



The Comprehensive Review on the Impact of Mental Wellbeing on Cardiac Risk

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ABSTRACT

Studies have also concluded that “positive psychological (PP) well-being (WB), specifically optimism, has been identified as a factor that is advantageous to health owing to its link with the seven indicators of CVH and improved outcomes in relation to CVD”. This association was made possible by the realization that optimism is associated with PP well-being. It is possible for biological, behavioral, and psychosocial variables to have an effect on the link between psychological well-being and cardiovascular issues. It has been shown that interventions on an individual level, such as programs that emphasize mindfulness and positive psychology, have the capacity to affect a person's PWB. In addition, businesses are putting into action interventions that place a higher priority on the promotion of the cardiovascular health (CVH) of their employees. This might provide a realistic foundation for expanding PWB programs to include wider communities and civilizations. We provide therapeutic recommendations for measuring and improving patients' psychological wellbeing during patient consultations in light of the significance of psychological wellbeing in the process of promoting cardiovascular health (CVH). To shed light on the mechanisms that lay at the heart of the connection between psychological health and cardiovascular outcomes, it will be necessary to conduct further observational studies using a prospective design. In addition, comprehensive intervention studies need to be carried out in order to investigate the possibility that psychological well-being-promoting programs might improve CV outcomes. Thus, in our review we have evaluated and discussed about MW ON CR.

Key words: MR, CR, Psychological, Biological, Behavioral.

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INTRODUCTION

Epidemiological studies have also found that “both short-term and long-term mental stress, like anger, fear, work pressure, depression, or being exposed to natural disasters, may play a role in the development and progression of coronary artery disease (CAD)”. [1, 2, 3, 4] In addition to this, studies also concluded that anger, fear, the pressures of one's work, and despair are all examples of these many kinds of stressors.[5] Studies have further concluded that detrimental psychological variables, such as depression, are well-known to be linked to CVD. On the other hand, studies have further concluded that there is a “growing body of evidence that suggests that PPWB, which includes positive thoughts and feelings such as having a purpose in life, optimism, and happiness, has its own independent associations with a lower risk of cardiovascular disease and may promote CVH”. [6,7,8] Studies have also found that these objectives are similar to those that the positive psychology community has established. These goals are comparable to those that the discipline of preventive psychiatry has set for itself. Measures that were pertinent to the achievement of these goals were developed at the same time.[8] AHA, very recently published a definition of CVH that is now widely recognized.[9] Studies have also concluded that this definition consists of seven components, including four healthy behaviors, as well as three healthy elements.[10] Studies have further concluded that “PWB was characterized in various ways and further involves the positive thoughts and feelings”.[6,11] Studies have also found that “these two distinct theoretical perspectives have influenced descriptions of PWB. Other, less easily defined aspects of psychological well-being have also been found, and some of these aspects have been shown to accurately predict the outcomes of cardiovascular events.[6] Thus, according to studies, there is a correlation between these aspects of PWB and enhanced physical health.[12] Thus, in our review we have evaluated and discussed about MW ON CR.

PATHOPHYSIOLOGICAL & BENEFICIAL EFFECTS

Studies have further concluded that “seven components of CVH were variously scored as a composite score”. [13] Studies have also concluded that, psychological distress (PD) was shown to be related to poor CVH, which means that the directionality of the associations cannot be detected. [13] On the other hand, preliminary research conducted in the US and Europe using both cross-sectional and PR methods has suggested that PWB increases CVH [14,15], despite the fact that the number of studies is still relatively small. This is despite the fact that both methodologies were used. This is in spite of the fact that a research has shown that PWB increases the risk of CVS. Studies have further concluded that a vast number of reviews and meta-analyses have been conducted with the purpose of investigating the role that mental health conditions such as depression [16,17], anxiety (Ax), anger (An), PTSD and chronic stress. [18,19,20,21]

In a meta-analysis study, “risk and presence of a dose-response association were conducted and concluded that the findings for Ax, PTSD, anger, and hostile behavior are similar and it also appears that a combination of these unfavorable factors increases cumulative risk”. [22,23,24]

Studies have further concluded the connection between PWB and decrease risk of CVD. In 2012, prospective designs, adjustments for PD, and objective measures of CVD. [24] The review found that different aspects of PWB were consistently linked to a lower risk of developing CVD. [24] Evidence collected prospectively and made available after 2012 strongly supports these conclusions. The findings of five prospective studies that examined the link between optimism and cardiovascular disease have, for the most part, gone in the direction that was expected. [25] When the mortality rate from cardiovascular disease as well as the incidence of heart failure are both included, the findings from a large number of other cohorts have been shown to be equivalent to these. [26,27]

