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Association between common stressful life events and coping strategies in adults

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Abstract:

BACKGROUND: As shown in previous persons that used the effective coping strategies are more aware to recent stressful life events in their live, this study conducted to investigate the main stressful life events and common coping styles in adult's population.

MATERIALS AND METHODS: This cross-sectional study was conducted in 2018. In overall, 345 persons aged 18 years and more by stratified cluster sampling were enrolled in the study. The valid questionnaires including the coping inventory for stressful situations-21, the Holmes-Rahe Stress Inventory, and 28-item General Health Questionnaire (GHQ-28) were used to interview. The analysis of variance and *t*-student (*t*-test) was used to determine the association between the two variables. The statistical significance level was considered <0.05.

RESULTS: The top three importance events among 43 stressful items in our study were change in financial state, gain of a new family member, and death of close family member. We found that task-oriented coping ($P < 0.001$) and avoidance-oriented coping ($P = 0.021$) significantly more used in males compered to females. According to Holmes-Rahe life stress inventory instructions only 4.7% of participants are prone to getting ill in next 2 years.

CONCLUSION: The results of this study showed a positive relationship between coping styles and lower risk of mental health problems and stressful life events. Hence, activities and training programs aiming to enhance personal approach coping skills is important to reduce of side effects of stressful life events especially those recently exposed to negative life events and stresses.

Keywords:

Adults, coping style, Iran, mental health, stressful life events

Introduction

Stress is the body's response to any demands, changes, or threats. Stress is considered healthy when it can facilitate awareness to threats so consider it as desirable.^[1] The ways that people deal with stress, frustration, frustration, and failure are called stress management.^[2] Although stress and stressors may be similar for different individuals, individuals react differently to their stressors based on their personality traits and self-esteem and use specific coping strategies that can have different

effects (reducing or prolonging stress) in the derby.^[3] Perhaps, the best way to deal with stress is to eliminate the stressor, but in most situations is not possible and must be adapted to stress in a way that can tolerate it and reduce its severity.^[4]

Coping strategies is a stabilizing factor that help to individuals for maintain mental adaptation during the stressful events.^[5] The coping process is a very complex response that occurs when a person is exposed to stress or a perceived threat from the environment.^[6] Schoenmakers *et al.* showed two types of coping styles; problem-centered and emotion-focused,

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in problem-focused coping person ignore the stressful position, while emotion-focused coping person rapidly reduction or adjustment with stress.^[7] Therefore, it can be concluded that using different coping techniques, including problem-centered and emotion-focused skills, are needed to effectively deal with stress.^[8] Orzechowska *et al.* in own study showed a significant link between coping and psychological symptoms, so only 25%–35% of those who had psychological symptoms used the some effective coping strategies and more aware to recent stressful life events in their lives, as well.^[9] McCarthy in 2018 also shown found a significant relationship between coping styles and mental health is different in both sexes. They also demonstrated that among coping styles, problem-oriented and emotion-oriented styles with sexual variables in predictors of mental health played a role.^[10] In other study revealed that coping skills play a predictive role in the mental health of adolescents and young inmates.^[11]

It has been showed that excessive stress in people significantly linked to the higher psychological problems prevalence including depression, anxiety, substance abuse, and suicidal ideation.^[12] Studies in Iran show that the prevalence of mental disorders is estimated from 12.6% to 36.5%.^[13] In one study in Tehran, the prevalence of psychiatric disorders was 27.7% in women and 14.9% in men.^[14] In addition, a distinct study in Ilam province showed that 26.1% of study populations were suspected to mental disorders that likelihood of unpleasant consequences such as depression and suicide were higher in them.^[15] Therefore, regarding the relationship between psychological problems and stress and psychological problems as well as the high prevalence rate of psychological problems in Ilam, this study was conducted to determine of stressful life events and common coping styles in adult's population.

Materials and Methods

Study design and setting

In this cross-sectional study, the target population of the study includes all male and female citizens over 18 years old residing in Ilam city (172,213 people) in 2018, Iran.

