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THE MEDIATING ROLE OF SELF-COMPASSION BETWEEN ILLNESS PERCEPTION AND PSYCHOLOGICAL WELLBEING AMONG PATIENTS WITH CARDIOVASCULAR DISORDERS: EVIDENCE FROM PAKISTANI CARDIOLOGY OUTPATIENT SETTINGS

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ABSTRACT

Objective: *A significant psychological load is imposed on the patients of Cardiovascular disorders, yet the mechanisms associated with illness-attached cognitions to the psychological well being is not fully understood. This study has investigated mediating role of self-compassion linking between psychological well-being and illness-perception among patients with cardiovascular disorders undergoing treatment from outpatient departments of cardiology hospitals in Pakistan.*

Method: *To explore the correlation among study variables, a cross-sectional correlation research design was used. The study consists of 220 patients with cardiovascular disorders being treated by outpatient departments (Mage = 52.4 years, SD = 11.2; 58.6% men), purposive sampling technique was used to recruit the study participants. The sample was recruited from Punjab Institute of Cardiology (PIC) Lahore, National Institute of Cardiovascular Disease (NICVD) Karachi. The study participants were given questionnaires to complete which include; Brief Illness Perception Questionnaire (Brief IPQ), the Self-Compassion Scale – Short Form (SCS-SF), and the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS). To examine the mediation between study variables Hayes' (2018) PROCESS macro (Model 4) with 5,000 bootstrap resamples was utilized, with age, gender, education, and illness duration was added as covariates.*

Results: *The study results illustrate that illness perception has negative correlation (significant) with self-compassion ($r = -.48$, $p < .001$) as well as psychological well-being ($r = -.54$, $p < .001$). whereas, self-compassion significantly positively predicted psychological well-being ($\beta = .41$, $p < .001$). A significant indirect effect of illness perception on the psychological well-being through self-compassion is confirmed by bootstrap mediation analysis ($B = -.19$, $SE = .04$, 95% CI $[-.27, -.12]$). It is highlighted that it accounted for 34.5% of the total effect.*

Conclusions: *illness perception and psychological well-being is partially mediated by self-compassion among patients with cardiovascular disorders. This illustrates extension of theoretical utility of Leventhal's Common Sense Model as self-compassion is meadiating psychological meaningful mechanism. The findings also provide an evidence based dimension to integrate self-compassion focused treatment intervention among cardiovascular disorder patients in Pakistan.*

Keywords: *illness perception, self-compassion, psychological wellbeing, cardiovascular disorders, mediation, Pakistan, cardiac rehabilitation.*

1.INTRODUCTION

Heart related disease or cardiovascular disorders (CVDs) emerges as leading cause for mortality all over the globe, it alone constitutes 17.9 million annual deaths and 32% (approximately) of all-

cause deaths worldwide (World Health Organization [WHO], 2023). Moreover, in a developing country such as Pakistan the epidemiological burden of CVD is much pronounced: few appalling statistics manifest deteriorated cardiac health of a large no of strata as 26% of the adult population is suffering from hypertension, ischemic heart diseases are one of the major cause among top 3 for hospital admission nationwide and mortality rate through CVD (age-standardised) exceed the south Asian regional index (Bhutta et al., 2013; Jafar et al., 2020). Though there are considerable advancements in the intervention's methods of CVDs, yet the psychological burden of living with a life-threatening disease such as CVD is more pronounced, it also induces other comorbid psychological problems commonly known as depression and anxiety — remains largely unchecked or unmanaged within the healthcare system of Pakistan (Sohail et al., 2020).

CVDs induce psychological burden among its patients which is significant and meaningful as per clinical perspective. In an estimated 20-40% of coronary artery disease patients ; depression is diagnosed (Lichtman et al., 2014). Anxiety disorders are being found in approximately 20-25 % of cardiac population (Celano & Huffman, 2011). In Pakistan as reported by Sohail et al. (2020), prevalence of depression is as high as 42.3% among CVD patients, whereas anxiety is found in 37.8% of cardiac outpatients. These statistics are significantly higher than general population index and estimates. The psychological comorbidities with CVDs are not to be confused with merely epiphenomenal as depression which precedes after acute coronary incidents is associated with near-doubling five-year mortality risk (Nicholson et al., 2022) and resulting psychological distress is accounted for decreased treatment/ medication adherence, increased risk for hospital re-admissions and deteriorated functional recovery (Celano & Huffman, 2011).