Studies have further concluded that they ranged in age from 57 to 72 years on average. Studies have also concluded that when a lot of different possible confounding factors were taken into account, the relative risk for cardiovascular events was found to be 0.83 (95% confidence interval: 0.75–0.92) across all studies. [28] Another study was conducted and concluded that 453 elderly people with a mean age of 84 years were followed for a period of six years. When these individuals passed away, their corpses were autopsied, and neurologists made a diagnosis based on the results of the autopsy. [29] Despite the fact that they are not fully consistent, the findings have been obvious when taking into consideration other facts of PWB. [24] In early studies, a preventive benefit of positive effects on the risk of cardiovascular disease was established; however, more recent and extensive research has shown that this effect is not there. However, it has been pointed out in other places that these studies may not be as convincing as they may be because of a possible statistical overadjustment and a relatively inadequate assessment of the exposure. [30]

EFFECT OF PSYCHOLOGICAL WELL-BEING [6]

Studies have also concluded that it is possible that one of the feasible paths by which PWB impacts CVH over the lifetime is the promotion of other PR. Studies have also concluded that, over the lifespan, this may be one of the plausible ways in which psychological well-being influences CVH. [6] These are the direct effects on health behaviors, the indirect effects via health behaviors, and the direct effects on neurobiological processes. The effects of psychological well-being may, depending on the route, either increase the likelihood of processes that are restorative to one's health (such as getting enough sleep) or reduce the likelihood of processes that are destructive to one's health (such as smoking cigarettes or suffering inflammation). Studies have also concluded that the central illustration uses a model that was taken from prior work to highlight the links between psychological well-being and CVH. [6] This model was created in order to explain how psychological well-being affects cardiovascular health. Studies have also found that In this section, we will quickly go over what was found about the link between psychological well-being and each of these pathways. We will focus on health and behavior factors that are important for CVH and studies that were done in healthy populations. [6] Additionally, some studies used more “good methods such as experimental or longitudinal study designs, thereby adjusting for important covariates like PD, and using validated measures of exposure and outcomes”. [6]

BIOLOGICAL PATHWAY

Studies have also found that, however, longitudinal studies in general tend to imply that PWB is typically connected with lower BP across the board, regardless of sex, race/ethnicity, and age. [31] Previous analyses of the research literature that investigated the links between PWB and BP, conflict the conclusions. [32] After taking into consideration a large variety of other possible variables that may be impacting the findings, the researchers were finally able to arrive at this conclusion. This phenomenon has also been hypothesized to have a plausible explanation in the form of the variability of the heart rate.

Studies have shown that “higher levels of PD are associated with lower levels of heart rate variability, which is normally suggestive of higher levels of sympathetic activation and lower levels of parasympathetic tone”.[33] Studies that examined the connection between psychological well-being and heart rate variability, on the other hand, revealed less consistency in their findings.[34,35] However, in light of the exciting findings with distress, there is a need for more study to examine whether or not psychological well-being might create a higher parasympathetic tone and increased HR variability.[35]

BEHAVIOURAL PATHWAY (BH-P)

Studies have also found that relationship between improved PWB and a lower likelihood of smoking.[36,37] Studies have also concluded that this connection was found to exist in both male and female participants. Although some longitudinal studies have been successful in establishing connections in the directions that were hypothesized, this has not been the case with all of the studies.[38,39] According to the findings of a multitude of studies, “high levels of PWB are associated with a greater likelihood of participating in regular physical activity. This association holds true even when controlling for other factors, such as age, gender, and socioeconomic status”. Even though the relationship most likely runs in both directions, there is a growing body of prospective longitudinal research that implies psychological wellbeing predicts a greater likelihood of engaging in activity levels that are greater than the minimal levels indicated (e.g., 44). This study has been conducted over a period of time and follows participants over time. Those in an older population sample from England consisting of almost 10,000 people who had the highest levels of wellbeing at the beginning of the study also demonstrated the most consistent levels of physical activity over the length of 11 years of follow-up. This was the case even when the researchers controlled for baseline health status and depression levels. There have also been reports of some findings that are inconclusive, as the case may be.[40]

PSYCHOSOCIAL PATHWAYS (PP) & STRESS BUFFREING (SB) [40]

