QUALITY OF LIFE AND MENTAL HEALTH OF PATIENTS WITH CARDIO VASCULAR (CVD) DISEASE

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ABSTRACT: In today's decade of India, the cardiovascular diseases (CVDs) is the sole leading cause of higher deaths among all the reason. It may also add up to the burden and has direct impact upon the quality of life and mental health of the population with CVDs. To address the issue in all spheres of life such as biosociopsychological which are associated with the CVDs and the phenomenon underlying in triggering the stress and burden.The current study undertaken quantitative non experimental descriptive design. Fifty samples consulting patients with cardiovascular disorders at cardiology department of Hospital located in Sangli district were selected by non-probability convenient sampling technique patients. The data were collected from 30th March 2019 to 19th April 2019. The tools were WHOQOL-BREF questionnaire, DSM5 Crosscutting symptom-adult versionwere adopted to assess the Quality of life and mental health of patients with CVD respectively. The results show that,60% (30) male subjects were involve and rest 40% (20) were female subjects. Age wise distribution suggested that 68% (34) were between 20 to 50 years and 31% (16) were 51 years and above among these most 80% (40) of them were married and 14% (07) samples were identified to be widowed. And 6% (03) were diagnosed more than 5 years back.The finding pertaining to the domain wise QOL suggest that, generally in all 4 domains; the level of QOL observed was good. With respect to the both physical and environmental domain 50% (25), whereas Psychological, Social & Relationship both domain had 48% (24) subjects with good level of QOL.Next, the poor status QOL was the concern in each domain namely physical and psychological domain had 42% (21) subjects; whereas the social & relationship and environmental domain had 38% (19) subjects responding the poor level of QOL.The study revealed that, overall quality of life among cardiovascular patients was good and certain areas of mental health status needs clinical attention such as suicidal ideation and psychotic symptoms. Overall the study concludes that it is outmost concern to be paid in area of mental health QOL and CVD as comprehensive management of patients. The stakeholders need to be vigilant in the areas of mental health so as to uplift the QOL.

Keywords: Cardiovascular disease, Mental Health, Quality of Life, Burden, Distress

INTRODUCTION

In today's decade of India, the cardiovascular diseases (CVDs) is the sole leading cause of higher deaths among all the reasons(1). Indians are suffering with the CVDs a decade earlier in their life than the European counterpart and that affects the most essential and productive span of life of middle adulthood(2)(3). It may also add up to the burden and has direct impact upon the quality of life and mental health of the population with CVDs. For instance, in Indian population the death rate among below 70n years is 52% whereas in Europeans its merely 23% of deaths due to CVDs (4). According to the World Health Organization (WHO) Report, during the year 2005 to 2015; India would spend over 237 billion USD on expenditure of health care and due to loss of productiveness(5). These issues to be attended with the outmost concern as they add up lot of stress upon the patient as well as the family and country as whole. To address the issue in all spheres of life such as biosociopsychologicalwhich are associated with the CVDs and the phenomenon underlying in triggering the stress and burden.

The mind body relationship has been assumed to closely linked and the disturbance of one affects the other and vice versa. Viz. Depression and anxiety are not simply "in the mind." They are real illnesses, like any other physical illnesses, and can negatively impact the entire body, including the cardiovascular disease. Mental distress and mental illnesses are real and can be associated with severe cardiovascular disease as well(6).

The systematic review was exercised in Tabriz University, Iran to ascertain the view on quality of life among cardiovascular disease patients. The relevant keywords were searched in the 18 out of 1592 articles published between the year 2000 to 2012. The databases used to gather the data were PubMed, Science Direct, IRAN doc, Medlib and Magiran over a period of 2 years. Collected data was then analysed by manual analysis and extraction

table. Total of 3797 patients were assessed for QOL and by using different tools. The SF36 questionnaire demonstrated that the highest mean of 58.37 in social role functioning and the lowest QOL in physical limitation 42.95. The average general QOL identified was 47.65. The factors affecting the QOL identified were gender, age, education, marital status, suffering duration and frequency of hospitalization. The study concluded that the many articles comparatively depicted the low quality of life among the patients with CVD and they need appropriate measures to preserve the QOL which determines the outcome of disease. The strategies advocated by this study are establishment of appropriate health insurance plans, suitable and quality services and social support and understanding.