As there is separate scope of psychological determinants of well-being among CVD patients, illness perception is emerging as a particularly robust and clinically significant variable. It is grounded in Leventhal et al.'s (1980) Common Sense Model of Self-Regulation (CSM), illness perception refers to the organised cognitive and emotional representations that individuals construct regarding their health condition. The CSM encompasses five cognitive representational dimensions which are illness identity (symptoms attribution), timeline (perceived duration), consequences (anticipated functional impact), personal and treatment control (perceived controllability), and causal beliefs. Similarly there is a dimension for emotional representation which reflects the level to which the illness is experienced and perceived as frightening or distressing. There are empirical evidences which invariably denote that more threatening and elevated illness perception is mainly characterized by beliefs of high consequences, chronicity of the disease, low self-control and elevated psychological distress. It predicts the poorer psychological health, with marked depression and anxiety. They as result decrease quality of life and impaired functional recovery among cardia patients (Broadbent et al., 2006; Petrie et al., 2012).

It is fact that correlation between illness perception as well as psychological well being is already established, the psychological mechanisms that mediate this association have not been focused as it requires by the researchers yet. It is important to identify such mechanisms in theoretical framework which consequently enhance its clinical significance as modifiable mediators' manifests aim for therapeutic intervention. As it is evident that self-compassion is also compelling and empirically not much explored. It was operationalised by Neff (2003), comprises of three inter-correlated components which are self-kindness (response to personal suffering with warmth rather than: self-criticsm), common humanity (recognizing one's suffering as sequence of mutually shared human experience) and lastly; mindfulness (it states that, maintaining a harmony in awareness of painful thoughts without tendency to over-identification). As growing body of knowledge is supporting the notion that self-compassion is established as robust element in psychological well-being in both clinical as well as non-clinical populations (MacBeth & Gumley, 2012; Zessin et al., 2015).

It is conceptually coherent that self compassion mediates between illness perception and well-being. Certain illness perception pathways result in emotional processing which induce fear, distress and maladaptive appraisal withing the

framework of CSM. Neff's (2003) has proposed a model mentioning that self-compassion interrupt withing such processing as self-kindness counters responses emerging from self-criticism & from threatening appraisals. It is important to recognize common humanity counteracts which isolates and stigmatize frequently associated illness related suffering; however, mindfulness increase harmony and nonreactive distress related to illness. Similarly, those ptatients who hold Similarly, a threatened perception of the illness among such patients who also possess a high self-compassion are expected to be protected in parital from negative psychological impacts coming form those perceptions. Conversely, patients with low self-compassion experience higher psychological fallouts.

It is evident that research on existing mediation provides preliminary support to this very theoretical moadel in the end-to-end clinical populations. For instance, Pinto-Gouveia et al. (2014) has manifested that self-compassion does mediate the correlation between illness-related shame as well as psychological morbitdity in the mixed chronic illness sample sample (B = −.24, 95% CI [−.33, −.15]). Likewise Costa and Pinto-Gouveia (2013) has reported a parallel findings among patients suffering from chronic pain. However, up until now, no published research study has examined self-compassion as mediating the association between illness perception and psychological wellbeing in a cardiovascular sample. Moreover, withing the Pakistani sociocultural context, this mediating pathway is not tested yet. The consequence of the same are more pronounced within the Pakistani context where scarcity of the health-care facilities is more pronounced and situation becomes more aggravated due to limited health related literacy, and of course due to a pervasive mental health stigma (Khalid & Aslam, 2021; Nazir et al., 2019).

The present research has addressed these gaps by examining a theoretically grounded mediation model in which self-compassion mediates the association between illness perception and psychological wellbeing in adult patients with CVDs recruited from cardiology outpatient departments in Pakistan. In consistent with already existing theory and research evidence, we have hypothesised that: (a) illness perception will be negatively associated with psychological wellbeing; (b) self-compassion will be positively associated with psychological wellbeing; (c) illness perception will be negatively associated with self-compassion; and (d) self-compassion will significantly mediate the association between illness perception and psychological wellbeing, such that threatening illness perceptions will predict a weakened psychological wellbeing in part through their adverse effect on self-compassion.

