

Looking into risk factors of health-related quality of life in patients after acute coronary syndromes: a systematic review

Su sveikata susijusios gyvenimo kokybės rizikos veiksniai pacientams po ūminių išeminių sindromų: sisteminė literatūros apžvalga

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SUMMARY

Coronary artery disease (CAD) continues to be the leading cause of death and disability in most countries worldwide and is a major contributor to heart failure (HF) progression.

Among CAD patients with HF, a number of factors have been found to have a negative effect on health-related quality of life (HRQoL), such as presence of depression and anxiety symptoms, lack of social support and Type D personality features.

It is well known that stressful life events can affect biological systems such as the hypothalamic-pituitary-adrenal axis and immune functioning.

It is important to identify which factors may be associated with worse HRQoL in this patient population.

Key words: risk factors, health-related quality of life, acute coronary syndromes

SANTRAUKA

Išeminė širdies liga (IŠL) išlieka pagrindinė visuomenės sveikatos problema ir yra pagrindinis veiksnys, skatinantis širdies nepakankamumo (ŠN) progresavimą.

Daugybę gyvenimo kokybę (GK) bloginančių veiksnių, tokių kaip depresijos ir nerimo simptomų išreikštumas, socialinės paramos trūkumas ir D tipo asmenybė, aptinkami tarp ŠN sergančių pacientų.

Gerai žinoma, kad stresiniai gyvenimo įvykiai gali paveikti biologines sistemas, tokias kaip pagumburio-hipofizės-antinksčių ašį.

Svarbu išsiaiškinti, kurie veiksniai gali būti susiję su blogesne su sveikata susijusia GK.

Raktiniai žodžiai: rizikos veiksniai, su sveikata susijusi gyvenimo kokybė, ūminiai išeminiai sindromai.

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INTRODUCTION

Coronary artery disease (CAD) continues to be the leading cause of death and disability in most countries worldwide and is a major contributor to heart failure (HF) progression [1]. A considerable amount of research has focused on identifying prognostic factors of CAD in patients who remain at high risk for recurrent cardiac events [2, 3].

Mental distress, described as the presence of depression and anxiety symptoms, and disorders, has been shown to be correlated with worse clinical and patient outcomes in the CAD population [4, 5], including heart failure patients, particularly after major CAD events [6].

Health-related quality of life (HRQoL) is a multidimensional construct that is concerned with a patient's level of functioning across physical, emotional and social domains, and pertains to overall satisfaction with life. It represents the effect of an illness and its treatment as perceived by the patient. HRQoL is modified by many factors, including impairment caused by the disease [7].

A number of factors have been found to have a negative effect on HRQoL, such as presence of depression and anxiety symptoms, and Type D personality features among CAD patients with HF [8-11]. Previously, we demonstrated that the presence of Type D personality features was significantly associated with impaired HRQoL regardless of age, gender, and severity of disease, among CAD patients with HF undergoing rehabilitation. Lack of social support has also been associated with increased morbidity, mortality [12] and lowered HRQoL [13] in patients with CAD and HF [14], especially in women [8].

Stress is known to effect on the well-being of patients with CAD and the continued progression of CAD [15]. It is well known that stressful life events can affect biological systems such as the hypothalamic-pituitary-adrenal axis and immune functioning. Moreover, such stress reactivity has been associated with increased levels of oxidative stress [16], which negatively affects cardiovascular function in patients with CAD.

It is important to understand which factors may be associated with worse HRQoL in this patient population. HRQoL reflects how an individual views and adapts to their symptoms burden, mental distress, as well as how patients perceive their overall health.

MENTAL DISTRESS CHARACTERISTICS

Patients with heart failure patients experience high levels of physical, functional and emotional distress, which has a significant impact on the HRQoL [17]. An important goal of HF care is to improve HRQL.

Health-related quality of life is strongly impaired in patients following ACS [18].

HRQOL is related to depressive symptoms, and depression is a common comorbidity among ACS-patients, with an incidence in the year after an acute myocardial infarction ranging from 10 to 30 % per year [19].

Many patients suffer from other conditions, including diabetes, anemia and renal disease [20] but also from

psychological distress [21]. Studies suggest that depression and anxiety occur in approximately 40% of patients with HF [22], leading to decreased emotional and social wellbeing and negative health outcomes, including decreased HRQoL [9, 23]. Among patients after ACS, a number of factors have been found to have a negative effect on HRQoL, such as presence of depression and anxiety symptoms. Minimizing psychological distress may benefit HRQoL [24, 25].

The sum of literature to date supports that depression and anxiety are common in CAD populations and are strongly associated with worse patient health status, above and beyond traditional cardiac or clinical variables [26, 27]. As such, studies of patient health status in CAD populations, and particularly evaluation of interventions aimed at improving patient symptoms, functional status, and HRQoL, should assess patients for depression.

