

FEATURES OF COPING STRATEGIES IN THE POPULATION DURING QUARANTINE IN CONDITIONS OF EPIDEMIC DANGER

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ABSTRACT

The aim: The purpose of this study was to examine the most common coping strategies in the population in quarantine settings.

Materials and methods: The study used the following set of methods: a general questionnaire aimed at studying socio-demographic data, living conditions during quarantine, lifestyle during quarantine, the presence of chronic diseases and psychodiagnostic methods: assessment of distress R.Kessler, assessment of the presence of manifestations of anxiety-depressive response GAD-7, depression self-assessment scale PHQ-9, stress-overcoming behavior strategies (E. Heim), as well as mathematical methods for processing the obtained data.

Results: Social and psychological characteristics of the examined were investigated, where coping strategies during the quarantine period play a role in the adaptation process and the state of the psychoemotional sphere. Non-adaptive cognitive coping was characterized by the presence of direct strong correlations with high levels of distress and high rates of anxiety and depression.

Conclusions: Quarantine restrictions are risk factors for mental health deterioration. In these settings, the interaction of stress factors with anti-stress protection components is important, among which coping strategies play a leading role.

KEY WORDS: coping strategies, COVID-19, anxiety, depression, stress

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INTRODUCTION

Coronavirus disease (COVID-19), first discovered in December 2019, led to a global pandemic [1-3]. According to official data as of June 2021, 181 million people who had coronavirus disease, 3.9 million people - died. Coronavirus infection that began in China has spread to 221 countries around the world. In Ukraine, the first case was diagnosed on March 3, 2020. In Ukraine, 2.2 million people were diagnosed with coronavirus disease, 52,286 people died [4].

The pandemic world and its associated constraints have experienced a profound economic crisis that has affected all sectors of the population with varying strengths [5-6].

Currently, it has been established that COVID-19 negatively affects the mental health of the population. Fear of coronavirus infection associated with possible risk of infection, unpredictable course of disease, lack of pathogenetic treatment, death, and total uncertainty that trigger negative psychological responses such as distress and maladaptation [7-9].

Measures taken in response to the pandemic, such as quarantine, distance learning in schools, higher education

institutions, distance work, business closures, limited movement, have had an impact on people's habitual lives. It is believed that these measures can serve as predictors of the development of psychological and psychopathological symptoms [10-11].

Among the population of countries with a high prevalence of COVID-19, there is an increase in cases: acute reactions to stress, depressive, anxiety-phobic disorders, panic attacks, somatoform, anxiety-depressive, obsessive-compulsive disorders and post-traumatic stress disorder [12-14].

A study of the prevalence of mental disorders during the pandemic showed that when 18,000 people were examined during the peak of the pandemic, adaptation disorders ended up at 21.8%, anxiety disorders in 20.8%, depressive disorders in 17.3%, insomnia in 7.3%, PTSD symptoms in 31% [15-17].

There are numerous psycho-traumatic factors that are risk factors for mental health deterioration:

- a potentially life-threatening situation with an indefinite duration (98%);

- high risk of sickness to himself and family members (97.4%);
- limited access to health services and care for somatic or mental illness (84.8 per cent);
- nonspecific symptoms of infection, indefinite incubation period;
- lack of understanding of transmission pathways (76.8%);
- large-scale quarantine activities with the main component as self-insulation (69.8 per cent);
- threatening information background with an excess of contradictory information (89.7%);
- multiple reports of lack of medical protection (95.7 per cent);
- uncertainty related to the impact of coronavirus infection on the economic situation in general and the family/personal budget in particular (95.8%) [18-20].

THE AIM

The purpose of this study was to examine the most common coping strategies in the population in quarantine settings.

MATERIALS AND METHODS

The study used the following set of methods: a general questionnaire aimed at studying socio-demographic data, living conditions during quarantine, lifestyle during quarantine, the presence of chronic diseases and psychodiagnostic methods: assessment of distress R.Kessler, assessment of the presence of manifestations of anxiety-depressive response GAD-7, depression self-assessment scale PHQ-9, stress-overcoming behavior strategies (E. Heim), as well as mathematical methods for processing the obtained data.

RESULTS

The study involved 902 people, mostly in different regions of Ukraine (Table I, Figure 1).

According to the presented data, 89.6% lived in the city, 5.7% in the village, and 4.8% in urban-type settlements. The vast majority of respondents lived in the Dnipropetrovsk (44.7%), Zaporizhzhia (18.5%), Poltava (10.0%), Kharkiv (8.5%) and Ternopil (5.3%) regions.

The socio-demographic characteristics of the surveyed are shown in Table II.