Method

Sampling and Procedure

There were 220 adult patients with confirmed cardiovascular diagnoses undergoing the treatment from cardiology outpatient departments of four tertiary-care hospitals in three Pakistani cities: Mayo Hospital, Lahore; Services Hospital, Lahore; Aga Khan University Hospital, Karachi; and Pakistan Institute of Medical Sciences, Islamabad. Data collection from the listed sample was carried out between May 2025 to Feb 2026. The multisided design of the research participants was adopted with a vision to increase geographic representativeness from urban Pakistani cardiac population across the country.

Following documents were asked to produce to the eligible participants; (a) documented evidence related to cardiovascular disorder/ diagnose (this also include, coronary artery disease, hypertension, myocardia infraction, heart failure) (b) only 18 years and above age participants were selected; (c) can understand and write their opinion in Urdu or English; (d) and to provide written informed consent. Those patients were excluded from the study who were comorbidly diagnosed with severe psychiatric disorders (e.g., schizophrenia spectrum disorder, current manic episode). Moreover, if they were admitted to the intensive care unit or outdoor patients facilities at the time of collection of data, or if they are experiencing some cognitive impairments and the same is recorded in their documents or clinical file.

It is pertinent to mention here that out of 247 patients who recruited as study participants have provided complete, usable data (response rate = 89.1%). The final sample is comprised of 129 men (58.6%) and 91 women (41.4%), with ages ranging from 22 to 78 years (M = 52.4, SD = 11.2). The breakdown of cardiovascular disorder

types are as follows; out of total recruited sample, 38.2% were diagnosed with hypertension, 18.6% have experienced myocardial infraction, heart failure; 8.6% and associated illnesses ratio was 5.5%. The Mean duration of the illness was 4.7 years (SD = 3.9). Detailed characteristics of the sample is shown in Table 1.

Table 1 Demographic and Clinical Characteristics of the Sample (N = 220)

Variable	Category	n	%
Gender	Men	129	58.6
	Women	91	41.4
Age (years)	18–35	18	8.2
	36–50	74	33.6
	51–65	96	43.6
	≥ 66	32	14.5
Education	No formal education	42	19.1
	Primary/Middle	61	27.7
	Matriculation/Intermediate	72	32.7
	Graduate or above	45	20.5
CVD Diagnosis	Hypertension	84	38.2
	Coronary Artery Disease	64	29.1
	Post-Myocardial Infarction	41	18.6
	Heart Failure	19	8.6
	Other CVD	12	5.5
Illness Duration	< 1 year	38	17.3
	1–3 years	67	30.5
	4–7 years	72	32.7
	> 7 years	43	19.5

Note. CVD = cardiovascular disorder.

Following the ethical guidelines, trained postgraduate research assistants have approached the eligible recruited sample/ patients in the waiting areas of outpatients departments of listed hospitals for cardiovascular health. They explained purpose of their study to the participants in the language they understand. It was volunteer participation, and consent forms were signed. Questionnaires were administered accordingly. Those patients who are unable to understand the meaning of the questions were read aloud to them in a standardised, non-directive manner.

Measures

Illness perception. To assess the cognitive and emotional illness representations among the study participant, the Brief Illness Perception Questionnaire (Brief IPQ; Broadbent et al., 2006 was utilised. The Brief IPQ is comprises of eight items rated on 0-10 Likert scales and they measures perceived consequences of the illness, timeline, personal control, treatment control, illness identity, concern, illness comprehensibility and emotional response. An additional open-ended item assesses causal attributions (not scored in the total). Total scores

range from 0 to 80, with higher scores reflecting more threatening illness perceptions. The total score on Brief IPQ is ranging from 0 to 80, the higher score on the tool reflects more endangered illness perceptions. It is pertinent to mention that, the Brief IPQ have manifested an encouraging psychometric properties particulary in reference to sample of our study (Cronbach's α = .76), the findings are parallel to the already existing results/ findings in the cardiac populations (Broadbent et al., 2006)..

