Journal of Kerman University of Medical Sciences

JKMU

Journal of Kerman University of Medical Sciences, 2019; 26 (5): 384-389

Quality of Life after Coronary Artery Bypass Grafting (CABG) in Older Adults

Hamidreza Rashidinejad, M.D. [1], Hamidreza Nasri, M.D. [1], Mohamad Salehi, M.D. [1], Mansour Moazenzadeh, M.D. [2]

1- Cardiovascular Research Center, Institute of Basic and Clinical Physiology Sciences, Kerman University of Medical Sciences, Kerman, Iran

2- Cardiovascular Research Center, Institute of Basic and Clinical Physiology Sciences, Kerman University of Medical Sciences, Kerman, Iran

(Corresponding author; E-mail: M Moazenzadeh170@gmail.com)

Received: 14 May, 2019 Accepted: 10 October, 2019

ARTICLE INFO

Article type:
Original Article

Keywords:
Quality of Life
CABG
Older Adults

Abstract

Introduction: The World Health Organization (WHO) considers people over the age of 65 as older adults. These people usually suffer from chronic diseases including Coronary Heart Disease (CHD). Coronary Artery Bypass Grafting (CABG) surgery is a common surgery operated on these patients to increase survival and improve patients' Quality of Life (QOL); however, previous studies have provided inconsistent results in terms of true benefits of CABG in older adults. We aimed to assess QOL in older adults after CABG.

Methods: In this cross-sectional study, 150 patients over 65 and 150 patients under 65 were contacted for follow-up 10 weeks after CABG. The SF36 questionnaire was used to measure QOL and between-group comparisons were carried out using descriptive statistics.

Results: Physical functioning, physical role, and the total score of QOL were significantly lower in older patients than the younger patients (p =0.001).

Conclusion: During the ageing period, different factors such as retirement and physical damages among other factors affect an individual's actions and moods. In addition, elderlies are usually dealing with several illnesses and consequently take a number of different drugs. This indicates that the quality of life in elderlies does not improve after CABG surgery compared to their younger years.

Citation: Rashidinejad H.R, Nasri H.R, Salehi M, Moazenzadeh M. Quality of Life after Coronary Artery Bypass Grafting (CABG) in Older Adults. *Journal of Kerman University of Medical Sciences*, 2019; 26 (5): 384-389.

Introduction

According to the WHO, people over 65 are considered as elderlies. The global ageing rate is currently 24%. It is expected that this rate will reach 34% in the coming years. The elderly population was 600 million in 2000 and it is predicted to reach 1.2 billion in 2025 that is twice (1).

Chronic diseases and ageing phenomenon often cause certain disabilities during this period. Due to remarkable decreases in performance and activity in elderlies, they deal with diseases which require medical treatment and even surgery in order to have an acceptable QOL (2). One of the most common diseases among elderlies is CHD. About 22% of females and 32% of males aged between 65 and 70 are dealing with CHD, with these rates respectively reaching up to 43% and 45% in males and females over 70(3). According to the Ministry of Health, cardiovascular Disease CVD is considered

as the main and most prevalent cause of death (35%) in Iran, placed above accidents and cancers (4).

The QOL consists of more dimensions and is affected by more factors than the health status, but it is important to know that health is the prerequisite of QOL (5). Therefore, despite the presence of modern concepts such as QOL, the concept of health status is still being emphasized by experts (5). Paying special attention to the concepts mentioned above is vitally important, especially in the current century due to the increases in chronic diseases and in the longevity and the population of elderlies in developing countries (4).

There are several definitions for QOL which are related to health. In one definition, QOL is related to the physical, mental and social dimensions which are directly influenced by personal activities, beliefs, expectations, and the individual's perceptions (7). The US Cardiopulmonary Association has validated the sf36 questionnaire for evaluating health situation (8).

Cardiovascular surgery is a common operation carried out to increase survival and improve patients' QOL (9-10). The CABG surgery includes 60% of all cardiovascular surgeries in Iran (11). Results of numerous studies in Iran indicate that CVD has been the main cause of death in recent decades. The increase in the number of surgeries necessitates special consideration for these patients and the determination of their QOL after surgery (11).

Therefore, due to limited studies carried out in Iran regarding this issue and lack of studies done on elderlies as well as the fact that ageing directly affects the result of CABG surgery and increases the side effects of surgery (due to osteoporosis, wound healing delay, etc.), we conducted this study to investigate the relationship between gender, education and underlying diseases (diabetes and hypertension) with QOL features in erderlies.

