Higher in younger, richer people with health insurance and

	Bangladesh, Maylasia, Sri Lanka, Palestine				19			good family support.
11	Carmen Galán-Arroyo et al. Spain	March 2022	685	-	Elderly women with depression	EQ-5D	-	Poor in depressed women with decreased lower body strength
12	Eleni Kyriazidou et al. Greece	May 2022	104	72	Lung and GI cancer patients undergoing chemotherapy	SF-36	42.7–62.6	Better in patients having treatment with good social support, low pain, and high social function
13	Heike Schmidt et al. Global	January 2018	518	77	Cancer Patients	EQ-5D	65.2	Fatigue, the burden of illness, and poor social functioning. Improved with treatment and therapy.
14	Lachlan McDowell et al. Belgium	February 2022	-	-	Head and Neck cancer patients	-	-	Psychological distress was less in older patients than in younger ones. Worst scores.
15	Thara Govindaraju et al. Australia	July 2018	15 articles	-	General Population	SF-36, SF-12, RAND-6	-	Improved with a good diet. Mediterranean diet is mostly followed

Table 1: shows the health-related quality of life in different countries based on the target population, mean age, and sample size.

The most commonly used questionnaires for measuring the quality of life were the European Quality of Life Five Dimension (EQ-5D), in 7 studies, and the 36-Items Short Form Health Survey (SF-36), in 4 studies. The resulting HRQoL scores in a particular population were stratified by the target population (Table 1). Studies conducted on the general population in South Korea showed that HRQoL was higher in individuals with greater serum folate concentration than lower serum folate (91 vs. 88), in China two separate studies were conducted which showed HRQoL scores of 79 and 73.1 with poor scores in females and institutionalized individuals. The systematic review showed better QoL in older people with good diet intake. The studies on cancer showed that QoL was poor in lower in older patients, and frail patients as compared to non-frail patients (83 vs. 89) but better in patients receiving chemotherapy [9].

The research on the disabled population yielded results of poor HRQoL in this particular population (lower in China than in Korea). However disabled people with higher education and a better support system led a better life. Both studies carried out on elderly women showed that HRQoL is greater with a high BMI and high level of physical activity. It is significantly lower in women suffering from depression. The HRQoL scores improved in most (65%) kidney patients after transplant from 55 to almost 70 until 3 years post-transplantation meanwhile in non-transplanted patients on prolonged dialysis there were an increased risk and number of

comorbidities with declining quality of life. The QoL also improved in the elderly undergoing hip arthroplasty from <35 to almost 55 in 12 months.

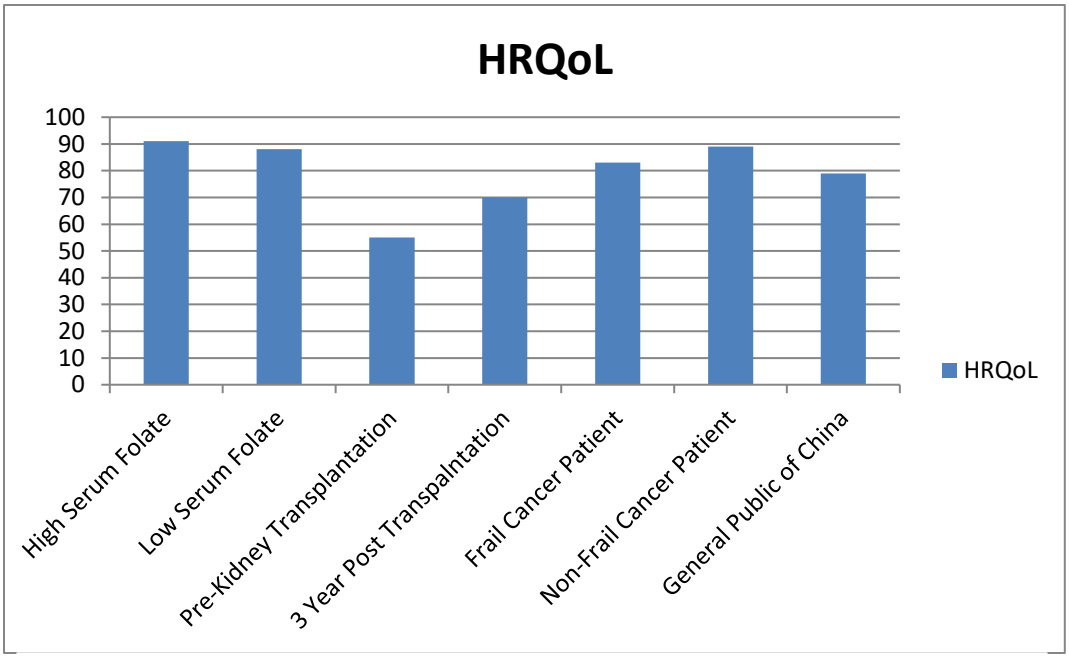


Figure 1: showing the health-related quality of life scores in different target populations.