As a group, mental disorders are the leading cause of disability worldwide, accounting for nearly a quarter of the global burden of disease. Mental disorders play an important role in multiple aspects of the pathogenesis of cardiovascular diseases (CVDs) and other chronic non-communicable diseases. Mental disorders independently confer an adverse prognosis for CVDs mortality and death from all causes. They also directly impair quality of life. In addition, they impact the success of effective prevention, detection, evaluation, and treatment of CVDs as well as rehabilitation after cardiovascular events. Failure to detect and address underlying mental disorders leads to an underestimation of overall CVDs risk and importantly, leads to suboptimal quality health care. In this perspective, we provide a brief overview of the global burden of mental disorders and explore the established relationships between mental health and cardiovascular disorders. The review study describes the selected global strategic research efforts to improve the lives of people with mental disorders and CVDs(7).
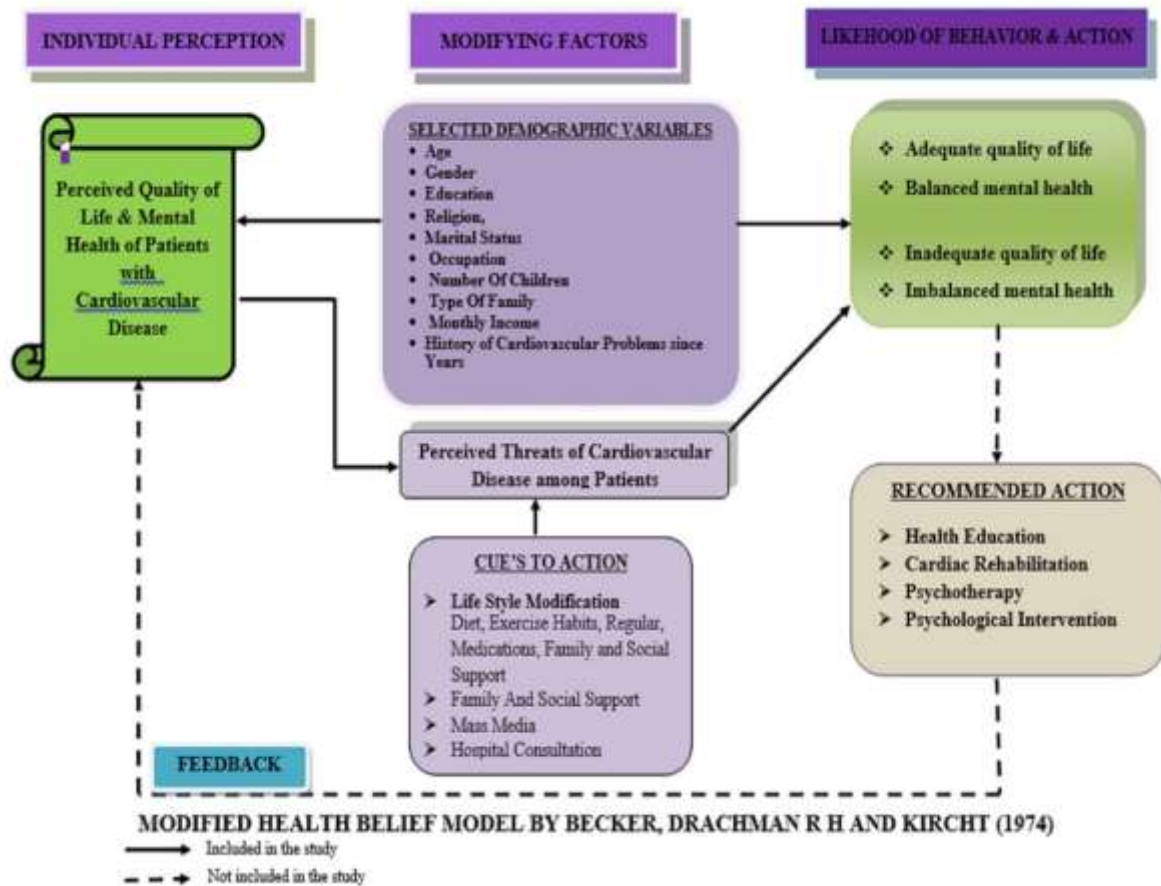
There is clear linkage between the mental health quality of life and the CVDs. And the gap is evident in reaching the needs of patients with ether mental health issues or the CVDs. The strategy suggested by the review study conducted suggests that the essential integrated services, active participation of WHO in the policy development, involvement of World Bank, regional Banks can avert the 36 million premature deaths worldwide. This will surely add the strength to the individual and family to restore the mental health intern that may elevate the quality of life too (8).

