

Perceived Social Support After Cardiac Diseases and Events: A Systematic Review



Rehabilitation Science

KEYWORDS : Perceived social support, social support in heart disease, importance of social support

Immanuel Paul Vinod. S

Manager-Rehabilitation services, Columbia Asia Referral Hospital, Malleshwaram west, Bangalore 55

Dr. Sheila Christopher

Dean of Student Affairs & Associate Professor in Rehabilitation Science, Holy Cross College, Tiruchirappalli - 620 002

ABSTRACT

Background:

To conduct a systematic review on finding the benefits and pitfalls of social support after a cardiac event

Methods:

A systematic mixed review approach was carried from, Proquest, PubMed, EBSCO host, springer and science direct. The search strategy was by electronic data base searching and ancestry approach. More than 1500 papers were screened and finally 28 papers which met the inclusion and eligibility criteria were taken into the study.

Outcomes:

The results of the findings were classified into effects which arise because of low and high social support in patients with chronic heart diseases.

Results:

Increased social support extended to patients provided better outcomes in terms of reducing depression and anxiety and better quality of life was reported. Medication compliance was better and even recurrence of cardiac events were reduced.

Conclusion:

The vitality of social support is appreciated after a heart disease. The screening for social support and implementation of various strategies to increase social support should be a part of the cardiac intervention

Introduction:

Cardiovascular disease (CVD) is a major global health problem, accounting for 40% to 50% of all deaths in industrialized countries and associated with significant morbidity-heart and stroke foundation of Canada. The role of psychosocial risk factors in coronary heart disease etiology has often been investigated. Within this broad heading, research has included the influence of factors such as personality type, life stress, social support, education and socioeconomic status. It has been suggested that research into psychosocial factors could improve our ability to predict disease so as to intervene and potentially prevent its occurrence (Badura et al1984, Mitchell JRA et al1984 Theorell T et al 1992). This study is done to analyze the role of perceived social support after cardiac diseases. Social support refers to the function and quality of social relationships, such as perceived availability of help or actually received support. It is the interaction between human beings and may refer to structural aspects of social network and different functions of support. Perceived social support refers to a recipient's subjective judgment that providers will offer (or have offered) effective help during times of need. Studies (Berkman LF et al1992, Case RB et al1992, Frasure-Smith N1993, Williams RB1992; Bush DE et al2001 Kawachi I et al1996) have shown that depression and low perceived social support (LPSS) are associated with increased cardiac morbidity and mortality in CHD patients.

This study presents a conceptual and selective review of relationship between perceived social support and cardiovascular illness. It is important to examine the literature because from the point of view of primary prevention it is useful for health professionals to recognize those at risk, and the nature of the support that may be required to reduce that risk.

Background and need for the review:

There is disagreement in the scientific community about a precise definition of social support. Indeed, the meaning and significance of social support may vary throughout one's life. Social support refers to the resources provided by others (emotional, functional, and informational) and the quality of those resources.

Although a sense of personal control and perceived social sup-

port influence health and mental health both directly and as stress buffers, the effectiveness of social support interventions, effects of social support need to be understood in detail. This systematic overview appraises evidence relating to perceived social support after a coronary event.

Aim of the review:

This review was done to gain a better understanding the role of perceived social support after cardiovascular diseases

Objectives of the review:

- To review and identify various positive and negative outcomes of social support in cardiovascular diseases.
- To present the summary of finding

Methodology:

Approach: Systematic mixed review approach: This approach integrates study findings from a broad array of studies.

Design: Integrated design: this approach is used when qualitative and quantitative findings are perceived as able to refute, confirm, and extend each other. The studies are grouped under findings and not by methods to be found to answer the same question.

