

THE PERILS OF MARRIED LIFE: DEPRESSION, DYADIC ADJUSTMENT AND PSYCHOLOGICAL WELLBEING AMONG MARRIED COUPLES IN PAKISTAN: THE MEDIATING ROLE OF SLEEP DISTURBANCES

Mahnoor Khan

Government College University, Lahore
sherish.maha@gmail.com

Syed Messum Ali Kazmi*

Assistant Director, Higher Education Department, Government of the Punjab
messumzkazmi@gmail.com

Afsheen Gul

Assistant Professor, Department of Applied Psychology, Kinnaird College for Women University
afsheenhussnain@gmail.com

ABSTRACT

The purpose of the study was to assess the association among depression, dyadic adjustment, psychological wellbeing and sleep disturbances. Research has shown that depression dyadic adjustment and sleep disturbances have a considerable impact on psychological wellbeing. The sample for the study included 798 married couples who were selected through purposive sampling technique. Data collection was done through Beck Depression Inventory, Pittsburg Sleep Quality, Diener Psychological Wellbeing and Dyadic Adjustment Scale. Data analysis was done using Pearson Product Moment Correlation, MANOVA and Mediation Analysis. The findings showed a significant negative association between depression and psychological wellbeing and dyadic adjustment. Moreover, depression was positively associated with higher scores on sleep disturbances. It was also found male partners differed significantly in comparison to females with regard to psychological wellbeing, depression and dyadic adjustment. Moreover, sleep disturbance significantly mediated the association between depression and psychological wellbeing.

Keywords: depression, psychological wellbeing, dyadic adjustment, married couples

INTRODUCTION

Depression is one of well-known mental disorder that has an influence on the daily life functioning of individuals, weight increases or decreases, loss of energy and pleasure in performing different duties or activities of life, suicidal ideations or attempts etc. It is a disorder that influence the social, psychological and emotional functioning of people (Goyal et al., 2014; Schmitt et al. 2014). Harvey (2001) reported sleeplessness or insomnia is considered as symptom that significantly effects the mental or psychological health of individuals. Robles and Glaser (2003) found a bidirectional relationship among sleep, physical and emotional health. Reoccurring sleep problems may increase the feeling of irritability, symptoms of anxiety and depression that leads to the long-term health problems or conditions.

Le Blanc et al., (2007) reported that there was a correlation between symptoms of insomnia and poor quality of life, higher scores in anxiety, depression and perception of stress. Christoph et al. (2017) reported that quality of sleep plays an important role for individual's health. Poor quality of sleep has negative effects on physiological health of people such as risks of heart attack. Poor quality of sleeps also negatively effects the psychological or mental health of people. Such as bad quality of sleep is linked to the decreased wellbeing and mental health. Blazer et al. (1987) reported that the partner having symptoms of depression may increases the chances of depression for spouse. Tower and Kasl (1996) found a reciprocal relationship in symptoms of depression in old married couple and positive relationship was also found between husband's long-term illness and depression in wives. Schulz (1996) reported that the medication used by husbands was linked with depression in their wives. It was noted that partner health is linked to the symptoms of depression and psychological wellbeing. The depressive

disorders have been reported to prevail in all over the world. The lowest rates of depression are reported to be prevailed in Asian and south-east countries (Khan et al., 2021). Percentages shows that their lifetime probability for people to suffer from depression for one year or more. In Taiwan, depression rate is being less than two percent while the depression rate in Korea is 3percent.Highest rate of depression is reported to be prevailed in western countries.7 percent of depression prevailed in Canada, 11 percent in New Zealand and 16 percent in France. The countries affected by civil war like Northern Ireland and Bosnia had high percentages for depression. The lowest percentage of depression was reported in eastern countries such as Taiwan may be related to the less ratio of divorce. Weissman et al reported the prevalence of depression 1.5percent for Taiwan,19.0percent for Beirut. 9.2percent for west Germany, 9.6 percent for Canada (Weissman,1996).

Global and Local Prevalence of Depression in Married Couples

Globally twenty percent of people are affected by depression. whereas in Pakistan 42.33% percent of people are seriously affected by depression (Khan et al., 2021). Moreover, for married couples, varying estimates have been identified ranging from 20 to 30 % (Azhar et al., 2018; Abbas et al., 2020). However, the evidence suggests that a high prevalence is seen primarily during infidelity and domestic abuse related cases (Abbas et al., 2019).