By looking at the above details and extensive review of literature the investigators were genuinely determined to ascertain the impact of CVDs on the mental health and quality of life of patients with CVDs.

CONCEPTUAL FRAMEWORK

The conceptual framework for the present study is based on Health Belief Model by Becker, Drachman RH and Kircht TP.This model is comprised of 3 primary components.

i. **Individual Perceptions:** Patients with cardiovascular disease will have Perceived Quality of Life & Mental Health. It is influenced by the modifying factors. This determines threat or fear towards mental illness and individual seeks cues to action from mass media, friends, family members and health workers.

ii. **Modifying factors:** Variety of selected demographic variables which influences on the Perceived Quality of Life & Mental Health and determines the likelihood of behaviour and action of the individual in activities of daily living.

iii. Likelihood of behaviour and action: The modifying factors and perceived threat and fear towards Quality of Life & Mental Health determines the response such as adequate or inadequate quality of life, Balanced or Imbalanced mental health of individual and likelihood action by the health professionals includes as Cardiac Rehabilitation, dissemination of information related to quality of life and mental health aspects associated with cardiac disease, Psychotherapy and Psychological Intervention; which may improve the knowledge and attitude related to the adjustment and improvement in quality of life, Balanced or Imbalanced mental health.

MODIFIED HEALTH BELIEF MODEL BY BECKER, DRACHMAN R H AND KIRCHT (1974)

→ Included in the study

- - → Not included in the study

METHODOLOGY

The study undertaken quantitative non experimental descriptive design. Fifty samples were selected by non-probability convenient sampling technique from the population of patients with cardiovascular disorders at cardiology department of Hospital located in Sangli district. The inclusion criteria employed were patients having CVDs and able to follow the instructions whereas the exclusion criteria consisted of patient those who are admitted in intensive/coronary care unit.

The study was approved by institutional ethics committee. And the formal permission was sought for utilizing the study center as well as informed consent was taken from the participants.

The data were collected from 30th March 2019 to 19th April 2019. The following tools were adopted to assess the Quality of life and mental health of patients with CVD; the tool consists three sections:

Section A: Demographic Variables such as Age in years, Gender, Religion, Marital status, No. of children, Type of family, Monthly income of family, Duration of CVD problem.

Section B: WHOQoL-BREF Questionnaire used to assess quality of life of the patients who has CVD. The WHOQOL-BREF is a shorter version of the original instrument of WHOQOL 100. The instrument comprised of 26 items, which measure the following broad domains: Item 1 enquires overall perception of quality of life and item 2 asks about an individual's overall perception of his or her health. The remaining 24 items checks the 4 domains ie. physical health (Items 3,4,10,15,16,17,18), psychological health (item 5,6,7,11,9,26), social relationships (20,21,22), and environment (8,9,12,13,14,23,24,25).

Section C: DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure- Adult self- or informant-rated measure that assesses mental health domains that are important across psychiatric diagnoses. The tool elicits the 13 different psychiatric conditions namely depression, anger, mania, anxiety, somatic symptoms, suicidal ideation, psychosis, sleep problems, memory, repetitive thoughts and behaviours, dissociation, personality functioning, and substance use with total of 23 items in it.