Self-compassion. The Self-Compassion Scale – Short Form (SCS-SF; Raes et al., 2011) was used to evaluate self-compassion among study participants. The SCS-SF is consisted of 12 items rated on a 5- point Likert scale scale (1 = Almost Never to 5 = Almost Always). The scale is measuring six facets of personality which includes; self-kindness, self-judgment (reverse-scored), common humanity, isolation (reverse-scored), mindfulness, and over-identification (reverse-scored). The mean composite score is calculated via computing, indicating higher score on the scale shows greater self-compassion. Likewise, internal consistency in the present study sample was good (α = .82). A validated Urdu translation of the full Self-Compassion Scale (Neff, 2003) has been used in Pakistani samples (α = .81); the SCS-SF was adapted following standard forward-backward translation procedures for the present study.

Psychological wellbeing. The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS; Tennant et al., 2007) was used to assess positive psychological wellbeing. Like other scale used in the present study, WEMWBS is also a brief scale, it includes 14 items being rated on a 5-point response scale ((1 = None of the time to 5 = All the time), yielding total scores ranging from 14 to 70; higher scores indicate greater wellbeing. The WEMWBS assesses hedonic (positive affect, life satisfaction) and eudaimonic (positive functioning, purpose, autonomy) dimensions of wellbeing. Internal consistency of the scale was excellent in the present sample (α = .89). Urdu translation followed the same forward-backward translation protocol applied to the SCS-SF.

Demographic and clinical characteristics. A researcher have developed demographic sheet to evaluate participant age, gender, educational attainment, monthly household income, cardiovascular diagnosis type, and duration of present illness.

Statistical Analysis

All of the statistical analyses were carried out by using IBM SPSS Statistics Version 26.0 (IBM Corp., 2019) and the PROCESS macro-Version 4.2 (Hayes, 2018). Before performing the primary analysis, whole data was screened for missing value input, univariate outliers (Mahalanobis distance), and violations of normality assumptions. Cronbach's α was performed to ascertain the Internal Consistency within all scales used in the present study.

While using Pearson product-moment correlation coefficients, bivariate correlation among illness perception, self-compassion, and psychological wellbeing were analysed.

The mediation model which was hypothesised earlier was testing by using PROCESS Model 4 (Hayes, 2018). Independent variable; illness perception, whereas self-compassion as the proposed mediator and and psychological wllbeing entered as outcome variable while carrying out the statistical analysis. Similarly, age, gender, educational achievements and illness duration were valued as covariates as the same were required to control for potential confounders. Bias-corrected bootstrap confidence intervals (CIs) was used to evaluate the significance and precision of the indirect effect. Mediation was inferred where the 95% CI for the indirect effect excluded zero. Self-compassion has mediated the proportion of total effect which was computed as ratio of indirect to the total effect size. In addition to this, independent- samples *t*-test as well as analysis of variance (ANOVA) along with post hoc Tukey HSD correction methods were employed to evaluate the demographic difference in the primary study variables. The significance threshold was set at $p < .05$ (two-tailed) for all analyses.

Results

Preliminary Analyses

No missing values were identified during screening of the data; moreover, no univariate outliers have exceeded the Mahalanobis distance criterion. During examination of of skewness and kurtosis values, no significant variation from normality was indicated for any of the primary

variable (all |skewness| < 1.2; all |kurtosis| < 2.1). Primary variables of the study have reflected descriptive statistics and zero-order correlations in Table 2.

Mean illness perception score of the sample is reported as 48.62 (SD = 12.43), which is consistent with perceptual profile being moderately threatened. Moreover, Mean score of self-compassion (M = 31.18, SD = 8.71) and psychological wellbeing scores (M = 38.41, SD = 9.63), have indicated alignment with a moderate range of their respective scales. It also manifests a meaningful/ significant variance across the sample of the study.

Table 2 Descriptive Statistics, Internal Consistency Estimates, and Intercorrelations Among Primary Study Variables (N = 220)

Variable	M	SD	α	1	2	3
1. Illness Perception (Brief IPQ)	48.62	12.43	.76	—		
2. Self-Compassion (SCS-SF)	31.18	8.71	.82	−.48***	—	
3. Psychological Wellbeing (WEMWBS)	38.41	9.63	.89	−.54***	.52***	—

Note. M = mean; SD = standard deviation; α = Cronbach's alpha coefficient. Brief IPQ = Brief Illness Perception Questionnaire; SCS-SF = Self-Compassion Scale – Short Form; WEMWBS = Warwick-Edinburgh Mental Wellbeing Scale. ***p < .001.