Study participants and sampling

The sample size of study was calculated by ratio formula in unlimited populations, $n = 345$. The sampling method was stratified cluster also participants were selected with convenience sampling in final clusters by inclusion criteria. In the first phase, Ilam city was divided into 10 geographical clusters and each cluster was divided into 20 households. Age over 18 years should be present in the sample.

Data collection tool and technique

The questionnaires were completed by visiting the participant's in homes. The sampling process continued until the sampling was completed. The inclusion criteria for entering the study were age higher than 18 years, the ability to answer and complete the questionnaires and also informed consent to participate in the study. Exclusion criteria included noncooperation at the time of completing the questionnaire and questionnaires being confused.

Finally, the questionnaires were implemented by trained questionnaires. The questionnaires were completed by the participants with the guidance of the trained interviewers for approximately 1 h.

The short form of coping inventory for stressful situation (CISS) was developed by Parker and Endler.^[16] This scale has three main coping styles, namely problem-centered coping, which means controlling emotions and planning step-by-step problem solving (called task oriented = 7 items). The problem seeks to reduce negative emotions (called emotion oriented = 7 items) and the avoidance coping style in which one avoids encountering problems (called avoidance oriented = 7 items). Thus, each individual's dominant approach is determined by his or her score in each of the three dimensions of the coping method, and each of the behaviors on the higher-scoring scale is considered as the individual's preferred coping method. The CISS is a self-report questionnaire, and subjects must indicate on a 5-point Likert scale (from never = 1 to very high = 5) how many of each of the strategies presented. In the study of Ebrahimifar *et al.*, Cronbach's alpha coefficient of this questionnaire was 0.90^[17] in addition, this scale was calculated in this study (Cronbach's alpha = 0.922, $n = 345$).

The General Health Questionnaire (GHQ) was used to assess of mental health of participants. The GHQ will be estimate of four aspects including; severe depression, distress somatic symptoms, social dysfunction, and also anxiety-insomnia. The Persian version of GHQ tools has been approved in Iran by Mohammadi *et al.* in 1999, 84.7% and 93.8% for sensitivity and specificity, respectively.^[18] The Cronbach's alpha in this study was calculated = 0.930 ($n = 345$). Person-to-person interview was used to all participants using a standard questionnaire.

This questionnaire measures people's scores of stressful situations. The stressful situations scores are between 100 (maximum score) for death of spouse and 11 (minimum score) for minor misconduct. A total score below than 150 indicates low stress, a score 150–200

indicates moderate stress, a score 200–300 indicates high stress levels, and a score above 300 indicates severe stress. In the study, Hatef *et al.*, the content validity and reliability was approved for the Iranian adults.^[19] The Cronbach’s alpha in this study was calculated = 0.901 ($n = 345$).

Data were analyzed by SPSS Statistics version 26 (IBM Corp., Armonk, NY, USA) using descriptive (frequency [N] and percentage (%), also mean and standard deviation [SD]) and analytical analysis including analysis of variance and *t*-student (*t*-test). The statistical significance level was considered <0.05.

Ethical consideration

This study was approved by the Ethical Committee of the Ilam University of Medical Sciences (Approval ID: IR.MEDILAM.REC.1397.004).

Results

The descriptive statistics results are shown in Table 1, The highest groups in this study were married 318 (82.8%), unemployment persons 192 (55%), also diploma educational level 162 (47%). The main \pm SD scores of mental health questionnaire (GHQ) and CISSs and subscales are shown in Table 1. According to the results, gender ($P = 0.001$), job status ($P = 0.009$), and educational level ($P = 0.001$) were significant relationship with mental health in participants. In addition, gender ($P = 0.005$) and marital status ($P = 0.028$) were significantly relationship with coping style. The mean range of events was from 0.47 to 11.58 for items change in schools and change in financial state, respectively. The tope seven importance events among 43 stressful items in our study were change in financial state, gain of a new family member, death of close family member, personal injury or illness, change in sleeping habits, change in health of family member, and change in number of arguments w/spouse and the lowest item score event was change in schools of children.

In this study, the association between CISS subscales by gender (male/female groups) results is summarized in Table 2.