RESULTS

I. Sociodemographic information

Table 1: frequency and percentage distribution of sociodemographic variables N=50

SN	CONTENTS		FREQUENCY(*f*)	PERSENTAGE (%)
1.	**Gender**			
	a.	Male	30	60%
	b.	Female	20	40%
2.	**Age in years**			
	a.	20-30	17	34%
	b.	41 to 50	17	34%
	c.	51 to 60	06	12%
	d.	61 to 70	06	12%
	e.	Above 71 years	04	08%
3.	**Marital status**			
	a.	Single	10	20%
	b.	Married	40	80%
	c.	Living as married	00	00%
	d.	Separated	00	00%
	e.	Divorced	00	00%
	f.	Widowed	07	14%
4.	**History of cardiovascular problems since (years)**			
	a.	Recently diagnosed	28	56%
	b.	1 to 5 years	19	38%
	c.	ore than 5 years back	03	06%

Data presented in table 1 are identified to be 60% (30) male subjects were involve and rest 40% (20) were female subjects. Agewise distribution suggested that 68% (34) were between 20 to 50 years and 31% (16) were 51 years and above among these most 80% (40) of them were married and 14% (07) samples were identified to be widowed. The findings related to the type of family the majority of the samples 56% (28) were residing with the joint family structure whereas, 44% (22) samples were nuclear type of family. Regarding the duration of current cardiovascular disease of the subjects, Majority of the samples 56% (28) were recently diagnosed. And 6% (03) were diagnosed more than 5 years back.

II: **A] Assessment of QOL of patients with cardiovascular disease.**

Part I: Domain wise findings on level QOL of patients with cardiovascular disease.

i. General items 1 & 2 Separate findings on level QOL of patients with cardiovascular disease QOL.

Q1: How would you rate your quality of life?

Table-2: Frequency and percentage distribution of Level of self-rated QOL of cardiovascular patients.

N=50

Level of QOL	Range of percentage	F	%
Poor	25% & Below	03	06
Neither Poor nor Good	26% - 50 %	25	50

Good	51% - 75 %	21	42
Very Good	76 % - 100 %	01	02

The overall self-rating of QOL revealed that, 50% (25) subjects had neither poor nor good QOL and 42% (21) of the subjects had good QOL. Only 06% (03) had rated poor QOL and 02% (01) were with very good QOL.

Q2: How satisfied are you with your health?

Table-3: Frequency and percentage distribution of Level of self-rated satisfaction of health of cardiovascular patients.

N=50

Level of QOL	Range of percentage	F	%
Poor	25% & Below	06	03
Neither Poor nor Good	26% - 50 %	50	25
Good	51% - 75 %	42	21
Very Good	76 % - 100 %	02	01

The item related to the satisfaction of the subjects with their own health reveals that, 50% (25) subjects feel neither good nor poor with their current health condition. 42% (21) and 02% (01) opined their satisfaction as good and very good respectively.

ii. Frequency and percentage distribution of domain wise QOL of cardiovascular patients.

Table-4: Frequency and percentage distribution of domain wise QOL of cardiovascular patients.

N=50

QOL Domain	Level of QOL	Range of Score	F	%
I. Physical	Very Poor	25% & Below	01	02
	Poor	26% - 50 %	21	42
	Good	51% - 75 %	25	50
	Very Good	76 % - 100 %	03	06
II. Psychological	Very Poor	25% & Below	01	02
	Poor	26% - 50 %	21	42
	Good	51% - 75 %	24	48
	Very Good	76 % - 100 %	04	08
III. Social & Relationship	Very Poor	25% & Below	03	06
	Poor	26% - 50 %	19	38
	Good	51% - 75 %	24	48
	Very Good	76 % - 100 %	04	08
IV. Environmental	Very Poor	25% & Below	03	06
	Poor	26% - 50 %	19	38
	Good	51% - 75 %	25	50
	Very Good	76 % - 100 %	03	06

The finding pertaining to the domain wise QOL suggest that, generally in all 4 domains; the level of QOL observed was good. With respect to the both physical and environmental domain 50% (25), whereas Psychological, Social & Relationship both domain had 48% (24) subjects with good level of QOL.

Next, the poor status QOL was the concern in each domain namely physical and psychological domain had 42% (21) subjects; whereas the social & relationship and environmental domain had 38% (19) subjects responding the poor level of QOL.