According to the data given, among the respondents, women dominated (69.4%), men made up 30.6%. Analyzing the age composition of respondents, we noted that 69.4% of respondents were people under the age of 30 years. Among respondents, unmarried, without children (71.2%) and living in good living conditions (58.2%) was probably more often identified.

Most of the survey participants had higher (38.5%) and incomplete higher (40.9%) education.

That is, most of the respondents lived in large cities and regional centers of Ukraine, had higher and incomplete

higher education, were unmarried, did not have children, lived in good living conditions. Among the respondents, female people under the age of 30 prevailed.

A study of the life conditions during the quarantine period indicated the following (Table III).

90.8% of respondents indicate quarantine compliance. At the same time, 50.9% of respondents informed that they did not comply with all quarantine requirements; 71.7% indicated that the pandemic changed their personality. At the same time, 61.1% have work related to the possibility of infection on the COVID-19; 60.8% worked normally. 34.9% of respondents worked remotely; 4.4% were on vacation; 8.2% - lost their jobs.

In 72.9% of respondents, the presence of chronic diseases was determined (Figure 2).

The most frequent somatic diseases among those examined were the pathology of the gastric-intestinal tract (29.0%), the cardiovascular system (17.7%), and the thyroid gland (11.7%). Respondents also noted the presence of pathology of the respiratory organs, kidneys, nervous system, and mental sphere.

The assessment of the examined condition during the quarantine indicated the following. 80.3% of respondents noted that quarantine is normal; 30.0% complained of feeling lonely; 37.7% noted that they tolerate quarantine "not very well," and 9.2% reported that they "cannot stand it".

Among the factors that most worried respondents, the prevailing ones were: the risk to the life and health of relatives and loved ones (81.4%); diseases COVID-19 family members (79.6%); uncertainty about the actions of the authorities (63.5%); the emergence of a new wave of COVID-19 disease (61.2%); restriction of leisure activities outside the home (59.4 per cent); possibility of complications after vaccination (59.5%).

That is, all respondents during quarantine were exposed to many psychogenic factors that are due to the risks of COVID-19 disease itself, violations of the usual stereotype of life and insecurity in social protection.

The stress level assessment, by the Kessler R.C. methodology, showed that the vast majority of respondents had a low (46.45%) or average (43.01%) stress level. High stress levels (36-50 points) were recorded in only 10.53% of those examined.

A similar trend was found when studying the level of anxiety and depression.

In most respondents, the level of anxiety, on the GAD7 scale, was minimal (50.44%) and moderate (30.37%). The average level of anxiety was determined at 11.75%, high - at 7.43%.

A study of depression levels, on the PHQ9 scale, showed that the majority of those examined recorded minimal (39.02%), mild (27.7%) and moderate (15.96%) depression. Severe depression was observed in 9.53%, and very severe - in 7.76%.

That is, during the quarantine period, 10.53% recorded a high level of stress, 11.75% had an average level of anxiety, 7.43% had a high level of anxiety, 9.53% had severe depression, and 7.76% had very severe depression.

Important data were obtained by us in the analysis of stress coping strategies and their gender specificity. It should be noted that respondents noted the use of a wide range of copings, which included adaptive, relatively adaptive, non-adaptive coping strategies.

Among adaptive cognitive coping strategies, the “problem analysis” (65.98%) was superior, which reflects a certain rational approach with actualization of cognitive

problem-solving skills, but reduced scores on the “setting one’s value” scales (43.38%) and “self-control” (39.00%) reduce personal value and accumulate. In the gender aspect, the representation of this coping maintained the trend described: in women, the coping strategy “problem analysis” was detected in 58.49%, in men - in 87.67%, with $\varphi^* emp = 8,605 > \varphi^* cr = 2,31$, where $p \leq 0,01$ (Fig. 3).

Comparison of adaptive coping strategies in men and women indicated that women and men were more likely to use “problem analysis” (58.49% and 87.67%), and women were more likely than men to use coping as “setting their value” (40.68%).

Analyzing relatively adaptive cognitive coping strategies, we noted the predominance of the relativity model, both in the general group (81.40%) and among women (82.67%, $\varphi^* emp = 0,927 < \varphi^* cr$) and men (77.72%), which in turn indicates the orientation of behavior to assess the difficulties of the past and compare with the present. Copings “adding meaning” (reliably with prevarication in men, with $\varphi^* emp = 12,676 > \varphi^* cr = 2,31$, where $p \leq 0,01$) and “religiosity” (reliably with prevarication in men, at $\varphi^* emp = 16,134 > \varphi^* cr = 2,31$, where $p \leq 0,01$) were observed among those surveyed less frequently (51.27% and 49.33%). Among women and men, this trend continued.