Research Background

Revenson et al., (2015) explored the dyadic effect of depression, anxiety and sleep among married couples. Heterosexual married couples were selected as sample for study. Both partners individually completed the self-reported measures. The study was intended to understand the association between anxiety and symptoms of depression and duration of sleep. Actor partner interaction model of dyadic effect was used to examine the connection among symptoms of anxiety, depression and duration of sleep. Findings of the study indicated that depression and anxiety symptoms among wives had stronger impact on the symptoms of anxiety and depression among their husband's. Increased level of depression and anxiety for husbands and wives was the indicator of shorter sleep duration. Schlarb et al. (2015) found that there was bidirectional relationship between insomnia and depression. The combination of both depression therapy and insomnia therapy resulted in best treatment results in depression. Gunnars (2014) explored the effects of poor sleep on symptoms of anxiety and depression and reported that there was a significant relationship between poor sleep quality and increased anxiety and depressive symptoms among adolescents. There was no relationship existed between gender and sleep duration. A study was conducted by Chen et al. (2016) found that relationship quality was measured by positive relationship and negative relationship scales. Results of study reported that married adults who go through the negative marital relationships showed more symptoms of sleeplessness or insomnia. While Married who possess positive marital relationships reported better mental, physical health and sleep quality. Segrin and Burke (2015) found that results that there was an association or link between sleep quality and loneliness among married couples. The findings further showed that continuous disruptions in sleep quality can lead to depression and a decline in psychological wellbeing thus adversely impacting relationship quality among married couples.

Perrin (2008) conducted a research on marital satisfaction and psychological wellbeing in clinical and non-clinical samples and had found that there was a difference in levels of anxiety and depression for both clinical and non-clinical sample and a significant negative correlation exist between marital satisfaction and depression. Women in clinical sample score high on depression than men in clinical sample.

Aims and objectives

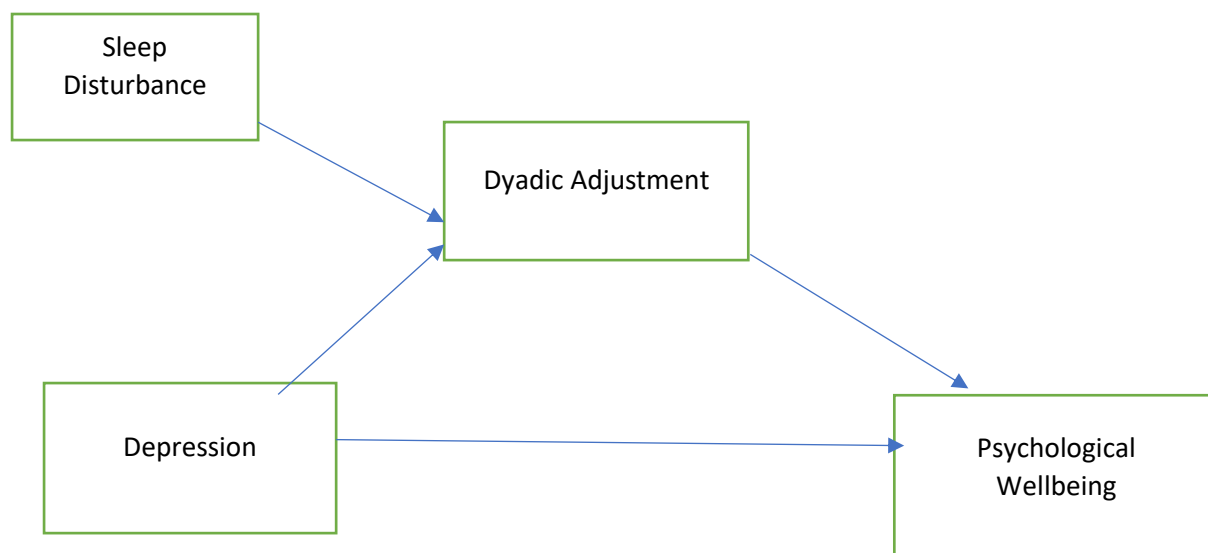
- To assess the effect of depression on sleep quality and psychological wellbeing among married couple.
- To improve current understanding of the effect of depression on sleep quality and psychological wellbeing.
- To assess the relationship between depression, psychological wellbeing and poor sleep among married couples.