Our results showed that gender has predicted variable to select of coping style ($P = 0.005$). Results demonstrated that task-oriented coping ($P \leq 0.001$) and avoidance-oriented coping ($P = 0.021$) score are significantly higher in males compered to females. In emotion-oriented coping scale females scored higher than males but the effect size revealed that this difference was not significant ($P = 0.650$).

In Table 3, persons were categorized in three groups by earned scores in Holmes-Rahe Life Stress Inventory instructions, 72.7% of persons were belonged in first group, in this group the chance of getting ill in the next 2 years is almost 30%, 22.7% categorized in second group and 4.7% in third group, with chance getting ill in these two groups in the next 2 years are 50% and 80%, respectively.

Table 4 demonstrates the means score of coping styles by stressful life events in participants.

Results showed that in all three groups the main of coping style were higher in groups with higher score rank in terms of stressful life events. The score of emotion-oriented ($P = 0.015$) and avoidance-oriented coping ($P \leq 0.001$) was significantly differ-based stressful life events scores.

Discussion

Results of this study showed that among coping styles avoidance-oriented obtained the higher score in both genders. In this study, between 43 stressful items; change in financial state, and death of close family member were the top main stressful events.^[20] Hagnell and Rorsman in own study observed that financial problems and death of family members were common in 18% and 13% of suicides.^[21]

Table 1: The mean score of questionnaires based on demographic characteristics of participant

Characteristics	n (%)	Frequency (%)	GHQ score, mean \pm SD	P	CISS-21 score, mean \pm SD	P
Male	171 (49)	189 (49.2)	17.8 \pm 8.7	0.001	64.9 \pm 14.1	0.005
Female	174 (51)	195 (50.8)	25.5 \pm 14.2		61.3 \pm 8.2	
Married	282 (82)	318 (82.8)	21.9 \pm 13.1	0.637	62.4 \pm 14.1	0.028
Single	63 (18)	66 (17.2)	21.0 \pm 8.0		66.0 \pm 10.7	
Employment	153 (45)	168 (43.8)	19.3 \pm 11.4	0.009	62.8 \pm 13.8	0.599
Unemployment	192 (55)	216 (56.3)	23.4 \pm 13.1		61.3 \pm 9.5	
Illiterate	3 (1)	3 (0.8)	16.0 \pm 0.0	0.001	61.0 \pm 0.0	0.845
Elementary	15 (4)	16 (3.9)	37.4 \pm 14.3		61.8 \pm 4.1	
High-school	24 (7)	30 (7.8)	29.5 \pm 18.9		65.3 \pm 11.5	
Diploma	162 (47)	177 (46.1)	19.4 \pm 10.8		63.3 \pm 12.6	
Academic	141 (41)	159 (41.4)	21.5 \pm 10.5		62.7 \pm 11.1	
Total	345 (100)	384 (100)	17.8 \pm 12.5		63.1 \pm 11.6	

SD=Standard deviation, CISS=Coping inventory for stressful situations, GHQ=General health questionnaire

Table 2: The mean score of coping style in participants by gender

Coping style	Mean	SD	Mean difference	95% CI of the difference		P
				Lower	Upper	
Task oriented						
Male	25.72	6.81	2.27	1.10	3.44	<0.001
Female	23.45	4.20				
Total	24.60	5.77				
Emotion oriented						
Male	20.59	9.52	0.38	-1.26	2.02	0.650
Female	20.21	6.03				
Total	20.40	7.93				
Avoidance oriented						
Male	18.47	4.75	1.11	0.172	2.05	0.021
Female	17.36	4.25				
Total	17.90	4.52				
Social diversion (subscale of avoidance oriented)						
Male	8.98	2.96	0.63	0.070	1.19	0.028
Female	8.35	2.50				
Total	8.66	2.75				
Distraction (subscale of avoidance oriented)						
Male	9.39	3.18	0.25	-0.359	0.86	0.419
Female	9.14	2.79				
Total	9.27	2.98				
Total score of CISS						
Male	64.93	14.12	3.55	1.10	5.99	0.005
Female	61.38	8.23				
Total	63.14	11.65				

SD=Standard deviation, CISS=Coping inventory for stressful situations, CI=Confidence interval