Comparisons regarding adaptive strategies in men and women indicated that men were reliably more likely to use copings “adding meaning” (85.78%, $\varphi^* emp = 5,29 > \varphi^* cr = 1,68$, where $p < 0,05$) and “religiosity” (91.46%, $\varphi^* emp = 6,37 > \varphi^* cr = 2,31$, where $p < 0,01$) giving problems and their overcoming special meaning, as well as addressing God when confronted with difficult situations.

Assessing non-adaptive cognitive coping, it should be noted that dominance among the examined “ignore” strategies (82.26%), other cognitive coping was used by fewer respondents: dissimulation (45.56%), confusion (31.34%), and poker (30.98%). Women also had the most frequent “ignore” strategy (77.77%, at $\varphi^* emp = 6,827 > \varphi^* cr = 2,31$, where $p \leq 0,01$), in men, copings of “dissimulation” were most often found (97.63%, with $\varphi^* emp = 18,569 > \varphi^* cr = 2,31$, where $p \leq 0,01$) and “ignoring» (95,26 %, with $\varphi^* emp = 6,82 > \varphi^* cr = 2,31$, where $p \leq 0,01$).

Non-adaptive coping strategies were characterized by a reliable predominance of “dissimulation” copings in men (97,63%, with $\varphi^* emp = 2,29 > \varphi^* cr = 1,68$, where $p < 0,05$).

A study of the arsenal of emotional copings suggested that among adaptive strategies, the general group is more likely to use “protest” (76.18%) and optimism (77.88%) strategies (Figure 4). In women, the described pattern persisted (85.94% and 71.07%), in men the coping of “optimism” was superior (97,63 %, with $\varphi^* emp = 10,384 > \varphi^* cr = 2,31$, where $p \leq 0,01$), the “protest” strategy turned out to be 47,86 % ($\varphi^* emp = 10,56 > \varphi^* cr = 2,31$, where $p \leq 0,01$).

Comparison of emotional adaptive coping strategies in gender perspective showed that women were more likely to use a protest strategy (85.94%) and men were optimistic (97,63 %, with $\varphi^* emp = 2,14 > \varphi^* cr = 1,68$, where $p < 0,05$).

Among the relatively adaptive emotional strategies for overcoming stress, the general group was dominated by

Table I. Characteristics of persons examined by place of residence

	902 people	
	absolute number	%
place of residence:		
city	808	89,6
village	51	5,7
urban-type settlement	43	4,8

Table II. Socio-demographic characteristics of the surveyed

sex of the examined		
	absolute number	%
Men	276	30,6
Women	626	69,4
Age		
up to 30 years	626	69,4
30-40 years	123	13,6
41-50 years	73	8,1
51-60 years	49	5,4
More than 60 years	31	3,4
Marital status		
Married	248	27,5
Unmarried	611	67,7
Divorced	43	4,8
Number of children		
They have no children	642	71,2
1 child	138	15,3
2 children	98	10,9
3 and more	24	2,7
Education		
Higher education	347	38,5
Incomplete higher education	369	40,9
Secondary special education	77	8,5
Technical education	4	0,4
Secondary education	105	11,6
Living conditions		
Good conditions	525	58,2
Satisfactory conditions	352	39,0
Poor conditions	25	2,8

Table III. Quarantine Life Conditions

902 people		
	absolute number	%
Quarantine compliance		
Yes	819	90,8
No	83	9,2
I do not comply with all quarantine requirements		
Yes	459	50,9
No	443	49,
The pandemic COVID-19 changed my way of life		
Yes	647	71,7
No	255	28,3
Work is associated with the possibility of infection on the COVID-19		
Yes	551	61,1
No	351	38,9
Working normally		
Yes	548	60,8
No	354	39,2
Loss of work (reduction)		
Yes	74	8,2
No	828	91,8
I work remotely		
Yes	315	34,9
No	587	65,1
I am on vacation		
Yes	40	4,4
No	862	95,6

“emotion oppression” (88.82%), “emotional détente” and “passive cooperation” were less common (41.31% and 23.93%, respectively). In women and men, the described pattern (the predominance of coping “oppression of emotions”) remained (93.46% and 75.35%, respectively).

A comparison of emotional relative adaptive copings in men and women showed that men were more likely to use a “passive cooperation” strategy, that is, attempts to transfer responsibility for solving problems to other people.