Purpose of the Study

The main purpose was behind conducting this investigation is to investigate the effect of depression on sleep quality and psychological wellbeing among married couples. It has contributed to the limited literature on this area in relevance to the Pakistani Contexts. In addition, the study has been designed to

assess how the depression of husband and wife affect each other and how can this mechanism better understand using different perspectives. Theorists have long thought that depression has an effect on sleep quality and psychological wellbeing among married couple. However, there is a gap in literature on studies exploring the effect of depression on sleep quality and psychological wellbeing among married couples.

Proposed Moderated Mediation Model



Hypotheses

- There is likely to be a significant relationship between depression, sleep disturbances, dyadic adjustment and quality of life among married couples.
- There is likely to be significant differences between husbands and wives on their scores on depression, dyadic adjustment psychological wellbeing and sleep disturbances.
- There is likely to be a significant impact of depression, dyadic adjustment and sleep disturbances on psychological wellbeing of married couples
- Sleep Disturbance would mediate the relationship between Depression and Psychological Wellbeing. However, the indirect effect is going to be conditional on sleep disturbance and is going to be stronger for high sleep disturbance scores.

METHOD

Research Design

Correlation research design was used. This design was employed for the purpose of assessing the relationship between depression, psychological wellbeing and sleep disturbances among married couples.

Participants

The study was conducted during 2015-2017 academic year. The sample of Study was comprised of 798 married couples (N=798) age between 21 to 60 years to see the effect of depression on sleep quality and psychological wellbeing. Sample selection was done using purposive sampling technique.

Sampling Strategy

Purposive sampling was used for study of this research. The study was carried out in one month to evaluate scores of participants on their respective constructs.

Inclusion Criteria

Married couples were taken as a sample age range from 21 to 60 years to check the depression effect on sleep quality and psychological wellbeing.

Exclusion Criteria

Married couples above age 60 years were not taken as sample.

Measuring Instruments

Beck depression inventory II(BDI-II)

Beck Depression Inventory II is a self-report instrument was developed by Eron beck to measure level of depression in adults and adolescents age between 13years and older. There are 21 items in the BDI-II and each item is responded on four-point scale that range from 0 to 3 values. Depression is measured at the four levels such as minimal level, mild level, moderate level and severe level according to cut scores of BDI-II (Beck et al., 1996). The scores 0-13 indicates that the depression in the patient has been start and it is referred to as minimal level of depression. The scores 14-19 shows the mild level of depression. The scores 20-28 indicates the moderate level of depression and the scores 29-63 indicated the severe level of depression. If a person who scores high on the BDI-II indicates that the person is suffering from depression. The maximum score for depression is 63. Internal consistency of the score is very high i-e ($\alpha=0.91$). The internal reliability on a one-week test-re-test reliability is (Pearson $r=0.93$). A study was conducted to have a review about the psychometric properties of the BDI-II in variety of setting and on different population. It has been revealed from the results of the present study that the internal consistency was around 0.9 and the test retest reliability ranged from 0.73 to 0.96 (Wang & Gorenstein, 2013). The researcher of this study also finds high positive correlation between BDI-II and BDI-I. At the end, this study suggests that BDI-II is most effective tool to discriminate between normal and depressed subjects. The BDI-II can be taken as the most cost-effective inventory in the measurement of severity of depression, in research and can be used in clinical practice throughout the world. (Wang & Gorenstein, 2013).

Pittsburg Sleep Quality Index (PSQI)

The Pittsburgh Sleep Quality Index (PSQI) is an effective instrument was developed in 1989, by Buysse that is used to measure the quality and patterns of sleep in married couples over a time period of one month. The scale consists of 19 items that measures the seven components: subjective sleep quality, sleep latency, duration of sleep, habitual sleep efficiency, sleep disturbances, use of sleeping medications, and daytime dysfunction over the last month. (Buysse et al., 1989). PSQI one to four questions are about respondent's information that is filled by respondent by hand's 5 to 8 question are responded on 0-3 values filled by .0 indicates presence of no symptom. 3 indicates the presence of symptoms over three or more weeks. Question 9 OF PSQI is responded on 0-3 scale .0 represent very good sleep quality whereas 3 represents very bad sleep quality Total scores of PSQI may range from 0 to 23. The lower scores indicate the good sleep quality The Cronbach's alpha is greater than or equal to 0.70 as reported by authors. (Buysse et al., 1989).