Part IIOverall findings on level of QOL of patients with cardiovascular disease.

The overall findings related to, level of QOL revealed that, 50% (25) subjects had good QOL and 40% (20) of the subjects had Poor QOL. 06% (03) had rated very good QOL and 04% (02) were with very Poor QOL.
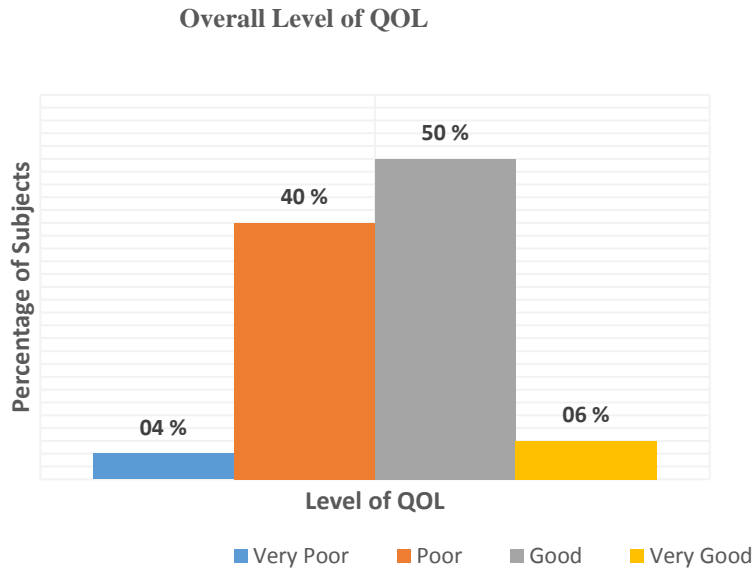
Overall Level of QOL

Fig 01: Percentage distribution of Overall Level of QOL of cardiovascular patients.

Part III: Overall and area-wise mean percentage, standard deviation of level QOL of patients with cardiovascular disease.

i. The mean, percentage & standard deviation of general items 1 & 2 of QOL among the patients with cardiovascular disease.

The mean percentage of both items number 1& 2 that is how would you rate your QOL? And how satisfied are you with your health? Among 50 subjects was found to be 60% ($\pm$15.90&$\pm$18.21).

ii. Overall and area-wise mean percentage, standard deviation of level QOL of patients with cardiovascular disease.

The mean score in each domains namely physical QOL 55.79% ($\pm$14.10), Psychological 53.24% ($\pm$14.96), Social relationship 54.91% ($\pm$16.91) and Environmental 53.56 ($\pm$16.52). The overall QOL computed was 54.38% ($\pm$14.12).

Table-5: Overall and area-wise mean, standard deviation and mean percentage of level QOL of patients with cardiovascular disease.　　　　　**N=50**

Domain wise & Overall QOL	Mini. Score	Max. score	Max Possible Score	Mean	SD	Mean %
Physical Domain	25	82	100	55.79	14.10	55.79
Psychological Domain	25	83.31	100	53.24	14.96	53.24
Social Relationship Domain	8.31	87.50	100	54.91	16.91	54.91

			100			
Environmental Domain	18.75	87.50		53.56	16.52	53.56
Overall QOL	21.88	82.66	100	54.38	14.12	54.38

II:B] Domain wise Assessment of mental health of patients with cardiovascular disease.

Domain I: Severity of Depressive Symptom

The above table portrays the finding related to Domain I ie. Severity of depressive symptoms, majority 68% subjects had no symptom of depression. Whereas 12% & 08% of subjects had witnessed severe and moderate symptom of depression respectively. And about 12% subjects said had mild depressive symptoms.

Domain II: Severity of Anger Symptom

The above table portrays the finding related to Domain II ie. Severity of Anger Symptom, majority 74% subjects had no anger symptom. Whereas 10% of subjects had witnessed severe and moderate symptom of anger in each. And only 06% subjects consented that they had mild anger symptoms.

