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Social Support and Coping Strategies among Rheumatoid Arthritis Patients

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This study aimed to investigate the social support and coping strategies in diagnosed Rheumatoid Arthritis (RA) patients. A correlational research design was employed for this purpose and a sample 90 RA (males, n = 11 and females, n = 79) patients was selected from four hospitals (two private and two government) of Lahore, Pakistan. Both scales used in this study were translated by Lexicon Equivalence Method. Interpersonal Support Evaluation List (ISEL) was used to assess social support and Brief Cope Inventory (BCI) to determine coping strategies. Results showed significant relationship between social support and coping strategies among RA patients. Appraisal and tangible supports were utilized by majority of RA patients while belonging support was used least. In addition, the patients of RA were most frequently engaged with religion, active coping, acceptance and positive reframing whereas denial, substance use and humor coping techniques were least occupied. Furthermore, it was also found that there were significant differences among RA patients of varying educational levels in terms of self-distraction and use of instrumental support. Moreover, there was no significant difference between early adulthood and middle adulthood RA patients in terms of tangible and appraisal support.

Key words: Rheumatoid Arthritis, Social Support, Coping Strategies.

According to National Rheumatology Society of Pakistan (2008), RA is one of the most significant forms of arthritis and occurs in all ethnic groups. Gulanick and Myers (2011) defined RA as "a chronic autoimmune disease characterized by the inflammation of joints". The pattern of joints affected is usually symmetrical and RA patient suffers from stiffness of particular joints in the morning (Ebnezar, 2000).In general, it has onset between 30 to 50 years of age during individual's peak productive time. However, it progresses to 5% in females after the age of 55 (Rindfleisch & Muller, 2005). A difference in occurrence of RA was noticed in Pakistan among rural and urban districts. Hameed et al., (1995) found a rate of 0.2% in a rich region within Karachi, which was two times the rate observed in a deprived urban region in the same city. Co-morbidity of anxiety, hypertension, depression, diabetes and low self-esteem are more common in RA patients than the general population (Panoulas et al., 2008; Walker, 2012).

RA is a combination of various aspects faced in a person's life such as changes in physical conditions, failure to carry out everyday activities, lack of finances, difficulty in social communications, troubles in family relations, and inability to deal with the symptoms of ill health (Asif et al., 2011). The progress of RA can create problems of social relations as well as concern about how the patient copes with a current condition of disease. However, a reciprocal link is present among social support and coping as these variables manipulate the physical fitness of an individual. Both social support and coping are important components that give awareness regarding how some people manage such traumatic situations in their lives.

This study examines the relationship between social support (SS) and coping strategies (CS) in the patients of RA. Both these distinguish variables (SS and CS) have an effect on future outcomes of RA and significance of life of those suffering from it (Evers, Kraaimaat, Geenen, Jacobs &Bijlsma, 2003). Social support could decrease the likelihood of RA. Support from family and friends facilitate the RA patients to stay healthy and recover from it more rapidly when they were unwell.The benefits of SS involve a sense of belonging, increased sense of self-worth and sense of security. Ramjeet (2003) revealed that it could be a hindrance as well as aid when support was needed. Individuals who are experiencing RA might require different kinds of SS during different stage of illness. Not all types of SS were useful for each RA person in the same manner. Each individual might have diverse preferences for a particular type or a combination of one or two categories of SS. For instance, at times, the RA sufferer might speak about the crisis (appraisal support) or might feel healthy regarding oneself (self-esteem support). In addition, someone has brought lunch for the patient (tangible support) whereas in other circumstances, emotional support was more desired.

On the other hand, coping researchers like Taylor (2006) has observed that taking direct action often express improved adjustment to a disturbing event than doing coping efforts designed to determine the issue of denial or avoidance. Furthermore, there were evidence that active coping was associated with constructive wellbeing and additional resources of coping. For instance, people with additional personal and environmental resources, like an optimistic interpersonal approach, having lots of friends, a good profession and income, would depend more on active coping as compared to avoidant coping (Holahan & Moos, 1987). Similarly, positive reframing type of coping strategy was required to reduce the negative effect of pain in RA patients (Strand et al., 2006). Furthermore, religion as coping can promote a sense of mental and psychological wellbeing. Various studies have reported similar findings that participants used religious coping actions and activities (George, Ellison & Larson, 2002). In response to problem-focused coping, females use more spiritual coping, distraction techniques and acquire social support on daily basis (Rao, 2009). In contrast, coping as self-blame for chronic disease was common. Griffin, Friend, Kaell and Bennett (2001) showed that patients who were predisposed to express their emotions and feelings by venting were

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associated with poorer health conditions eventually. RA patients frequently identified themselves as their own actions and behaviors have caused them into sickness.