Diener's Psychological Wellbeing Scale (PWS)

Diener's psychological wellbeing scale was used to measure the level of psychological wellbeing among married couples. These eight items self-reported measure uses the seven Likert responses ranging from very strongly disagree to very strongly agree (Payne et al., 2018). Diener's psychological wellbeing scale describes the 8 dimensions or aspects of human functioning including feeling of competence, positive relationships, meaning and purpose of life, optimism, self-acceptance, engagement and interest, contribution in wellbeing of others and being respected. The Cronbach's alpha of whole scale as reported by authors is significantly high $\alpha=.86$

Dyadic Adjustment Scale

Dyadic adjustment scale was developed by Spanier in 1976 (Spanier,1976). This scale was developed to measure the quality of relationship. This scale consists of 32 items that is divided into of four subscales. (1) Dyadic Consensus which assess degree to which respondent agree with partner on these topics such as religion, goals, household tasks. (2) Dyadic Satisfaction which measures the degree to which respondent feels satisfied with partner (3) Dyadic Cohesion assess the degree to which respondent and partner shared activities together (4) Affectional Expression measures the degree to which respondent agrees with partner in physical interaction. (spanier,1976). This test can be administered in 5 to 10 minutes. The Cronbach's alpha for whole scale is $\alpha=.96$ reported by authors. Studies indicated that dyadic adjustment scale has good validity and reliability. Consistency is also good with test retest coefficient of .96 for dyadic adjustment scale (Spanier,1976)

Data Analysis

Data analysis was done using Pearson Product Moment Correlation, Regression and Mediation Analysis executed via SPSS 21.0.

Procedure

Permission was taken from the Ethical Review Committee of GC University, Lahore. The sample of our research was comprised of 798 married couples. Wives were 399 and their husbands were also 399 ages between 21 to 60 years. Data was collected by visiting their homes and consent forms were taken by participants. Scales were applied on them to get responses to check their sleep quality and depression and psychological wellbeing and dyadic adjustment. We rated their responses on scores of depressions, sleep quality and psychological wellbeing and dyadic adjustment.

RESULTS

Table No. 1 Reliability Analysis Psychometric properties of Variables

Variables	<i>M</i>	<i>SD</i>	<i>A</i>	No of items
Psychological wellbeing	41.06	7.15	.81	8
Depression	24.50	17.83	.46	21
Sleep quality	66.30	16.69	.13	19
Dyadic adjustment	76.52	9.31	.37	32

Note: *M*= Mean, *SD*= Standard Deviation, *α*= Reliability coefficient

Reliability analysis was conducted to see the reliabilities of the psychological wellbeing, depression, sleep quality and psychological wellbeing. Psychological wellbeing has highest reliability of .81 and depression has reliability of .46 while sleep quality has also reliability of .13 and dyadic adjustment has reliability of .37.

Table No. 2 Inter-Correlation among scores on Depression, sleep quality, Psychological Well-being and Dyadic Adjustment among Married Couples (N = 798)

Variables	<i>I</i>	<i>II</i>	<i>III</i>	<i>IV</i>
I Depression	--	-.39**	.27**	-.23**
II Psychological wellbeing			.56**	
III Sleep disturbances			-.33**	
IV Dyadic adjustment			--	

Note. ** $p < .01$, * $p < .05$,

Pearson Product Moment Correlation was conducted to explore the relationship among scores of husbands and their wives on depression, sleep disturbances, psychological wellbeing and dyadic adjustment. The results indicated that there was a significantly negative and moderate relationship between depression and psychological wellbeing ($r = -.39^{**}$, $p < .01$). When depression tend to increase in husbands and wives, their level of psychological wellbeing tends to decrease. Results also indicated that there was a significantly positive and slightly moderate relationship between depression and sleep disturbances ($r = .27^{**}$, $p < .01$). When depression tend to increase among couples, scores on sleep disturbances also tend to increase. There was also a negative relationship between depression and dyadic adjustment ($r = -.23^{**}$, $p < .01$). When depression increases, scores on dyadic adjustment tend to decrease.

Table No. 3 Scores on Psychological Wellbeing, Depression and Dyadic Adjustment as a Predictors of sleep scores (N=798)

Predictor	<i>B</i>	95 % <i>CI</i>	
		<i>LL</i>	<i>UL</i>
Constant Psychological wellbeing	35.89	32.52	39.26
	-.24	-.313	-.186
Depression	.04	.019	.065
Dyadic adjustment	-.07	-.125	-.032
R	.46		
R ²	.21		
F	71.79		

Note. ** $p < .01$. *B*=coefficient of regression, *LL*=Lower Limit, *UL*=Upper limit

Regression analysis was carried out to find the significant predictors of psychological wellbeing, depression and dyadic adjustment. It was found that scores on psychological wellbeing ($B = -.24$, $p < .01$) significantly negatively predicted the sleep scores. Moreover, depression scores ($B = .04$, p

< .05) also significantly positively predict the sleep scores and dyadic adjustment scores ($B=-.07$, $p<.01$) also significantly negatively predict the sleep scores. R^2 for the psychological wellbeing, depression and dyadic adjustment scores was 21 %.