Illness perception was significantly and negatively associated with self-compassion ($r = -.48$, $p < .001$) and psychological wellbeing ($r = -.54$, $p < .001$), indicating that patients with more threatening illness representations reported lower self-compassion and diminished psychological wellbeing. Self-compassion was significantly and positively associated with psychological wellbeing ($r = .52$, $p < .001$). All associations were in the hypothesised directions, satisfying a prerequisite for mediation testing.

Group Differences

Independent Samples

t-tests revealed a significant gender difference in self-compassion scores, with women reporting significantly lower self-compassion (M = 28.4, SD = 8.2) relative to men (M = 33.1, SD = 8.9), $t(218) = 3.71$, $p < .001$, Cohen's $d = 0.55$. No statistically significant gender differences were observed for illness perception or psychological wellbeing (both $ps > .05$). One-way ANOVA indicated a significant effect of illness duration on psychological wellbeing, $F(3, 216) = 6.82$, $p < .001$, $\eta^2 = .09$. Post hoc Tukey HSD comparisons indicated that patients with illness duration exceeding seven years reported significantly lower psychological wellbeing than those with illness duration of less than one year ($p = .002$).

Mediation Analysis

The proposed mediation model was tested using PROCESS Model 4 (Hayes, 2018) with age, gender, educational attainment, and illness duration as covariates. Results are summarised in Table 3 and Figure 1.

In the first path of the model (Path a), illness perception significantly and negatively predicted self-compassion (β = −.48, SE = .05, $t = -7.84$, $p < .001$, 95% CI [−.58, −.37]). In the second path (Path b), self-compassion significantly and positively predicted psychological wellbeing when controlling for illness perception (β = .41, SE = .06, $t = 6.72$, $p < .001$, 95% CI [.29, .53]). The direct effect of illness perception on psychological wellbeing, controlling for self-compassion (Path c'), remained statistically significant (β = −.35, SE = .05, $t = -6.11$, $p < .001$, 95% CI [−.46, −.26]), indicating partial rather than full mediation. The total effect of illness perception on psychological wellbeing (Path c) was also significant (β = −.54, SE = .04, $t = -9.36$, $p < .001$, 95% CI [−.63, −.47]).

Bootstrap analysis confirmed a significant indirect effect of illness perception on psychological wellbeing through self-compassion ($B = -.19$, SE = .04, 95% CI [−.27, −.12]). Because the bootstrap confidence interval excluded zero, mediation was confirmed. The indirect effect

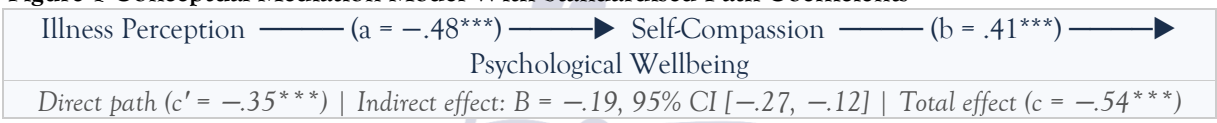
accounted for 34.5% of the total effect of illness perception on psychological wellbeing (total effect: $B = -.55$; direct effect: $B = -.36$; indirect effect: $B = -.19$). Taken together, these findings indicate that self-compassion functions as a significant partial mediator in the association between illness perception and psychological wellbeing in cardiovascular patients.

Table 3 Results of the Mediation Analysis: Unstandardised and Standardised Coefficients for All Paths (N = 220)

Path	B	SE	β	T	95% CI	p
Total Effect (IP → PW; Path c)	−.55	.04	−.54	−9.36	[−.63, −.47]	< .001
Direct Effect (IP → PW; Path c′)	−.36	.05	−.35	−6.11	[−.46, −.26]	< .001
Path a (IP → SC)	−.48	.05	−.48	−7.84	[−.58, −.37]	< .001
Path b (SC → PW | IP)	.41	.06	.41	6.72	[.29, .53]	< .001
Indirect Effect (IP → SC → PW)	−.19	.04	–	–	[−.27, −.12][a]	–

Note. IP = illness perception (Brief IPQ); SC = self-compassion (SCS-SF); PW = psychological wellbeing (WEMWBS). Covariates: age, gender, educational attainment, illness duration. [a] Bias-corrected bootstrap confidence interval based on 5,000 resamples.