Search Strategy: The review process started with the setting of the eligibility criteria for inclusion of studies in to the review covering the various aspects of the problem. The search strategy was by electronic data base searching and ancestry approach The literature was obtained from following bibliographic data base:

Eligibility criteria:

Inclusion criteria:

- A study was included if it used a quantitative descriptive approach that describes the relation between social support and CHD
- Literature published after 2000 till 2014
- Literature published in English

Sample size of at least 50 subjects or more

Exclusion criteria:

- Any literature that was published before 2000

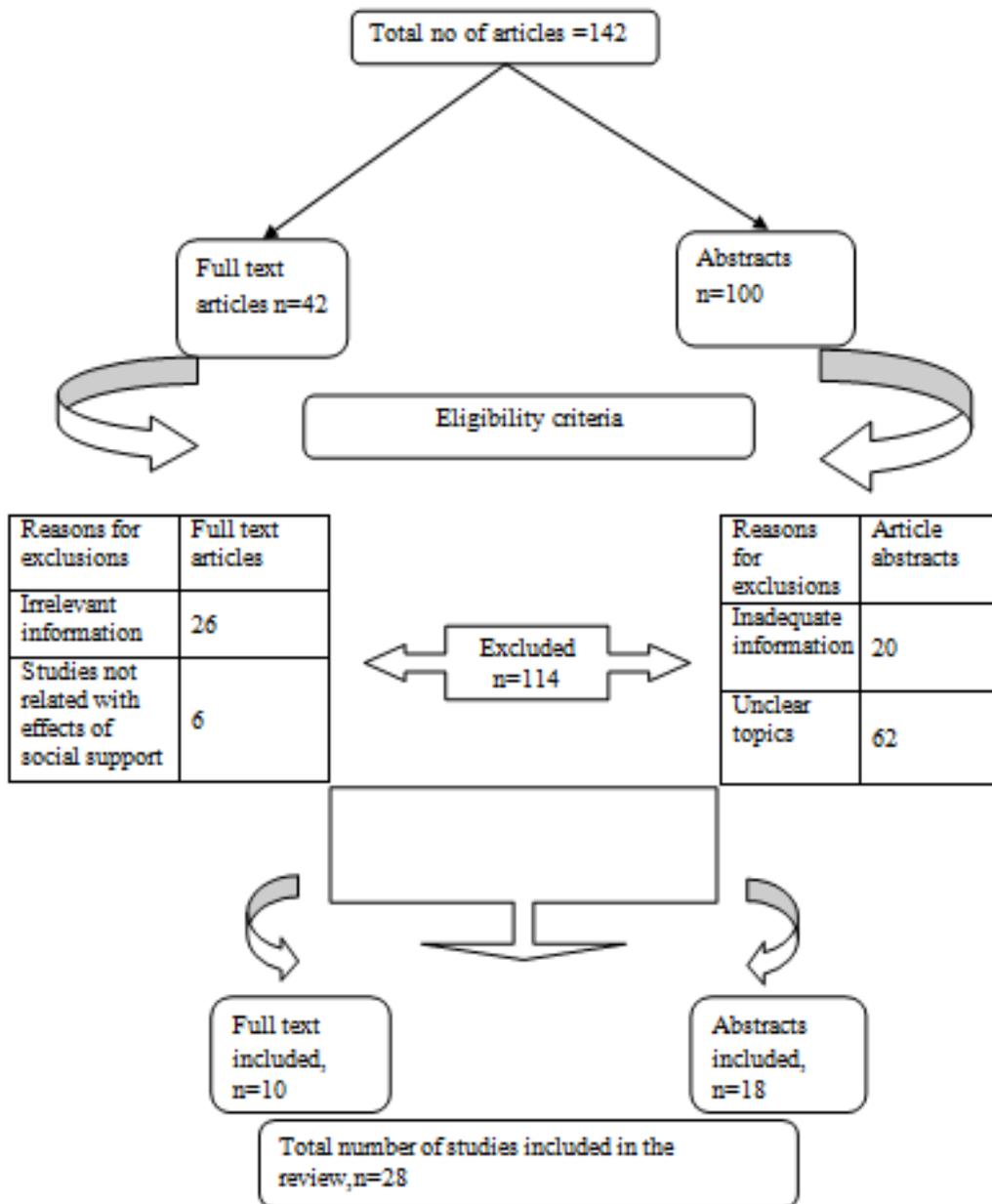
- If there is information related to detrimental effects of social support on cardiovascular diseases

Data extraction:

The extracted data was assessed for adequate information about the methodology and administrative aspects and the major find-

- Perceived social support
- Factors affecting social support in coronary artery diseases.

Flow chart for Review (Fig 1)



Data analysis:

The information about the various aspects of the study was coded as a part of the project. Integration of the review was done under the following subject heads. The data source (year of publication, country), characteristics of the sample (no of participants), methodological features (research traditions) data collection tools and major findings.