Table 4 Mean Differences on Psychological Wellbeing, Depression, Sleep disturbance and Dyadic Adjustment (N=798)

Variables	Males (n=399)		Females (n=399)		95% CI				Cohen's d
	M	SD	M	SD	t(796)	P	LL	UL	
Psychological wellbeing	23.94	4.75	47.54	15.03	-29.93	.000	-25.1	-22.0	2.11
Depression	113.81	33.76	62.41	22.23	25.38	.000	47.42	55.37	1.79
Sleep disturbance	33.83	11.84	23.47	11.81	12.36	.250	8.71		0.99
Dyadic adjustment	16.57	11.28	35.20	23.87	-14.09	.000	-21.21	11.9	
								16.03	

Note. CI=confidence interval, LL=lower limit, UL=upper limit.

Table 3 shows that there are significant gender differences between husbands and their wives on psychological wellbeing ($t=-29.93$, $p<.01$), depression ($t=-25.38$, $p<.01$), and dyadic adjustment ($t=-14.09$, $p<.01$). There are insignificant gender differences between husbands and their wives on sleep disturbances ($t=12.36$, $p<.01$). There are mean differences between Husbands and their wives on their scores on depression, sleep disturbance, psychological wellbeing and dyadic adjustment. Results showed that husbands scored higher on depression ($M=113.81$, $SD=33.76$) and sleep scores ($M=33.83$, $SD=11.84$) than wives. Wives scored high on psychological wellbeing ($M=47.54$, $SD=15.03$) and dyadic adjustment ($M=35.20$, $SD=23.87$) than husbands.

Table No. 5 Multivariate Analysis of Variance for depression and dyadic adjustment on sleep scores and Psychological wellbeing(N=798)

Source	Dependent Variable	Df	MS	F	P	Part η^2
Depression	Psychological wellbeing	1	1288.36	12.17	.001	.015
	Sleep scores	1	851.75	6.26	.013	.008
Dyadic Adjustment	Psychological wellbeing	2	53025.01	501.15	.000	.55
	Sleep scores	2	12367.85	90.95	.000	.18
Depression X Dyadic Adjustment	Psychological wellbeing	2	702.73	6.64	.001	.016
	Sleep scores	2	197.74	1.45	.234	.004
Error	Psychological wellbeing	792	105.80			
	Sleep scores	792	135.98			

Note. For Depression Wilk's λ (2, 791) = .972, $p=.000$, $\eta^2=.02$. For Dyadic Adjustment, Wilk's λ (4, 1582) = .428, $p=.000$, $\eta^2=.34$, and for interaction Wilk's λ (4, 1582) = .982, $p=.006$, $\eta^2=.009$.

Two-way MANOVA was conducted on psychological wellbeing and sleep scores. The results showed that depression had a significant main effect on psychological wellbeing $F(2,791)=12.17$, $p=.001$ and partial $\eta^2=0.15$ and sleep scores $F(2,791)=6.26$, $p=.013$ and partial $\eta^2=.008$. Dyadic adjustment had a significant main effect on psychological wellbeing $F(4,1582)=501.15$, $p=.000$ and partial $\eta^2=.55$ and sleep scores $F(4,1584)=90.95$, $p=.000$ and partial $\eta^2=.18$. Depression and dyadic adjustment had significant interaction effect on psychological wellbeing $F(4,1582)=6.64$, $p=.001$ and partial $\eta^2=.016$ and had non-significant interaction effect on sleep scores $F(4,1582)=1.45$, $p=.234$ and partial $\eta^2=.004$. Tukey's HSD tests showed that there were significant mean differences between individual belonging to low dyadic adjustment group and middle dyadic adjustment group (M Difference= 3.89, $p=.000$) on psychological wellbeing. There were significant mean differences between individuals belonging to low dyadic adjustment and high dyadic adjustment (M Difference= -25.8, $p=.000$) on psychological wellbeing. Tukey's HSD tests showed that there were significant mean differences between individual belonging to low dyadic adjustment group and middle dyadic adjustment

group (M Difference= -2.48, $p=.031$) on sleep scores. There were significant mean differences between individuals belonging to low dyadic adjustment and high dyadic adjustment (M Difference= 10.94, $p=.000$) on sleep scores