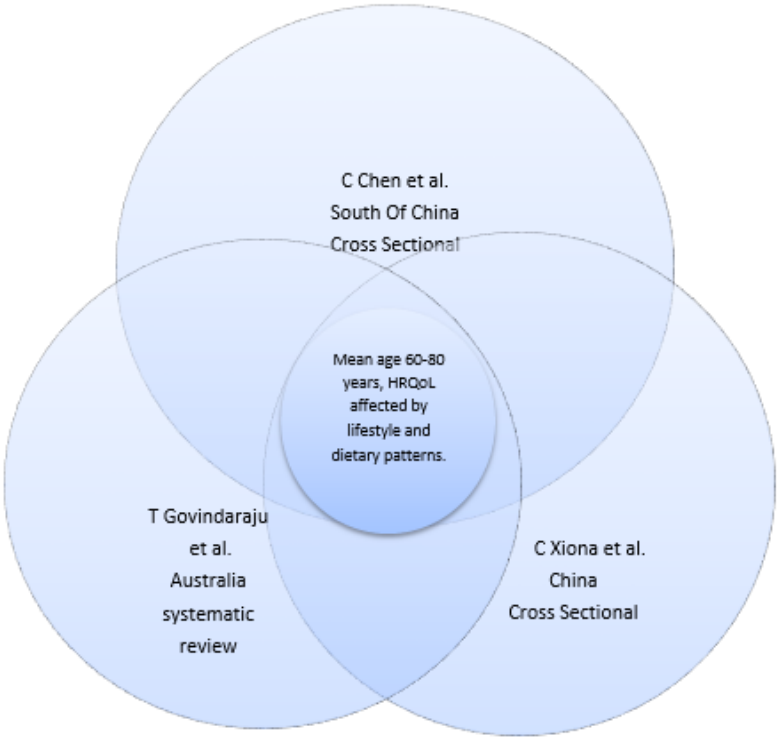


Figure 2: showing Venn diagram of the three most important studies

DISCUSSION:

The present world is in an era of population aging. Population Ageing is the movement in a nation's population towards older ages, which is shown by a decrease in the number of kids, an increase in the number of seniors, and an increase in the population's mean or median age. It is a global process but is the most advanced in developed countries 10. With a rise in the old population throughout the world their well-being and standard of living pose an important indicator of development. This research was carried out by systematically reviewing 15 articles with a mean population age of >65 years, defined as the older population in our study. The HRQoL life was measured by EQ-5D and SF-36 questionnaires in most studies.

A significant link was found between good dietary patterns and QoL specifically with folate. The Mediterranean diet was characterized to be the best 11. Individuals with a higher folate concentration of > 9.5 ng/ml had higher HRQoL almost 91 as compared to 88 in those with a lower concentration of 5.6ng/ml 12. Studies carried out in China on the general population showed scores of 79 and 73.1 with better HRQoL in urban areas, in people with good sleep, physical activity, family support, no visual or hearing impairments, and no drug or alcohol addiction. Scores were lower in women and institutionalized individuals 13-14. In kidney transplant patients HRQoL improved from 55 before the transplant to 70 three years post-surgery 15. Similarly, older patients undergoing hip arthroplasty also had improved quality of life 16. Most cancers have an age-dependent incidence, and as people live longer, more senior individuals are developing cancer and need treatment. In cancer patients, frailty was a major cause of the lowering of HRQoL. Older head and neck cancer patients reported the worst scores but with less psychological stress as compared to the younger population 17. However, chemotherapy and good social support improved the quality of life in cancer patients 18.

Even though women in general have a longer lifespan than men, they still go through more illnesses than men. According to estimates of healthy life expectancy from 2002, women globally had fewer years of healthy life than men. Most studies included in this review didn't show any significant difference between genders in HRQoL, however, some studies, 3 to be exact yielded poor quality of life in females. In the Chinese population, women had lower HRQoL scores, 76 as compared to 86 in men 14. Analysis carried out separately on the female half of the population showed similar results with physical exercise, mental health, and BMI being the main regulatory factors 19-20. A study of senior citizens in Tehran, Iran revealed that their HRQoL was generally poor, particularly for older women and those with lower levels of education 21.

Participation in moderate physical activity promotes healthy aging in older people and has a significant role in improving HRQoL. When compared to older adults who are less physically active, those who engage in physical activity have reduced rates of mortality from all causes and more advanced degrees of muscular

fitness. Disability resulted in lower activity leading to poor quality of life and a greater risk of morbidities 22-23. Multi morbidity is more prevalent in older age and has a considerable negative influence on HRQoL 24. Hence a crucial element of providing patients with care and treatment services is their health-related quality of life.

LIMITATIONS:

The limitations of this study included relying on a few search engines which were done to provide a concise assessment of the health-related quality of life in the elderly but may have resulted in the exclusion of relevant studies. Most studies selected were cross-sectional measuring quality of life with a self-reported questionnaire resulting in self-report bias. Volunteer bias and selection bias cannot be excluded. The studies were performed on vastly different populations and the confounding effects of sociodemographic variables such as environment, financial standing, and healthcare services were not compared. Most studies targeted a specific health-related issue in the elderly varying in severity producing tremendously distinct results which cannot be generalized to other populations.

CONCLUSION:

The health-related quality of life is influenced by age-related disease and is positively dependent on good physical health, mental health, sleep, social and family support, emotional function, diet especially high folate intake, and high BMI. However, drug addiction, drinking, disabilities, stress, and illiteracy decrease the overall quality of life. The HRQoL was found to be better in developed Asian countries (80-90%) than in European countries (50-70%). Many studies concluded that compared to men, older women had a diminished quality of life. The HRQoL also falls with increasing age. By providing information regarding the quality of life of the elderly and the factors affecting it health patterns of this rapidly rising cohort are better understood.

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