Data was collected by recruiting studies that fitted the eligibility criteria till there was redundancy of the findings

ings were coded in a result matrix

Keywords:

- Perceived social support in coronary heart diseases
- Cardiovascular diseases and social support

The following steps were undertaken:

- **Pre-analytical phase:** Coding the raw data into main results matrix
- **Preliminary actions:** Domains were identified and coded
- **Principle analysis:** % of the study.
- **Interpretive phase:** Various themes were identified and the findings were summarized in a framework results calculated in various domain

Result matrix:(Table 1)

S. NO	AUTHOR	YEAR	PLACE	STUDY DESIGN	SAMPLE SIZE	TOOLS	FINDINGS
1	Gafarovv et al	2013	Russia	Quantitative-descriptive study	870	Berkman-Sym test [indices of close contacts (ICC) and index of social network (SNI)]	Majority of women aged 25-64 years in Russia have low social support which is associated with poor self-rated health, low awareness about the health that increases the risk of MI and stroke in 2.7-4.9 times in groups of "married" and "hard physical work".
2	Chung Mislook et al	2013	USA	Secondary data analysis	362	BDI-2 MLWHFQ, multi-dimensional scale of support	Less social support and increased depression indicated poor QOL. Promotion of social support will improve only when depression is controlled
3	Staniute m et al	2013	Lithuania	Quantitative-descriptive study	560	Self-administered questionnaires, Social Readjustment Rating Scale, Multidimensional Scale of Perceived Social Support, and 36-Item Short Form Medical Outcome Questionnaire,	In male, physical domain of QOL has no relation with SS, but physiological domain in QOL had relation with QOL. In females physical and physiological domain of QOL had a direct proportion of relation with SS
4	Barutcu C d et al	2013	Turkey	Cross-sectional study	150	12-point Multidimensional Scale of Perceived Social Support and the 36-point Left Ventricular Dysfunction Scale.	The quality of life of the patients improved with increasing social support
5	Årestedt K et al	2013	Sweden	Quantitative-descriptive study	349	MLWHFQ AND SF-12HRQ	High disease severity was associated with low level of social support. Age was not associated with social support. Social support is generally associated with HRQOL, especially in emotional dimension.
6	Yuen Shan Christian lee et al	2012	USA	Quantitative-descriptive study	50	self-administrated questionnaire	High levels of social support were associate with attenuated cardiovascular response to stress.
7	Heo s et al	2012	USA	Quantitative-descriptive study	147	MLWHFQ	Better quality of perceived support, better economic status, better functional status, older age, and less comorbidity were related to better HRQOL
8	Roohafza et al	2012	Iran	Case control study	224	Stress management questionnaire and Norback social support questionnaire	Improvement in social support and adaptive coping strategies should be considered in patients with chronic ischemic heart disease (IHD) to reduce the risk of ACS.
9	Leifheit-limsonec et al	2012	USA	Quantitative-descriptive study	2202	Self-administered questionnaire	low baseline support had greater risk of poor adherence to risk factor management after MI
10	Grewalk .et a l	2010	Canada	Quantitative-descriptive study	562	The Medical Outcomes Study social support scale and Illness Perception Questionnaire	Lower levels of social support among South Asians in Canada may have negative effects on recovery and prognosis
11	Barth J et al	2010	Switzerland	Systematic review	1700 papers	Self-administered questionnaire	Low functional support negatively affects cardiac and all causes mortality. Prognostic study