Table No. 6 Mediating Effect of Sleep Disturbance on the Association between Depression and Psychological Wellbeing (N=798)

Measures	<i>B</i>	<i>SE</i>	<i>P</i>
Step 1 (Path c)			
Outcome: PWB			
Depression	-.16	.02	.000
Step 2 (Path a)			
Outcome: SLP D			
Depression	.09	.01	.000
Step 3 (Path b)			
Outcome: PWB			
Sleep-Disturbance	-.54	.04	.000
(Path c')			
Mediator: Sleep-Disturbance			
Predictor: Depression	-.12	.01	.000

Note. PWB=Psychological Wellbeing, B=standardized coefficient. * $p<.05$, ** $p<.01$, *** $p<.0001$

In terms of the current investigation, Preacher and Hayes (2008) bootstrapping method was used for the purpose of testing and observing whether sleep disturbance mediated the association between depression and psychological wellbeing. The core assumption of mediation analysis is to assess whether a significant relationship is seen between the predictor and the outcome variable. Correlation Matrix (See table of correlations) had shown that all variables being researched were significantly associated. Path c in the table shows the predictive association between depression as the independent variable and psychological wellbeing as the dependent variable without controlling for sleep disturbance as the mediator. There was a significant predictive relationship between depression as the independent variable and psychological wellbeing as the dependent variable without controlling the effects of sleep disturbance ($B= -.16$, $p<.001$). Path a shows relationship between depression as the predictor variable and sleep disturbance as the mediator. This path has shown that depression was significantly associated with the mediator variable i.e. sleep disturbance ($B= .09$, $p<.001$). Path b in the table shows sleep disturbance as the predictor of psychological wellbeing. There was a significant predictive relationship that was seen ($B= -.54$, $p<.001$). The path c' (c prime path) shows the association between depression as the independent variable and psychological wellbeing as the dependent variable when controlling for the mediator (sleep disturbance). If depression has no effect on psychological wellbeing and c' model is no more significant, then it can be said that there is complete mediation. However, in this case, a decrease in the level of association was seen between the relationship of depression (IV) and psychological wellbeing (DV) which is an indication of partial mediation ($B= -.12$, $p<.001$).

Table No. 7 Moderated Mediation Analysis when treating Dyadic Adjustment as the Dependent variable (N=798)

Predictor Variables	<i>B</i>	<i>SE</i>	<i>T</i>	<i>P</i>
Depression (IV)	-.11	.01	36.81	.000
Sleep Dis.(Moderator)	-.44	.04*	-9.01	.000
Depression x Sleep Dis.	-.44	.001	5.60	.000
R ²	.15			
Dependent Variable: Psychological Wellbeing				
Predictor Variables	<i>B</i>	<i>SE</i>	<i>T</i>	<i>P</i>
Dyadic Adjustment (Mediator)	.39	.02	27.33	.000
Depression (IV)	-.11	.01	-9.05	.0000
R ²	.39			

Conditional Indirect Effects at specific levels of the moderator when treating Dyadic Adjustment as a Mediator (N=798)

Moderator:	B	SE	P	95 % CI	
				UL	LL
Sleep Disturbance					
High	-.07	.01	.000	-.0174	-.0556
Middle	-.0453	.07	.000	-.0677	-.0307
Low	-.01	.08	.000	-.0231	-.0014

Moderated Mediation was performed using Bootstrapping method by Preacher and Hayes (2008). It established whether an indirect effect occurred from depression to psychological wellbeing via the mediation of dyadic adjustment and if that effect is conditional on the moderation of sleep disturbance. Table 11 provides the details of moderated mediation analysis. Table 12 provides details about the conditional indirect effects. Results showed that both depression and sleep disturbance had a significant direct effect on self-efficacy and also their interaction effect on dyadic adjustment was also significant ($R^2=.15$, $B= -.44$ $p<.001$) see table 11. The results also indicated that the indirect effect of depression on psychological wellbeing via the mediation of dyadic adjustment across varying levels of the moderator i.e. sleep disturbance. It was found that the effect was stronger for high level of sleep disturbance ($B= -.07$, $p<.001$) in comparison to lower levels of sleep disturbance ($B= -.01$, $p<.001$) (see table 12). It was found that dyadic adjustment did significantly mediate the relationship between depression and psychological wellbeing. In addition, it was found that there was a moderating effect of sleep disturbance across depression to psychological wellbeing via the mediation of dyadic adjustment.