Consequently, in the prognosis of RA, the contributory factors are being female, onset at early years of life and longer phase of disease. In contrast, Weiner, Nezu, Nezu and Geller (2003) found that being male, onset at some point in late life and current diagnosis can provide benefit to RA outcome and advancement. However, a number of researches have revealed the relationship among SS and coping but have seldom examined within the similar study. Both SS and CS are essential psychosocial elements that have huge influence on the RA sufferers (Brown & Neumann, 2004).

Objectives of the study

The foremost objectives of study were:

- To explore relationship between social support and coping in the patients of RA.
- To find out which type of social support was more helpful.
- To identify which coping strategy is useful and more favorable to handle RA.

Hypotheses

- There is a significant relationship between social support and coping strategies among RA patients.
- Educated RA patients would use more self-distraction and instrumental support than non-educated RA.
- Middle-aged RA patients would seek more tangible and appraisal support as compared to early adulthood RA.

Method

Research Design

The hypotheses of the current study were examined by correlational research design.

Participants

The sample of 90 diagnosed RA patients was obtained by using purposive sampling technique. These patients were selected from two outpatient department (OPD) of Mayo Hospital and Ganga Ram Hospital (government hospitals) and two OPD of Orthopaedic Medical Complex, OMC and Surgimed Hospital (private hospitals) of Lahore. Private hospitals carried out the OPDs for minimum four days per week while government hospital OPDs were working for minimum two days a week. Proportion of RA sample from different hospitals is as follows:

Sampling Distribution of RA Patients (n=90)

Hospital Name	Male	Female	Total
Mayo Hospital	4	26	30
Ganga Ram Hospital	1	14	15
OMC Hospital	5	20	25
Surgimed Hospital	1	19	20
Total	11	79	90

Inclusion and Exclusion Criteria

It involved minimum one year RA diagnosed mild to moderate, male and female patients. RA patients within an age range of 21 to 60 years as well as with and without additional problems were chosen. Both literate (who can read and write) and illiterate (who cannot read and write) RA patients were included in the sample. Individuals who had severe nature of disease and less than one year diagnosis were not selected. RA patients with less than 21 years and more than the age of 60 were excluded from the sample.

Materials

The measures used in this study were:

a) Interpersonal Support Evaluation List (ISEL).Cohen and Hoberman designed ISEL in 1983. It consists of 40 items that have both positive and negative statements. It fall into four subscales namely belonging, self-esteem, tangible and appraisal. Each subscale has 10 items to determine perceived availability of variety of functions of social support. The score was rated on a 4- point scale (0, 1, 2, 3) with half of the items having reverse scoring for counterbalancing.The ISEL has retest reliability of .87 with the reliabilities of the subscales ranging from .71- .87. In addition, it has strong internal consistency reliability ranging from .77- .86 (Cohen & Hoberman, 1983). The overall score was 120 and the cutoff point was chosen to be the midpoint of the total score that is 60.

b) Brief COPE Inventory (BCI).This scale was developed by Carver in 1997. It is a brief version of the COPE prepared by Carver, Scheier and Weintraub in 1989. The BCI evaluates different responses recognized to be relevant to constructive and destructive coping. It is a 28-item questionnaire, divided into 14 subscales i.e. active coping, self-blame, use of instrumental support, denial, positive reframing, religion, self-distraction, acceptance, behavioral disengagement, use of emotional support, substance use, humor, venting, andplanning. Each subscale has two items. In addition, substance use statements were modified due to culture biasness. The score was recorded on a 4- point Likert scale (1, 2, 3, and 4). The scale has reliability (Cronbach alpha) ranging from .50 to .90 (Carver, 1997). The overall score was 112 and the cutoff point was decided to be 56, which is the midpoint of the total score.