Studies have further concluded that there have been a number of psychosocial mechanisms posited in an effort to moderate the relationship between PWB and CVH. Studies have also concluded that “people who are more optimistic, for instance, are more likely to seek social support when they are confronted with difficult situations, be more well-liked, have larger networks of friends, and have friends who offer greater support during times of stress”.[40] Studies have furthermore concluded that “optimists are also more likely to have friends who give greater support during times of stress”. This supports the idea that social support may act as a mediator in the relationship between optimism and CVH. In addition, optimism inspires confidence in the future, which in turn stimulates the development of a variety of psychological and cognitive mechanisms that enhance CVH. Optimism is associated with improved cardiovascular health. These mechanisms consist of things like being more attentive to the advice of medical professionals, participating in constructive problem solving, and taking actions to prevent unpleasant situations.[40] Although the bulk of the data suggests that people who have a high degree of optimism but not excessive optimism are able to discern between controllable and uncontrollable stress, some researchers have posited that “unrealistic optimism” may be detrimental.[40] This is because optimists believe that they have the ability to influence their environment and the outcomes of their actions. It is also likely that the same mechanisms are at work for a variety of other facets of a person's psychological health. Studies have further concluded that the ability to self-regulate may possibly be a factor that contributes to psychological well-being's effect on health outcomes. These capabilities give you the skills to encounter and adjust to life's obstacles in an effective manner.[40] Studies have also concluded that SB entails appropriate C, E, and/or BR throughout everyday life and in the context of one's bigger objectives”. It is linked to lower levels of inflammation and better CVH when people use adaptive strategies for controlling their emotions, like cognitive reappraisal, instead of maladaptive strategies, like hiding their emotions.[40]

FUTURE DIRECTION [41,42,43]

There are three levels of study that are needed, yet they are all complimentary. To get things started, the growth of this field will be helped forward by a definition and evaluation of psychological well-being that are more accurate. Only a select few well-validated measures have been produced thus far, even though specific aspects of well-being are being measured. According to studies, ‘bulk of components of WB, strong instruments are lacking or there is no consensus on the appropriate assessment. To build psychometrically sound instruments where they are lacking and to obtain consensus on the best existing measures, further work is needed’.[41] Studies have also found that more research needs to be done on the “pathways that connect PWB with CVS outcomes. This is because understanding the mechanisms is key to proving causality and may help guide the development of interventions. Studies examining

psychological pathways linking PWB with CVH BH -P, variables, and outcomes have often been cross-sectional, focused on a single psychological component, and had a number of other significant drawbacks". "Future studies evaluating mechanistic pathways need robust observational epidemiologic designs that include: (A) multiple measures of WB to determine whether different aspects of psychological well-being differentially affect outcomes; (B) longitudinal study designs to assess prospective outcomes; (C) concurrent examination of biological, BP, and P outcomes; (D) adequate control for psychological outcomes (such as depression); (E) large, diverse samples; and (F) the use of optimal causal inference methods".[42] Studies have also found that, "third, the clinical and research agendas must prioritize the study of interventions that promote PWB. The impact of mindfulness-based and positive psychological interventions on promoting CVH and improving outcomes for CVD patients remains significantly understudied, despite the fact that they seem to be successful in enhancing psychological well-being among healthy people. Studies have also found that modern efforts to improve health and well-being at the individual, group, and community levels should be based on theories, focus on CVH traits that can be changed, and be put to the test in rigorous, adequately powered real-world trials with patient samples and health populations".[43] Studies also concluded that "considering mobile health interventions in intervention studies is important because they may increase the reach and impact of a combined PWB and health behavior intervention, which may be more effective than either intervention alone. Interventions based on churches, businesses, and other community settings might promote greater community-wide WB and social support and increase individual-level psychological assets". Researchers have observed that "some countries actively promote resources that improve PWB, such as social support and generosity and the universal provision of physical and mental health care, and they hypothesize that these resources may account for the higher life expectancies and overall health observed in these countries".[43] Population-level interventions to promote CVH have not, however, been evaluated in any studies".[43]

CONCLUSION

Extensive research has been conducted on the correlation between PWB and CVS health. PWB can have an impact on cardiovascular health through three main pathways: BP, , and psychosocial. Interventions, such as mindfulness-based programs and positive psychological interventions, have been shown to enhance psychological well-being. When put into practice in clinical settings, these interventions have been found to generally enhance mental health outcomes and improve quality of life for individuals and small groups. These outcomes are impressive on their own. However, it remains unclear whether these interventions can effectively and consistently modify cardiovascular health behaviors, biological factors, or cardiac outcomes. Currently, there is a lack of comprehensive evaluation for community-level interventions in schools, churches, workplaces, and other organizations. In addition, there have been no specific studies conducted to test the effectiveness of psychological wellbeing interventions in improving cardiovascular health. Nevertheless, the field is increasingly shifting in this direction, conducting studies to pinpoint the most effective components of psychological well-being. These elements are then subjected to rigorous controlled trials to assess their impact on health-related outcomes. Implementing clinical practice recommendations and health policy guidelines for psychological well-being interventions has the potential to greatly influence cardiovascular health at a population level, given the availability of more data and experience.

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