12	Jackson	2006	Canada	Cross sectional study design	373	Self-report measure of social support, depression and demographic data	High level of social support from ones close social network contributes independent to specific health practices for women.
13	Baley LC	2006	USA	Quantitative-descriptive study	1072	SF-36 questionnaire	Frequent instrumental support predicted positive change in mental health.
14	lisa c barry	2006	USA	Prospective cohort	1072	Self-administrated questionnaire	Frequent instrumental support predicted positive change in mental health
15	Wang Hx	2005	Sweden	Quantitative-descriptive study	292	Standardized questionnaire for depression. Social support to copy strategies.	lack of interpersonal social relation are important risk factors for accelerating progression of atherosclerosis in women
16	Rosengren	2004	Sweden	Prospective	741	Social support questionnaire	Low social support-low social integration and low emotional attachment to be a predictor of coronary morbidity.
17	Hughes JW et al	2004	UK	Quantitative-descriptive study	228	Self-administrated questionnaire	high levels of social support were related to lower levels of trait anxiety
18	Rutledge et al	2004	USA	Quantitative-descriptive study	503	Psychosocial testing	Women reporting higher social network scores showed a consistent pattern of reduced coronary artery disease risk, high social network scorers also had less severe CAD
19	di matteo	2004		Meta-analysis	122	Systematic review	medication adherence is more in social support
20	Biinjjiun-shen et al	2003	USA	Quantitative/descriptive	142	Self-administrated questionnaire	Optimizing and social support were found to contribute to the outcomes not only directly even indirectly through the media of less engagement and lower depression symptoms.
21	Barefoot j c et al	2003	USA	Pilot study	196	Measures of perceived social support, social networks, social support received, and social conflict, Beck Depression Inventory and the Hamilton Rating Scale for Depression	Patients with high social support scores, particularly those reflecting perceived support, had lower scores on depression measures at baseline. High levels of perceived support and low social conflict at baseline were associated with less follow-up depression
22	Bennett.SJ	2001	USA	Descriptive/quantitative	147	Self-administered questionnaire	change in social support significantly changes better health related qualities of life
23	Lindsay GL	2001		Observational Study	183	SF 36 questionnaire and social activity questionnaire	Low social support is associative with low health status.
24	Susanne	2001	Denmark	Descriptive-quantitative	112	Self-administered questionnaire	Patients with low social support were at increased risk of depression and posttraumatic stress disorder (PTSD). Patients less satisfied with support were at increased risk of anxiety, depression, PTSD, and reported more health complaints.

25	Frasure-Smith.N	2000	Canada		887	BDI-depression inventory and PSS	High social support was related to more depression symptoms.
26	Daly	2000	Australia	Descriptive exploratory	38	Jalowiec Coping Scale	Reduced S S causes depression
27	Horsten	2000	SWEDEN	Descriptive quantitative	292	Standardized questionnaire for depression. Social support to copy strategies.	Lack of social support and presence of depression predicted recurrent cardiac event in women.
28	Angerer p et al	2000	Germany	Descriptive quantitative	223	Self-report questionnaires: questions concerning emotional social support, the State-Trait-Anger-Expression Inventory (STAXI) and the Cook-Medley cynical hostility scale.	Patients with CAD and low emotional social support who express anger outwardly are at a highly increased risk of disease progression, independent of medication or other risk factors.

RESULTS OF THE REVIEW:(Table 2)

The results were tabulated as below.

		n=11	
S.No	Increased social support leads to	No. Of Studies	Percentage
1	attenuated cardiovascular responses to stress	1	9%
2	decreases the recurrence of cardiac events	2	18%
3	improve HRQOL	3	27%
4	better medication adherence and practice outcomes	2	18%
5	reduces level of depression and anxiety	3	27%
		n=17	
S.No	Decreased social support leads to	No. of Studies	Percentage
1	Decreased HRQOL	5	29%
2	Increased depression and anxiety	4	24%
3	Aggravates atherosclerosis	3	18%
4	Poor prognosis and increased morbidity and mortality	4	24%
5	Recurrent cardiac events	1	6%

Summary of the findings:

The results were summarized in two different headers, increased social support and decreased social support. Out of the twenty eight studies included in this review, eleven studies were identified which described about the effects of increased social support after coronary event and seventeen studies mentioned about the effects of decreased social support after coronary event.

Increased social support:

In this review done, an equal percentage of studies (27%) described that, increased social support lead to improvement in health related quality of life (HRQOL) and reduces depression and anxiety. An equal number of studies (18%) were also seen in better adherence to risk factor management and practice outcomes. There was also a study which was included which had attenuated cardiovascular response to stress.

Decreased social support:

Studies pertaining to decreased social support have detrimental effects on health related quality of life (HRQOL). Majority of the studies which was included in the review had significant findings of lower HRQOL (29%).increased depression and anxiety along with poor prognostic outcomes and morbidity and mortality was also significantly present (24%).physiological effects were also noted like aggravation of atherosclerotic formation was a significant finding in 18% of the studies. Since reduced social

support has a strong relation to the physiological outcomes of the diseases, studies were noted in which recurrence of the diseases were also seen (6%)

DISCUSSION:

Social support and its variables are important part of life, serving important social, psychological and behavioral functions across the life span. Social support is exceptionally important for maintaining good physical and mental health.