Translation of Scales

With the permission of authors of scales, BCI and ISEL were translated into Urdu for the RA patients to understand it easily. Five bilingual experts translated ISEL and BCI items into Urdu for using these scales in this study. Then a board of judges comprisingof six bilingual professionals selected suitable translation of Urdu for both scales. After that, Lexicon Equivalence Method was applied (Neuman, 2006). Four bilingual experts were given the Urdu translated versions of these two scales for back translation into English. This method was implied to convey the same contextual meanings of the statements of original English editions of both scales. Thus, the translated version of ISEL and BCI were finalized and administrated on RA patients.

Procedure

Permissions were taken from Medical Superintendents and Heads of Orthopaedic /Rheumatology departments of above mentioned

government and private hospitals of Lahore. Then, the doctors in OPD's were requested to refer mild to moderate diagnosed RA patients to researcher. After that, the researcher reviewed the clinical records of referred RA patients to ensure that the sample is valid. After informing about the research aim and procedure, written consent forms were obtained from these patients who agreed to take part in the study. Then, literate participants were given both questionnaires (ISEL and BCI) with demographic sheet. As with illiterates, items (questions) were read for them and the scoring of both scales were explained by means of visual cards and then they responded the appropriate option. The researcher thanked the participants for their time and co-operation when they completed the questionnaires.

Results

The data collected from 90 diagnosed RA patients were calculated by SPSS (version 14). Descriptive statistics, percentages and frequencies of sample were examined. To find relationships between demographic variables, social support and coping, bivariate correlation analysis was used. Furthermore, independent t test was analyzed to compare age groups on two subscales of ISEL. In addition, one-way ANOVA was also performed to explore the different groups of education on coping.

Table 1 shows the demographic variables of RA patients in the present research. Eighty eight percent of RA participants were females and 12 % were males. Majority of RA patients were married (87%) and 66% were housewives. The average age of diagnosed RA patients was 40.19 years (*SD* = 7.51). Nearly 42.2% had RA since 2 years with 57% of sample having mild nature of RA. Secondary degree was achieved by twenty-four patients of RA while 12 were reported to be illiterate.

Table 2 demonstrates the descriptive statistics and alpha coefficients of both scales (ISEL and BCI). Appraisal support (*M* = 19.57, *SD* = 6.30) and tangible support (*M* = 18.12, *SD* = 7.60) were most commonly utilized by the participants of RA. In contrast, RA participants were least occupied with belonging support (*M* = 16.37, *SD* = 6.77). In addition, the two most frequently used coping techniques were religion (*M* = 6.93, *SD* = 1.16) and active coping *(M* = 6.21, *SD* = 1.42). Subsequently, the acceptance and positive reframing coping strategies were also employed by RA participants (*M* = 6.19, *SD* = 1.36 and *M* = 6.11, *SD* = 1.26) respectively. Furthermore, the coping subscales least used by RA participants were substance use and humor (*M* = 2.52, *SD* = 1.07 and *M* = 2.71, *SD* = 1.35) respectively. The overall means of ISEL and BCI were 71.57 (*SD* = 22.88) and 66.67 (*SD* = 9.05) respectively. In addition, the coefficient of reliability (Cronbach's Alpha) of total ISEL and BCI items were high (.93 and .80) respectively.

Table 3 presents the correlations among demographic variables, BCI and ISEL. The social support and coping on RA participants were positively correlated, $r = .26$, $p < .05$. Family monthly salary and education were correlated with social support $r = .49$, $p < .01$ and $r = .57$, $p < .01$ and coping $r = .24$, $p < .05$ and $r = .36$, $p < .01$) respectively. Furthermore, both ISEL and BCI were less likely to be significantly related with gender whereas marital status was negatively correlated to social support $r = -.22$, $p < .05$.

In Table 4, the results of one-way ANOVA indicate that there was a significant difference between education and coping strategies (two subscales of BCI), use of instrumental support; $F(6,83) = 2.51$, $p = .03$, $\eta^2 = .15$ and self-distraction; $F(6, 83) = 2.41$, $p = .03$, $\eta^2 = .15$. Furthermore, multiple comparisons revealed that there was a significant difference in the use of instrumental support among masters group of RA (*M* = 6.14, *SD* = 1.21) and illiterate (*M* = 3.92, *SD* = 0.51) as well as between RA participants of graduate

Table 1
Demographic Variables of RA Participants (n = 90)