Figure 1 Conceptual Mediation Model With Standardised Path Coefficients



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Discussion

it is the first time that a study (present) has evaluated and examined mediating role of the self-compassion in the correltion between illness perception and psychological wellbeing among patients with CVDs within the Pakistani context. The principle findings have emerged; (1) consistent with Hypothesis 1, illness perception was significantly as well as negatively associated with the psychological well-being. Secondly, consistent with the Hypothesis 2 and 3, self-compassion was positively correlated with illness perception however, negatively associated with illness perception. Thirdly, and most pertinently, the study findings have supported the Hypothesis 4: self-compassion significantly mediated the association between illness perception and psychological wellbeing, with the indirect effect accounting for 34.5% of the total effect. In general, these findings have enhanced understanding psychological pathways in the cardiac illness and has underlie a workable directions for the psychological intervention withing the Pakistani cardiology services.

Illness Perception and Psychological Wellbeing

The findings have manifested that there is negative association between the illness perception as well as psychological well-being ($r = -.54$) which is consistent to the prior research findings on cardiovascular patients. Broadbent et al. (2006) has reported that there is association range between Brief IPQ scores and quality-of-life indices in the post-myocardial infarction samples from $r = -.41$ to $-.52$. similarly, Petrie et al. (2012) have demonstrated that if there is a threatening illness perception, it predicts delayed occupational recovery along with enhanced impairment in the functioning of cardiovascular patients. The present research findings support this pattern regarding Pakistani outpatient cardiovascular sample. The findings also contributing cross cultural evidence in order to generalize association between illness perception and the psychological well-being.

The findings have illustrated that illness perceptions significantly predicts lower psychological well being in cardiovascular sample, despite of the fact that researchers have controlled the demographical and clinical covariates, it is also underscoring the clinical significance of cognititve illness representations as targets to intervene psychologically. Patients with cardiovascular diseases in Pakistan may be particularly susceptible to the threatening illness perceptions given the cultural salience of life-threatening disease, associated stigma with mental health and constraint access to illness related psychological illness (Khalid & Aslam, 2021).

Illness perception modification programmes grounded in the CSM (Broadbent et al., 2009) represent a potentially valuable intervention avenue in this population.

Self-Compassion as a Mediator

The finding that self-compassion significantly partially mediated the illness perception–psychological wellbeing association (indirect effect:
B = −.19, 95% CI [−.27, −.12]; proportion mediated = 34.5%) constitutes the primary theoretical contribution of this study. This finding is consistent with the conceptual integration of Leventhal et al.'s (1980) CSM and Neff's (2003) self-compassion theory proposed herein: threatening illness perceptions activate emotional processing pathways that heighten vulnerability to self-criticism, isolation, and emotional over-identification — the precise internal experiences that self-compassion is theorised to counteract. Patients with lower self-compassion may, therefore, be less equipped to modulate the adverse psychological consequences of threatening illness cognitions.

The present results extend previous mediation findings in adjacent chronic illness populations. Pinto-Gouveia et al. (2014) documented comparable mediation of self-compassion between illness-related shame and psychopathology in mixed chronic illness samples. Costa and Pinto-Gouveia (2013) reported a parallel indirect pathway in chronic pain patients. The present study extends these findings to CVD populations for the first time and contributes the first such investigation in a Pakistani clinical context. The partial nature of the mediation further suggests that self-compassion, while a meaningful mediating mechanism, operates alongside other unmeasured pathways — including coping flexibility, perceived social support, and illness-related acceptance — that warrant examination in future research.