Table 3: Description of life events by Holmes–Rahe life stress inventory in three groups

Groups	Frequency (%)	Valid percentage	Cumulative percentage
1*	279 (72.7)	72.7	72.7
2**	87 (22.7)	22.7	95.3
3***	18 (4.7)	4.7	100.0
Total	384 (100.0)	100.0	

*Statistically there is an almost 30% chance of getting ill in the next 2 years,

**Statistically there is an almost 50% chance of getting ill in the next 2 years,

***Statistically there is an almost 80% chance of getting ill in the next 2 years

Finding of this study showed that the coping styles were significantly associated with gender and marital status. The analysis between groups demonstrated that males in two types of coping styles including task and avoidance-oriented scored significantly higher than females, but in emotion-oriented style females were earned more score, that this finding is consistent with previous reports.^[22] As shown in previous the exposure to stressful life events was significantly associated with female gender and type of coping style as well.^[21] Hajian *et al.* in 2018, reported that stressful life events are associated with suicidal behavior when attempters compared with nonattempters persons.^[23] Previously in variety of studies mentioned to coping skills as important protective factors for stressful life events.^[24,25] In this study, task oriented (efforts aimed at solving the problem) and emotion oriented (emotional reactions)

significantly more observed in males. In recent study by Veisani *et al.* the prevalence of psychiatric problems more common in females,^[26] since women are more prone to psychological disorders,^[15] therefore in future works in interventional studies should be done to enhance of coping strategies in females.

In this study, persons were categorized by stressful life event in three groups; results showed that the higher stressful life events were associated with lower score of coping strategies. In consistent with this finding others reported the ability of adult about coping could be reducing stressful life events.^[27] It is worth to note that, approach coping is efforts aimed at solving the problem and reflects behavioral efforts to master or resolve life stressors.^[28] When one person encounters to stressful life events, the abilities to identify the best coping strategy is important, therefore they could be appropriately deal with it problem and resolve it, but when the problem prolonged in more time side effects such as psychological problems and even suicidal could be induced.^[29-31]

The most important strengths of this study are the following; this study was conducted on adults, before studies more done in lower ages, we reported all of scores for all of stressful life events also categorized them to determine of high risk persons. Moreover, we used valid questionnaire to assess of mental health, and

Table 4: The mean scores of coping styles based on stressful life event groups

Coping styles	Groups	n	Mean	SD	F	P
Task oriented	1*	267	25.3	5.9	1.72	0.180
	2**	78	24.8	5.2		
	3***	18	23.5	4.5		
Emotion oriented	1*	261	22.8	8.5	4.25	0.015
	2**	81	20.8	5.3		
	3***	18	18.3	6.4		
Avoidance oriented	1*	255	20.1	4.4	7.52	<0.001
	2**	81	18.2	4.5		
	3***	18	16.4	3.4		
Total score of CISS	1*	252	68.3	11.4	8.21	<0.001
	2**	75	48.7	11.0		
	3***	18	11.4	12.5		
Total	1*	345	63.1	11.6	-	-

30% chance of getting ill in the next 2 years, **50% chance of getting ill in the next 2 years, ***80% chance of getting ill in the next 2 years. CISS=Coping inventory for stressful situations, SD=Standard deviation

coping strategies. For future work, it is better to assess effects of life events to risk of suicide and protective role of coping strategies.

Limitation and recommendation

Some limitations of this study are worthy to attention; the questionnaires were self-report result; some in some bias including recall bias may be being exist unwittingly. The present study was a cross-sectional study therefore results should be interpreted with caution and to better interpretation result needs to be investigated in longitudinal studies. Therefore, the causal relationship between stressful life events and common coping styles needs to be investigated in longitudinal studies.

Conclusion

According to the results coping strategies was different based on the level of life stressful events. Results of the current study demonstrate a positive relationship between coping styles and lower risk of mental health problems and stressful life events. Hence, activities and training programs aiming to enhance personal approach coping skills is important to reduce of side effects of stressful life events especially those recently exposed to negative life events and stresses.

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Conflicts of interest

There are no conflicts of interest.

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