Demographic variables	*F*	*%*	*M*	*SD*
Age (years)			40.19	7.51
21-40	45	50	34.16	5.78
41-60	45	50	46.22	2.49
Gender				
Male	11	12.2		
Female	79	87.8		
Education				
Illiterate	12	13.3		
Primary	16	17.8		
Elementary	7	7.8		
Secondary	24	26.7		
Intermediate	14	15.6		
Graduate	10	11.1		
Masters	7	7.8		
Profession				
Government	7	7.8		
Private	9	10.0		
Business	4	4.4		
House wife	59	65.6		
Jobless	11	12.2		
Marital status				
Married	78	86.7		
Unmarried	5	5.6		
Widowed	7	7		
Family system				
Nuclear	61	67.8		
Joint	29	32.2		
Family monthly income				
10,000	22	24.4		
20,000	17	18.9		
30,000	28	31.1		
40,000	11	12.2		
50,000	9	10.0		
60,000	3	3.3		
Disease duration				
2 years	38	42.2		
4 years	22	24.4		
6 years	11	12.2		
8 years	10	11.1		
10 years	6	6.7		
12 years	3	3.3		
Disease nature				
Mild	51	56.7		
Moderate	39	43.3		
Additional problems				
Blood pressure	33	36.7		
Diabetes	6	6.7		
None	51	56.7		

Table 2
Mean, Standard Deviations and Alpha Coefficients of ISEL and BCI along with Subscales

Scales	*M*	*SD*	No. of items	Cronbach's Alpha
ISEL	71.57	22.88	40	0.93
Appraisal	19.57	6.30	10	0.75
Tangible	18.12	7.60	10	0.84
Self-esteem	17.51	5.25	10	0.68
Belonging	16.37	6.77	10	0.79
BCI	66.67	9.05	28	0.80
Self-distraction	5.57	1.45	2	0.41
Active coping	6.21	1.42	2	0.65
Denial	3.18	1.31	2	0.37
Substance use	2.52	1.07	2	0.86
Use of emotional support	4.72	1.58	2	0.61
Use of instrumental support	5.1	1.50	2	0.72
Behavioral disengagement	3.52	1.72	2	0.82
Venting	4.17	1.66	2	0.66
Positive reframing	6.11	1.26	2	0.60
Planning	5.96	1.29	2	0.33
Humor	2.71	1.35	2	0.76
Acceptance	6.19	1.36	2	0.33
Religion	6.93	1.16	2	0.74
Self-blame	3.78	1.36	2	0.39

Note. ISEL= Interpersonal Support Evaluation List; BCI= Brief Cope Inventory

Table 3
Correlation among ISEL, BCI and Demographics Variables

Variables	1	2	3	4	5	6	7
1. ISEL	____						
2. BCI	0.26*	____					
3. Age	-0.18	0.82	____				
4. Gender	0.08	0.05	-0.06	____			
5. Education	0.57**	0.36**	-0.14	-0.14	____		
6. Marital status	-0.22*	-0.12	0.09	0.14	-0.24*	____	
7. Family monthly income	0.49**	0.24*	0.09	0.08	0.66**	-0.09	____

Note. ISEL= Interpersonal Support Evaluation List; BCI= Brief Cope Inventory, ** $p < .01$, * $p < .05$.

Table 4
One way Analysis of Variance across Education and Subscales of BCI (n =90)

								Groups		
BCI		*SS*	*df*	*MS*	*F*	*p*	η^2	Masters	Graduate	Illiterate
Use of Instrumental Support								6.14_a (1.21)	5.80_b (1.62)	3.92_c (0.51)
	Between groups	30.76	6	5.13	2.51	.03	0.15			
	Within groups	169.34	83	2.04						
	Total	200.10	89							
Self-distraction								7.00a (1.00)	6.20_{ab} (1.62)	4.92_b (1.08)
	Between groups	27.57	6	4.59	2.41	.03	0.15			
	Within groups	158.54	83	1.91						
	Total	186.10	89							

Note. Standard deviations appear in parentheses. Means that do not share subscripts vary at $p < .05$ based on Tukey HSD comparison.