Domain III: Severity of Manic Symptom

The above table portrays the finding related to Domain III i.e. Severity of manic symptom, majority 70% subjects had no manic symptoms. Whereas 14% & 06% of subjects had witnessed severe and moderate symptom of mania respectively. And only 10% subjects consented that they had mild anger symptoms.

Domain IV: Severity of Anxiety Symptom

The above table portrays the finding related to Domain IV i.e. Severity of anxiety symptoms, majority 74% subjects had no symptom. Whereas only 04% & 14% of subjects had witnessed severe and moderate symptom respectively. And about 08% subjects said had mild symptoms.

Domain V: Severity of Somatic Symptom

The above table portrays the finding related to Domain V ie. Severity of somatic symptoms, majority 72% subjects had no symptom. Whereas about 12% &08% of subjects had witnessed severe and moderate symptom respectively. And also about 08% subjects said had mild symptoms.

Domain VI: Severity Suicidal Ideation

The above table portrays the finding related to Domain VI ie. Severity suicidal ideation, majority 44% subjects had Slight/Mild Suicidal Ideation. Whereas about 38% had no suicidal ideation. And 06% &12% of subjects had witnessed severe and moderate suicidal ideation respectively.

Domain VII: Severity of Psychotic Symptoms

The above table portrays the finding related to Domain VII i.e. Severity of psychotic symptoms, majority 68% subjects experienced Slight/Mild Psychotic Symptoms. Whereas about 10% of subjects had witnessed severe and moderate symptom in each. And also about 12% subjects said they had no symptoms.

Domain VIII: Severity of Sleep Problem

The above table portrays the finding related to Domain VIII i.e. Severity of sleep problem, majority 72% subjects had not experienced sleep problem. Whereas about 10% of subjects had witnessed severe and moderate symptom in each. And only 08% subjects said they had only mild sleep problem.

Domain IX: Severity of Memory Impairment

The above table portrays the finding related to Domain IX i.e. Extent of memory impairment, majority 74% subjects had not experienced the problem. Whereas about 12% and 08% of subjects had witnessed severe and moderate symptom respectively. And only 06% subjects said they had only mild memory impairment.

Domain X: Severity of OCD Symptoms

The above table portrays the finding related to Domain X i.e. Severity of OCD Symptoms, majority 74% subjects had not experienced the problem. Whereas about 08% and 12% of subjects had witnessed severe and moderate symptom respectively. And only 06% subjects said they had only mild memory impairment.

Domain XI: Severity of Dissociative Symptom

The above table portrays the finding related to Domain XI i.e. Severity of Dissociative Symptom, majority 74% subjects had not experienced the problem. Whereas about 10% and 08% of subjects had witnessed severe and moderate symptom respectively. And only 08% subjects said they had only mild dissociative symptom.

Domain XII: Severity of Deviation in Personality Functioning

The above table portrays the finding related to Domain XII ie. Severity of Deviation in Personality Functioning, majority 72% subjects had not experienced the problem. Whereas about 10% and 08% of subjects had witnessed severe and moderate symptom respectively. And only 10% subjects said they had only mild deviation in their personality functioning.

Domain XIII: Severity Substance use relates Symptom

The above table portrays the finding related to Domain XIIIie. Severity substance use relates symptom, majority 54% subjects had not experienced the symptoms. Whereas about 06% and 10% of subjects had witnessed severe and moderate symptom respectively. And only 30% subjects said they had substance use relates symptoms.

DISCUSSION & CONCLUSION

The purpose of the study was to assess quality of life and mental health of patients with cardio vascular disease attending at cardiology department of selected hospital Sangli district, Maharashtra.

Many other studies also emphasise the importance of mental health and quality of life among the patients with CVDs. As the body and mind are interdependent of each other (2) (9-13).

Based on the findings of the study, the following conclusions were drawn:

The study revealed that, overall quality of life among cardiovascular patients was good and certain areas of mental health status needs clinical attention such as suicidal ideation and psychotic symptoms. Overall the study concludes that it is outmost concern to be paid in area of mental health QOL and CVD as comprehensive management of patients. The stakeholders need to be vigilant in the areas of mental health so as to uplift the QOL.

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