Materials and Methods

In this cross-sectional study,150 patients over and under 65 years were contacted 10 weeks after surgery for follow-up and the sf36 questionnaire was completed accordingly. Participation in this study was not obligatory and personal information was not required. Patients were ensured concerning the confidentiality of their information. The SF-36 questionnaire was filled out by participants 10 weeks after surgery. This questionnaire contains 36 items which measures health on eight multi-item dimensions, covering physical functioning, social functioning, physical role, emotional role, mental health, vitality, pain and general health. Moreover, the SF-36 questionnaire provides two general performance evaluations: physical component score (PCS) which studies physical dimension of health and mental component score (MCS) which studies mental dimension of health. Scores in any of these areas varies from 0 to 100, and a higher score stands for a better QOL. The reliability and validity of this questionnaire in Iranian population have been confirmed (12-13) and the internal correlative coefficient of its 8 subscales is between 0.70 to 0.85 and the retest coefficient is reported to be between 0.43 to 0.79 with a one-week interval. In addition, this questionnaire can separate healthy individuals from those with ill health concerning all indicators (13). The obtained results were processed and analyzed using SPSS software version 18 Quantitative results were expressed as mean±SD. The level of significance was set at $P \leq 0.05$.

Results

The present study included 54 (36%) females and 96 (64%) males in the elderly group. Also, 59 (39.3%) females and 91 (60.7%) males were in the non-elderly group. Demographic characteristics of patients are presented in Table 1. According to the results, there was no difference between genders among elderly and non-elderly groups (p>0.05). The only differences between the two groups were in lipid profile as an underlying disease, marital status and education (P<0.05). There were 131 (87.3%) and 111 (74%) elderlies and non-elderlies who were educated up to high school and lower. About 19 (12.6%) and 35 (23.3%) elderlies and non-elderlies had a BA and a lower degree. The MA degree and a higher degree included only 4 (2.7%) persons in the non-elderly group.

Table 1. Demographic characteristics of patients

	Elderly (%)	Non-elderly (%)	p-value
Gender			0.551
Female	54(36%)	59(39.3)	
Male	96(64%)	91(60.7)	
Underlying disease			
Yes	130(86.7)	123(82)	0.372
No	20(15.3)	27(18)	
Hypertension			
Yes	120(80)	106(70.7)	0.061
No	30(20)	44(29.3)	
Diabetes			
Yes	36(24)	44(29.3)	0.296
No	114(76)	106(70.7)	
Hypercholesterolemia			
Yes	57(38)	28(18.7)	0.001*
No	93(62)	122(81.3)	
Marital status			
Married	92(61.3)	144(96)	0.001*
Single	14(10)	1(0.7)	
widowed	43(28.7)	5(3.3)	
Education			
High school & lower	131 (87.3)	111(74)	0.001*
BA and lower	19(12.7)	35(23.3)	
MA and higher	0	4(2.7)	

*Significant at the 5% level

The QOL and its components are shown in Table 2. According to the results, there was a significant difference for physical functioning, social functioning and QOL between the two groups (P<0.05). The mean score of these three components were 21.06±4.75 and 24.86±3.76 for physical functioning, 5.66±1.54 and 6.39±1.49 for social functioning, 90.59±6.62 and 93.70±5.90 for QOL in elderly and non-elderly groups, respectively.

Table 2. Determination and comparison of QOL and its components in both groups

	Elderly	Non-elderly	p-value
physical functioning	21.06±4.75	24.86±3.76	0.001*
social functioning	5.66±1.54	6.39±1.49	0.001*
physical role	4.69±1.32	4.48±1.31	0.176
emotional role	13.88±1.69	13.65±1.53	0.215
mental health	19.92±2.15	19.63±2.78	0.308
vitality	5.89±0.73	5.84±0.63	0.563
bodily pain	4.82±2.37	4.36±2.24	0.085
general health	14.7±2	14.43±2.06	0.257
QOL	90.59±6.62	93.70±5.90	0.001*

*Significant at the 5% level

Comparing QOL in terms of demographic variables in both groups showed no significant relationship between QOL, gender, underlying diseases, marital status and education in the non-elderly group. In the elderly group, there was a significant relation between QOL, gender and education but there was no significant relationship between QOL, underlying diseases and marital status.

Discussion

According to the results of this study and by comparing QOL and its components in those who underwent CABG surgery, significant decreases in physical functioning, physical role and QOL were observed in those over 65 years. Comparing patients under 65 years and those over 75 years regarding physical functioning, physical role and pain, we observed a significant decrease in patients over 75, but there is not any significant limitation in physical role due to social or emotional problems. Several researches have been conducted to study patients' QOL after CABG surgery. One of these researches has been conducted by Bahramnejad et al. who studied 126 patients undergoing CABG surgery and reported an improvement in the QOL after surgery in 3, 6 and 12 months. Initially, the patients' QOL decreased in the following 6 months and then it was improved significantly after a year (F1). Pocock et al. studied patients who underwent surgery by the two methods of CABG and Coronary Angioplasty (PCI) for 3 years. All components of QOL improved significantly (14). The study done by Fruitman et al. in Canada showed that QOL in those over 65 years after CABG surgery is equal with or better than the rest of the population (15). Behrouzifard et al. in Iran reported that there is an indirect significant relationship between age and QOL 10 weeks after CABG surgery (F2). In addition, studies conducted by Redeker et al (16) and Rumsfeld et al (17). Confirm this result and they show that age is a predictor factor for patients' QOL in multivariable analysis.