Table 5
Comparison of Means of Age Categories on Tangible and Appraisal Support

	Early adulthood [a]		Middle adulthood [b]				95% CI		Cohen's
Social support	*M*	*SD*	*M*	*SD*	*t(88)*	*p*	*LL*	*UL*	*d*
Appraisal support	20.44	6.43	18.69	6.12	1.33	.19	-0.87	4.38	0.28
Tangible support	18.53	7.74	17.71	7.52	0.51	.61	-2.38	4.02	0.12

Note. CI = Confidence interval; LL = lower limit; UL = upper limit. [a]*n*= 45, [b]*n*=45.

(*M* = 5.80, *SD* = 1.62) and illiterate. Tukey post-hoc test also showed that self-distraction was significant between illiterate *(M* = 4.92, *SD* = 1.08) and masters (*M* = 7.0, *SD* = 1.00) RA participants. It was also found that graduate RA group (*M* =6.20, *SD* = 1.62) did not differ from the other RA groups (masters and illiterate) at *p*< .05.

The results of independent t tests on RA participants were illustrated in Table 5. It was found that the differences in scores of appraisal support between early adulthood (*M* = 20.44, *SD* = 6.43) and middle adulthood (*M* = 18.69, *SD* = 6.12) RA participants were not statistically significant, *t* (88) = 1.33, *p* = .19, 95% CI [-0.87, 4.38], *d* = 0.28. In addition, it was indicated that there were no differences between two groups [early adulthood (*M* = 18.53, *SD* = 7.74) and middle adulthood (*M* = 17.71, *SD* = 7.52)] of RA participants on tangible support, *t* (88) = 0.51, *p* = .61, 95% CI [-2.38, 4.02], *d* = 0.12.

Discussion

The major purpose of the research is to study the correlation between social support and coping in diagnosed RA patients. One fourth of participants had RA since four years whereas more than one-third is experiencing RA for two years. The sample of this study is representative of other studies with regard to gender and age. A study by Shaul (1994) revealed that RA is more frequent in females than males. Another study found that more females were suffering from RA as compared to males (Hameed & Gibson, 1997). The current study also supports that RA occurs in 87.8% of females and 12.2% in male patients. The mean age of RA participant in this study is 40.19 years with *SD* = 7.51. Although, a similar finding was observed in 52 RA patients with an average age of 44.60 years (Mody& Meyers, 1989). In addition, the present research failed to represent the comparison between genders and use of coping strategies as well as social support due to fewer number of male RA participants.

The sample of this study consists of majority of literate housewives with 57% of patients afflict with mild RA. About one third of RA participants have co-morbidity with blood pressure. Several researchers have noticed that RA patients are more prone to heart attack, diabetes, blood pressure and stroke (Kitas & Erb, 2003; Antonio et al., 2008). Furthermore, Packham, Hall and Pimm (2002) found that majority of RA sufferers are jobless, divorced and have low social status than physically well individuals. On the contrary, only 12.2% of RA patients were without job with no divorced cases found in the present research. However, a small number of unmarried and widowed RA participants existed belonging to nuclear family system comprising of middle social group.

The first hypothesis is accepted, as there is a positive correlation between SS and CS in the patients of RA. Some researchers have revealed significant relationship between SS and coping (Logan & Spitze, 1994; Ward & Leigh, 1993). Conversely, other researchers have reported conflicting results, i.e., both SS and CS have negative effects on RA and no relationship exists between these variables (Dwyer, 1997; McNally & Newman, 1999). One reason of significant relationship between these two variables might be exaggerated by the approach the RA patients perceive the illness. In addition, the way RA patients deal with the disease and social circle of these patients might play a role in defining these relationships. Both these variables might be influenced by the society and environment in which they are dwelling. Furthermore, cultural framework can manipulate coping actions, social practices and health performance of RA.

The present research found that religion, active coping, positive reframing and acceptance are most significant coping techniques for RA participants. Religious practices are frequently used coping method by majority of RA patients as it contributes a distinctive part in individual's existence. Similarly, RA patients regard positive reframing as an important characteristic of religious health. It may help the RA sufferers to see things in positive light and help them to accept that the traumatic experience has occurred and cannot be altered. Consequently, RA sufferers may take care of the disease optimistically. Furthermore, the acceptance (coping strategy) proposes that these patients are recognizing and admitting the disease. This outcome is similar to past study of Felton and Revenson (1984). In addition, with regard to active coping, it was observed that patients of RA utilized more active coping than passive coping (Newman & Mulligan, 2000). These patients are making positive attempts to deal with RA. This study also has the same viewpoint about the use of active coping.