Gender Differences in Self-Compassion

Women in the present sample reported significantly lower self-compassion than men (Cohen's
d = 0.55), with an effect size substantially exceeding the meta-analytic estimate of d = 0.28 reported by Neff et al. (2019) across diverse cultural samples. This discrepancy may reflect the compounding influence of culturally prescribed gender roles in Pakistan, wherein women with chronic illness frequently continue to assume primary caregiving and domestic responsibilities, thereby restricting opportunities for self-directed care and self-compassionate responding. Cultural norms equating self-sacrifice with moral virtue may further constitute a barrier to self-kindness among Pakistani women with CVDs. Given that self-compassion functioned as a significant mediator of psychological wellbeing in the overall sample, women — who reported systematically lower self-compassion — may represent a particularly vulnerable subgroup for whom targeted self-compassion-based intervention would be clinically indicated.

Clinical Implications

The identification of self-compassion as a significant mediator carries direct implications for the design and delivery of psychological interventions within Pakistani cardiac rehabilitation settings. If self-compassion partially explains the association between threatening illness perceptions and diminished wellbeing, then interventions that cultivate self-compassion may attenuate the psychological harm associated with threatening illness beliefs in cardiac patients. Compassion-Focused Therapy (CFT; Gilbert, 2010) and the Mindful Self-Compassion programme (MSC; Neff & Germer, 2013) are both manualised, empirically supported, and deliverable in brief group formats suitable for outpatient settings. A four-to-six-session group protocol administered by trained postgraduate psychologists in cardiology OPD settings

represents a feasible and potentially cost-effective intervention model for Pakistan.

Cultural adaptation of self-compassion interventions for Pakistani Muslim populations represents both a practical necessity and a theoretically generative challenge. Core components of self-compassion — self-kindness, recognition of shared vulnerability, and mindful equanimity — find conceptual resonance in Islamic constructs including Rahma (divine and human compassion), Sabr (patient forbearance), and the Quranic acknowledgement of shared human suffering. A culturally congruent self-compassion intervention that explicitly integrates these frameworks is likely to demonstrate superior acceptability and efficacy relative to unadapted Western protocols (Razali et al., 2018). These possibilities warrant examination in future randomised controlled trials.

Limitations and Directions for Future Research

Several limitations constrain the conclusions that can be drawn from the present findings. First, the cross-sectional design precludes causal inference; the proposed mediation model is theoretically rather than temporally established. Longitudinal and experimental designs — including randomised controlled trials of self-compassion interventions — are required to establish causal directionality. Second, exclusive reliance on self-report measures introduces the possibility of shared method variance and social desirability bias, which may be particularly pronounced in sociocultural contexts where disclosure of psychological distress is normatively constrained. Third, the purposive sample recruited from urban tertiary-care hospitals limits generalisability to rural cardiac patients, those accessing primary or district-level healthcare, or those with no formal healthcare access. Fourth, the construct validity of self-compassion as operationalised by the SCS-SF may require further examination in predominantly Muslim Pakistani populations, given the Buddhist philosophical origins of the construct and the possibility of non-equivalent conceptual mapping across cultural contexts.

Future research should employ longitudinal designs to establish the temporal precedence of the proposed mediation pathway, include objective clinical indicators (e.g., left ventricular ejection fraction, medication adherence data) as covariates, examine additional theoretically plausible mediators (e.g., illness acceptance, flexible coping, perceived social support), and recruit samples representative of rural and lower-income Pakistani cardiac populations. Randomised controlled trials of culturally adapted self-compassion interventions in Pakistani cardiac rehabilitation settings are particularly warranted.

Conclusion

The present investigation provides the first empirical evidence that self-compassion partially mediates the association between illness perception and psychological wellbeing in patients with CVDs, and constitutes the first such examination conducted within a Pakistani clinical context. Illness perception independently and indirectly — through diminished self-compassion — predicted lower psychological wellbeing after accounting for relevant demographic and clinical covariates. These findings extend Leventhal et al.'s (1980) Common Sense Model by identifying self-compassion as a psychologically meaningful mechanism through which threatening illness cognitions exert their adverse effects on wellbeing. They further establish self-compassion as a modifiable intervention target within cardiac psychological care in Pakistan — a setting where the burden of CVD is substantial, psychological services are scarce, and the translational distance between research evidence and clinical practice remains considerable. As Pakistan's cardiac care infrastructure continues to develop, these findings raise a question that merits urgent attention from clinicians, researchers, and policymakers alike: to what extent are the psychological needs of cardiovascular patients in Pakistan being met, and what evidence-based pathways exist to address the gaps that remain?

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