DISCUSSION

The main purpose of the study was to examine the effect of depression on sleep disturbances and psychological wellbeing among married couples. For the current study, firstly it was hypothesized that there is likely to be a significant relationship between depression and sleep disturbances among married couples. The findings of this study supported this hypothesis. The results of correlation revealed that depression has positive and significant relationship with sleep disturbances among married couples. It means that when scores on depression increases, the scores on sleep disturbances also tend to increase which indicates poor sleep quality. Some previous literature also found relationship among depression and sleep.

Secondly, it was hypothesized that there is likely to be a significant relationship between depression and decreased psychological wellbeing among married couples. The findings of this study also supported this hypothesis. The Pearson correlation showed that depression has a negative and significantly moderate relationship with psychological wellbeing. It means that when depression increases, psychological wellbeing tends to decrease. Previous literature also found a negative correlation between depression and psychological well-being. Dhara and Jogsan (2013) found a significantly negative correlation between depression and psychological wellbeing.

Thirdly, it was hypothesized that there is likely to be a significant difference between husbands and wives on their scores on depression, psychological wellbeing, sleep disturbances and dyadic adjustment. The study supported this hypothesis. Results of Independent sample t- test showed that wives scored higher than their husbands on psychological wellbeing and dyadic adjustment. Husbands scored higher than their wives on depression and sleep disturbances. The previous literature do not support this hypothesis. Fourthly, it was stated that dyadic adjustment would mediate the relationship between depression and psychological wellbeing. However, the indirect effect is going to be conditional on sleep disturbance and is going to be stronger for high sleep disturbance scores. Our study supported this hypothesis. Moderated mediation analysis showed that indirect effect occurred from depression to psychological wellbeing via the mediation of dyadic adjustment and if that effect is conditional on the moderation of sleep disturbance. The aforementioned hypotheses were confirmed and have contributed to the existing literature showing that men and women differ in terms of their level of dyadic adjustment, depression, psychological wellbeing and sleep quality (Revenson et al., 2016).

CONCLUSION

It was concluded from the results of our study that depression had a significantly positive and slightly moderate relationship with the scores of sleep disturbance. Depression also had a significantly negative

and moderate relationship with psychological wellbeing. It was also concluded from results of our study that there was a significant effect of depression on sleep scores and psychological wellbeing. There was also a significant difference in husbands and wives on their scores on depression, psychological wellbeing and sleep scores. Wives scored higher than husbands on psychological wellbeing and dyadic adjustment. Husbands scored higher than wives on sleep and depression. It was also concluded that dyadic adjustment mediates the relationship between depression and Psychological Wellbeing. However, the indirect effect is going to be conditional on sleep disturbance and is going to be stronger for high sleep disturbance scores.

Limitations and Future Suggestions

An unequal number of husbands and wives completed the questionnaire. This can lead to inflation of effect sizes and gender differences. Moreover, it is unclear whether the differences identified in the study are prevalent across the country or are limited to specific regions. Moreover, no differentiation with regard to couples residing in rural and urban settings was done. For future researches, it is recommended that an equal number of husbands and wives may be recruited to study the effects of depression and sleep quality on psychological wellbeing via the mediation of dyadic adjustment. It is also recommended that specialized policy level interventions may be adopted to promote wellbeing and sleep quality of married couples.