The least related coping techniques found in this study are substance use, humor and denial. The results were consistent with the findings of study on denial (Zyrianova et al., 2006). However, humor was considered as helpful aspect against the ill health. It seems that RA patients do not like to joke about the disease or taking sleeping pills to feel better. Cousins (1979) elaborated that humor creates healthier mood, fewer worries, and reduced stress. Nevertheless, this approach is not applicable in current sample of RA because of cultural variations.

The second assumption is that educated RA participants would utilize self-distraction and use of instrumental support (IS) more as compared to non-educated RA participants. This hypothesis is also accepted, as both subscales of BCI (self-distraction and use of IS) are more frequently seek by literate RA groups (masters and graduate) than illiterate. It seems that education plays a vital role in coping. Educated RA group are participating in getting help and advice from other people to know about the condition of disease whereas non educated RA group are not curious about it. Furthermore, a study concluded that educating RA patients in a group reinforced them in making suitable choices as well as changes in the RA treatment (Taal et al., 1993b). In addition, the two coping techniques (self-distraction and use of instrumental

support) were chosen as Keefe et al. (1997) mentioned in the study that self-distraction coping strategy was used more daily by RA participants as compared to venting emotions. With regard to the use of IS, it was employed more by RA participants than making use of emotional support in the present research. This is contradictory to results of study conducted by Stanton, Kirk, Cameron and Burg (2000).

The third hypothesis examined middle adulthood RA participants use tangible and appraisal support more as compared to early adulthood RA participants. This assumption is rejected and the outcomes failed to explain significant differences between these age categories. The result proposes that early adulthood RA participants utilize both these supports (tangible and appraisal) more than RA in middle adulthood. This finding is inconsistent with earlier research of Naidoo (2001). The researcher found that older participants of RA anticipate more tangible support as compared to young RA participants. However, the current finding might be due to cultural variation. It is the view of Pakistani people that when they reach the age of fifty, they are more prone to diseases. Therefore, early RA patients might be anxious and feel worse than middle-aged RA patients. Furthermore, young RA sufferers rely on others for small favors, such as asking one of family member to take them to physician, talking about the problems with friends, mending the appliance and taking care of the house in the absence (Cohen & Hoberman, 1983). A further explanation might be that the family, friends and relatives facilitate them in difficulty caused by the harsh conditions of disease. On the other hand, Smith, Christensen, Peck and Ward(1994) found that early RA participants obtain tangible and appraisal support more as they provoke kindness, feelings of restlessness and depend on other people for their desires. Alternatively, RA patients will not continue to complete the daily activities they are able to perform if pampered (Taal, Rasker, Seydel & Wiegman, 1993a).

Limitations and Recommendations

The limitations and recommendations of the study are:

- Primarily the sample is small. However, if more men have been included in the sample, the results would have been quite different.
- All the effects of demographic variables were difficult to study on social support and coping. Therefore, in future, it might be fundamental to examine the use of these variables with a larger sample.
- The role of social support and coping strategies cannot be studied in RA patients as this study only investigated correlational relationships. Therefore, researchers might carry out longitudinal study to understand and explain the relationship about social support and coping strategies. Moreover, qualitative analysis might be conducted to find out the constructive elements of these variables.

Implications

The outcomes of the research are helpful for people of Pakistan to improve their understanding on RA. It may support the hospital staff including the doctors and nurses in their training to encourage and motivate the RA patients about the use of social support and coping strategies. Furthermore, rheumatologists/psychologists would guide the family members of these patients in applying and accomplishing certain coping techniques accompanied by the perceived usefulness of these techniques. On the whole, this study would provide positive influence on the social and mental health of patients with RA.

Conclusion

This research provided indication of beneficial and useful influences of social support and coping strategies on patients with RA. The results of present research show that social support and coping strategies have significant relationship on patients of RA. An essential finding of study suggests that education plays an important role to cope with the disease of RA. Furthermore, it shows that the use of subscales of BCI (religion, active coping, positive reframing and acceptance) and subscales of ISEL (appraisal and tangible support) are major modes in recognizing RA patient's experiences. However, it is difficult to decide that whether coping strategies direct to positive or negative effects on the health of RA patient or whether social support controls forms of coping.

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