HRQOL:

Patients with heart diseases had lower HRQoL scores than patients without heart diseases. In patients with heart diseases, age and sex independently affected the HRQoL. Older patients and women had worse HRQoL. Coronary artery disease negatively affects HRQoL.(Unsar S et al 2000).Hence interventions needing to increase patients' quality of life may improve their HRQoL. Increased social support extended to coronary disease patients can enhance resilience to stress, provides a better health related quality of life (Southwick SM et al2005). According to H B Bosworth the beneficial role of perceived social support in coronary arterydisease patients is significantly important factor contributing to enhance HRQOL (Bosworth HB et al.2001). It is also noted, studies in this review have shown that whenever social support was absent in the target population,the HRQOL was significantly diminished. Hence according to the literature reviews social support plays a vital role in enhancing HRQOL after heart diseases. Counseling the patient and attenders, early intervention of introducing social support system and strategies and getting involved in a support group will improve the social support.

Recurrence of cardiac events:

Recurrence of cardiac events is one of the significant finding of this review. Presence of social support reduces the incidence of recurrence of cardiac events when compared to reduce social support in the same population. There is emerging evidence that post-traumatic stress disorders (PTSD) which is present after the cardiac event might significantly contribute to the recurrence. There is clear evidence to suggest that a particular caring and supportive relationship from supporters to patients reduces the level of morbidity (.Pedersen, S. S et al 2004)

The role of social support in reducing the cardiac events is still not clear because the outcome is more of a physiological basis. Unless the physiological parameters undergo a change because of social support the role cannot be clearly established. The role of social support can influence medication adherence, risk factor management and life style modification to a large extent which can reduce the incidence of cardiac events on a later stage. Further studies should investigate the potential patho-physiologic and behavioral pathways linking social isolation or reduced social support to poor cardiac outcomes and their

interaction with pharmacologic agents used to treat these patients.

Medication compliance:

Medication non adherence is one of the findings in this review. Social support, both face-to-face and online, can improve medication adherence, according to a recent study by researchers at Harvard University and Brigham and Women's Hospital. A greater degree of practical social support was most consistently associated with greater adherence to medication and consequently better outcomes (DanielleScheurer et al). Depression is also associated with medication non-adherence in patients with CHD. Medication non-adherence may contribute to adverse cardiovascular outcomes in depressed patient's social support when provided reduce depression and in turn influence medication adherence in a positive manner. (AnilGehi et al 2005)

Depression and anxiety:

Relation between depression and anxiety with heart diseases is well established in terms of etiologic and prognostic roles. 25 % of the studies show the relation between depression anxiety and coronary heart diseases. Increased and decreased social support leads to adverse events in heart diseases with depression significantly contributing to the prognosis. Very high levels of support appear to buffer the impact of depression on mortality. Furthermore, high levels of support predict improvements in depression symptoms over the first post-MI year in depressed patients. High levels of support may protect patients from the negative prognostic consequences of depression because of improvements in depression symptoms (Nancy Frasure-Smith 2000)

Implications for practice:

We found good evidence for a differential effect of social support on the prognosis of CHD. Therefore, it is strongly recommended that social support in upcoming studies should be measured to gain more insight into this differential effect.

Identification of CHD patients with low functional social support by screening measures might be of use, and patients with a limited social network can also be identified.

Negative effects of social support should also be reviewed.

Limitations:

Review was done with 28 papers due to time constraint and single reviewer

Review was restricted to time period of 2000-2014

Search method (Boolean) adopted for collecting the topics was restricted to few phrases and terms

Conclusion:

In summary these findings confirm the beneficial role of social support after a cardiac event on patients HRQOL. Main clinical goal should focus on the development of efficacious intervention strategies to alter the perception of social support; So far, the evidence for specific intervention strategies is limited. Screening for social support should also be one of the main screening measures to long term cardiac patients. Rehabilitation and interventions could concentrate on those individuals who may lack adequate support after undergoing a cardiac event.

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