In a short summary, depression evaluation, with the specific goal of identifying patients for whom depression treatment may be indicated, is an actionable goal for improving health status. Additional research is also needed to identify strategies to incorporate mental distress and patient health status assessment in clinical practice, to improve HRQoL.

TYPE D PERSONALITY

A distressed personality Type D profile is a vulnerability factor for general psychological distress that affects mental and physical health status [28].

Patients with Type D personality tend to not share emotions in social interactions, due to a fear of rejection or disapproval, and have a perceived lack of social support. It was shown that CAD patients with Type D personality, compared with non-Type D individuals, reported less perceived social support. The influence of Type D personality was apparent even controlling these finding for anxiety and depression [29].

Type D personality patients experience increased levels of depressive symptoms [30]. For example, in one-year follow-up study of heart failure patients, Type D personality trait was independently associated with greater depressive symptom severity [31]. It is well established that depression is associated with adverse cardiac outcomes such as increased mortality [32], decreased quality of life [33] and is an independent risk factor in CAD [34].

Type D personality is characterized by a joint manifestation of negative affectivity and social inhibition and has been found to be an important determinant of outcomes in cardiac patients. A few studies showed, that Type D patients had a twofold increased risk of mortality and nonfatal myocardial infarction (MI) [35]. Type D personality is also a predictor of poor health status in patients with established CAD and HF: type D personality was linked to poor HRQoL in CAD patients undergoing cardiac rehabilitation [36].

In short, from a clinical perspective, it is important to know if HF patients with Type D personality are at greater risk for continuous deterioration/impairment in their HRQoL, as this knowledge could potentially allow for more accurate risk-stratification of HF patients admitted to rehabilitation program and provide with an opportunity for early interventions aiming to address behavioral/psychological risk factors in order to

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improve patient prognosis.

SOCIAL SUPPORT

Social support is seen as one of the social determinants of health in the general population [37]. Social support is a known buffer of psychological distress and has also been shown to influence adverse medical outcomes. Lack of social support has also been associated with increased morbidity, mortality [12] and lowered HRQoL [13] in patients with CAD and HF [14], especially in women [8]. Positive social support is associated with improved quality of life [17] and better outcomes in patients with CAD [38].

Individuals with lower social support are more likely to be depressed [39], are less likely to engage in exercise [40] are more likely to smoke [41]. Low social support is seen as a risk factor for the development of CAD in previously healthy individuals, and it also worsens the prognosis of patients with established CAD [14]. Patients living alone or being single have been found to have elevated mortality after acute MI [42].

Social support may mitigate negative effects of stress in CAD patients. It is reported that lack of social support is strongly associated with worse HRQoL in CAD patients regardless of demographic factors and severity of disease [43]. Social support is especially important for maintaining compliance with rehabilitation programs [44].

In a short summary, it is important to evaluate if social support play a role on the long-term HRQoL, as it was showed as a risk factor of HRQoL. From a clinical perspective, it is important to know if patients after ACS with heart failure and with lower levels of social support are at greater risk for continuous impairment in their HRQoL.

STRESSFUL LIFE EVENTS

There is a large body of literature demonstrating the association among psychological risk factors, including depression, anxiety, hostility, and cardiovascular disease [45]. In fact, psychological stress is a known independent risk factor for mortality in patients with CAD [46]. The Interheart study, which analyzed 11,119 CAD patients and 13,648 age-matched and sex-matched controls from 262 centers around the world, found that compared to controls, CAD patients were more likely to experience an accumulation of stressful life events in the 12 months leading up to ACS [47]. These findings could reflect the Holmes-Rahe hypothesis that, stress created by life events can cause or lead to illness [48].

Stressful life events are defined as occurrences that require readjustment in the usual activities of people [49] Stressful life events have psychological as well physiological consequences. Psychologically increased sensitivity to stress is related to depression and anxiety disorders, which impact clinical outcomes and HRQoL in CAD patients [50].

It is well known that stressful life events can affect biological systems such as the hypothalamic-pituitary-adrenal axis and immune functioning. Moreover, such stress reactivity has been associated with increased levels of oxidative stress [16], which negatively affects CV function in patients with CAD.

In short, despite the long-standing understanding that chronic exposure to psychosocial stressors are associated with higher risk of CAD, results from epidemiologic studies are varied and less consistent. There is lack of research examining the combined effects of stressful life events, Type D personality, mental distress and social support on HRQoL in patients following ACS with HF.

CONCLUSION

From a clinical perspective, understanding whether stressful life events, Type D personality, mental distress and social support play a role on HRQoL, would assist in greater accuracy with respect to the risk-stratification of CAD patients admitted to rehabilitation program and would also provide the opportunity for early interventions to improve patient prognosis.

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