REFERENCES

- Abbas, J., Aqeel, M., Abbas, J., Shaher, B., Jaffar, A., Sundas, J., & Zhang, W. (2019). The moderating role of social support for marital adjustment, depression, anxiety, and stress: Evidence from Pakistani working and nonworking women. *Journal of affective disorders, 244*, 231-238.
- Abbas, J., Aqeel, M., Ling, J., Ziapour, A., Raza, M. A., & Rehna, T. (2020). Exploring the relationship between intimate partner abuses, resilience, psychological, and physical health problems in Pakistani married couples: a perspective from the collectivistic culture. *Sexual and Relationship Therapy, 1-30*.
- Azhar, A., Abbas, J., Wenhong, Z., Akhtar, T., & Aqeel, M. (2018). Linking infidelity stress, anxiety and depression: evidence from Pakistan married couples and divorced individuals. *International Journal of Human Rights in Healthcare, 11(3)*, 214-228.
- Beck, A. T., Steer, R. A., & Brown, G. (1996). Beck depression inventory–II. *Psychological assessment*.
- Blazer, D.C., Hughes, D.C., George, L.K. (1987). The epidemiology of depression in an elderly community population. *The Gerontologist, 27*, 281–287
- Buysse, D. J., Reynolds III, C. F., Monk, T. H., Berman, S. R., & Kupfer, D. J. (1989). The Pittsburgh Sleep Quality Index: a new instrument for psychiatric practice and research. *Psychiatry research, 28(2)*, 193-213.
- Chen, J., Waite, L. J., & Lauderdale, D. S. (2015). Marriage, relationship quality, and sleep among u.s. older adults. *Journal of Health and Social Behavior, 56(3)*, 356-377. doi:10.1177/0022146515594631
- Christoph, M. J., Grigsby-Toussaint, D. S., Baingana, R., & Ntambi, J. M. (2017). Physical activity, sleep, and BMI percentile in rural and urban Ugandan youth. *Annals of global health, 83(2)*, 311-319.
- Goyal, M., Singh, S., Sibinga, E. M., Gould, N. F., Rowland-Seymour, A., Sharma, R., ... & Ranasinghe, P. D. (2014). Meditation programs for psychological stress and well-being: a systematic review and meta-analysis. *JAMA Internal Medicine, 174(3)*, 357-368.
- Gunnars, K. (2014). Effects of poor sleep quality on depression and anxiety. (BSc Psychology dissertation, Reykjavik University). Retrieved from <https://skemman.is/bitstream/1946/19416/1/BSc.Thesis.QualityOfSleep.pdf>.
- Harvey, A., G. (2001). "Insomnia: symptom or diagnosis?". *Clinical Psychology Review, 21(7)*: 1037–59.
- Khan, M. N., Akhtar, P., Ijaz, S., & Waqas, A. (2021). Prevalence of depressive symptoms among university students in Pakistan: a systematic review and meta-analysis. *Frontiers in public health, 8*, 603357.

- LeBlanc, M., Beaulieu-Bonneau, S., Mérette, C., Savard, J., Ivers, H., & Morin, C. M. (2007). Psychological and health-related quality of life factors associated with insomnia in a population-based sample. *Journal of psychosomatic research*, 63(2), 157-166.
- Payne, L., Hawley, L., Ketchum, J. M., Philippus, A., Eagye, C. B., Morey, C., ... & Diener, E. D. (2018). Psychological well-being in individuals living in the community with traumatic brain injury. *Brain injury*, 32(8), 980-985.
- Perrin, J. S. (2008). Marital satisfaction and psychological well-being in clinical and non-clinical samples. (Master of science Dissertation, Iowa State University). Retrieved from lib.dr.iastate.edu/cgi/viewcontent.cgi?article=16398&context=rtPreacher, K. J., & Hayes,
- Revenson, T. A., Marín-Chollom, A. M., Rundle, A. G., Wisnivesky, J., & Neugut, A. I. (2016). Hey Mr. Sandman: dyadic effects of anxiety, depressive symptoms and sleep among married couples. *Journal of behavioral medicine*, 39(2), 225-232.
- Robles, T. F., & Kiecolt-Glaser, J. K. (2003). The physiology of marriage: Pathways to health. *Physiology & behavior*, 79(3), 409-416.
- Schmitt, M. T., Branscombe, N. R., Postmes, T., & Garcia, A. (2014). The consequences of perceived discrimination for psychological well-being: A meta-analytic review. *Psychological Bulletin*, 140(4), 921.
- Schulz, R. (1996). Spousal similarity in subjective well-being: The cardiovascular health study. *Psychology and Aging*, 11, 582-59.
- Segrin, C., & Burke, T. J. (2015). Loneliness and sleep quality: dyadic effects and stress effects. *Behavioral Sleep Medicine*, 13(3), 241-254.
- Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family*, 15-28.
- Tower, R. B., & Kasl, S. V. (1996). Depressive symptoms across older spouses: longitudinal influences. *Psychology and aging*, 11(4), 683.
- Wang, Y. P., & Gorenstein, C. (2013). Psychometric properties of the Beck Depression Inventory-II: a comprehensive review. *Brazilian Journal of Psychiatry*, 35, 416-431.
- World Health Organization, World suicide prevention day 2012. Retrieved from http://www.who.int/mediacentre/events/annual/world_suicide_prevention_day/en/ Accessed 16.6.2012.