Conclusion

During the ageing period, different factors such as retirement and physical damages affect an individual's actions and moods. In addition, elderlies are usually dealing with several illnesses and consequently take a number of different drugs. This indicates that the quality of life in elderlies does not improve after CABG surgery compared to their younger years.

References

1. Bahramnezhad F, Asadi Noughabi A, Sief H, Mohammadi Y. Quality of life in the patients with coronary bypass graft. Iranian Journal of Nursing Research 2012; 7(26):34-41. [In Persian].
2. Behrouzifar S, Zenouzi S, Nezafati M, Esmaili H. Factors affecting the patients' quality of life after coronaryartery bypass graft. Iran Journal of Nursing 2009; 22(57):31-41. [In Persian].
3. Ocampo JM. Self-rated health: Importance of use in elderly adults. Colombia Médica 2010; 41(3):275-89.
4. Grion MS, Wang HX, Bernsten C, Thorslund M, Winblad B, Fastbom J. The appropriateness of drug use in an older nondemented and demented population. J Am Geriatr Soc 2001; 49(3):277-83.
5. Daly C, Clemens F, Lopez Sendon JL, Tavazzi L, Boersma E, Danchin N, et al. Gender differences in the management and clinical outcome of stable angina. Circulation 2006; 113(4):490-8.
6. Darvishpoor Kakhki A, Abed Saeedi J, Delavar A, Saeed-O-Zakerin M. Tools for measurement of health status and quality of life of elderly people. Research in Medicine 2010; 33(3):162-73. [In Persian].
7. Wilson IB, Cleary PD. Linking clinical variables with health-related quality of life. A conceptual model of patient outcomes. JAMA 1995; 273(1):59-65.
8. Vaccarino V, Rathore SS, Wenger NK, Frederick PD, Abramson JL, Barron HV, et al. Sex and racial differences in the management of acute myocardial infarction, 1994 through 2002. N Engl J Med 2005; 353(7):671-82
9. Mehraban D, Naderi G, Salehi M. The development of SF-36 questionnaire for measuring the quality of life in kidney replacement in Iran. Saudi J Kidney Dis Transpl 2003; 14(1):15-7.
10. Ware JE Jr. SF-36 Health Survey Update. Spine (Phila Pa 1976) 2000; 25(24):3130-9.
11. Järvinen O, Saarinen T, Julkunen J, Huhtala H, Tarkka MR. Changes in health-related quality of life and functional capacity following coronary artery bypass graft surgery. Eur J Cardiothorac Surg 2003; 24(5):750-6.
12. Panagopoulou E, Montgomery A, Benos A. Quality of life after coronary artery bypass grafting: evaluating the influence of preoperative physical and psychosocial functioning. J Psychosom Res 2006; 60(6):639-44.
13. Babaee J, Keshavarz M, Haidarnia A, Shayegan M. Effect of a heahth education program on quality of life in patients undergoing coronary artery bypass surgery. Acta Media Iranica 2007; 45(1):69-74.
14. Montazeri A, Goshtasebi A, Vahdaninia M, Gandek B. The short form health survey (SF-36): translation and validation study of the Iranian version. Qual Life Res 2005; 14(3):875-82.
15. Asghari Moghaddam M, Faghehi S. Validation of the SF-36 health survey questionnaire in two Iranian samples. Clinical Psychology & Personality 2003; 1(1):1-11. [In Persian].
16. Pocock SJ, Henderson RA, Seed P, Treasure T, Hampton JR. Quality of life, employment status, and anginal symptoms after coronary angioplasty or bypass surgery. 3-year follow-up in the Randomized Intervention Treatment of Angina (RITA) Trial. Circulation 1996; 94(2):135-42.
17. Fruitman DS, MacDougall CE, Ross DB. Cardiac surgery in octogenarians: can elderly patients benefit? Quality of life after cardiac surgery. Ann Thorac Surg 1999; 68(6):2129-35.

18. Redeker NS, Ruggiero JS, Hedges C. Sleep is related to physical function and emotional wellbeing after cardiac surgery. Nurs Res 2004; 53(3):154-62.

19. Rumsfeld JS, Ho PM, Magid DJ, McCarthy M Jr, Shroyer AL, MaWhinney S, et al. Predictors of health-related quality of life after coronary artery bypass surgery. Ann Thorac Surg 2004; 77(5):1508-13.