Non-adaptive emotional copings in the general group were characterized by the predominance of the strategy of “aggressiveness” (78.12%). 53.70% noted the use of the “humility” strategy, 21.62% - the “self-incrimination” strategy. Women most often used copings of “aggressiveness” (95,42 %, with $\varphi^* emp = 19,967 > \varphi^* cr = 2,31$, where $p \leq 0,01$) and “humility” (61,11 %, with $\varphi^* emp = 7,365 > \varphi^* cr = 2,31$, where $p \leq 0,01$), and men - “self-incrimination” (34.12%) and “humility” (32,22 %).

When comparing non-adaptive emotional copings in men and women, it was found that women were reliably more likely to use humility (61,11 %, $p < 0,05$) and aggressiveness (95,42 %, with $\varphi^* emp = 1,98 > \varphi^* cr = 1,68$, where $p < 0,05$).

Behavioral adaptive coping was characterized in the general group by a predominance of “reversal” (72.53%) and “altruism” (51.64%) strategies (Figure 5).

In women, the leading strategy was “conversion,” in men - “altruism” (79,62 %, with $\varphi^* emp = 9,946 > \varphi^* cr = 2,31$, where $p \leq 0,01$) and “cooperation” (74,88 %, with $\varphi^* emp = 13,766 > \varphi^* cr = 2,31$, where $p \leq 0,01$).

Comparing «adaptive» behavioral coping strategies in women and men, it was noted that men were reliably more likely to use a “collaboration” strategy (74,88 %, with $\varphi^* emp = 4,87 > \varphi^* cr = 2,31$, where $p < 0,01$).

Among relatively adapted behavioral strategies, respon-

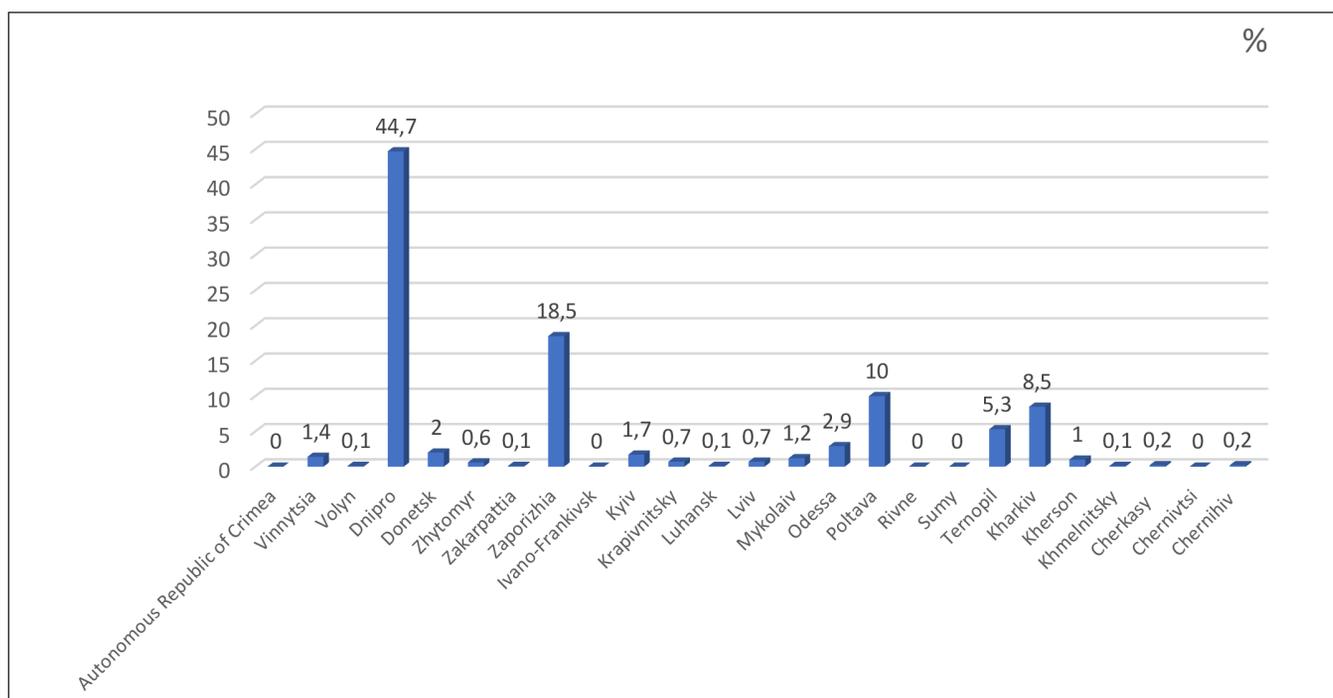


Fig. 1. Characteristics of persons examined by place of residence

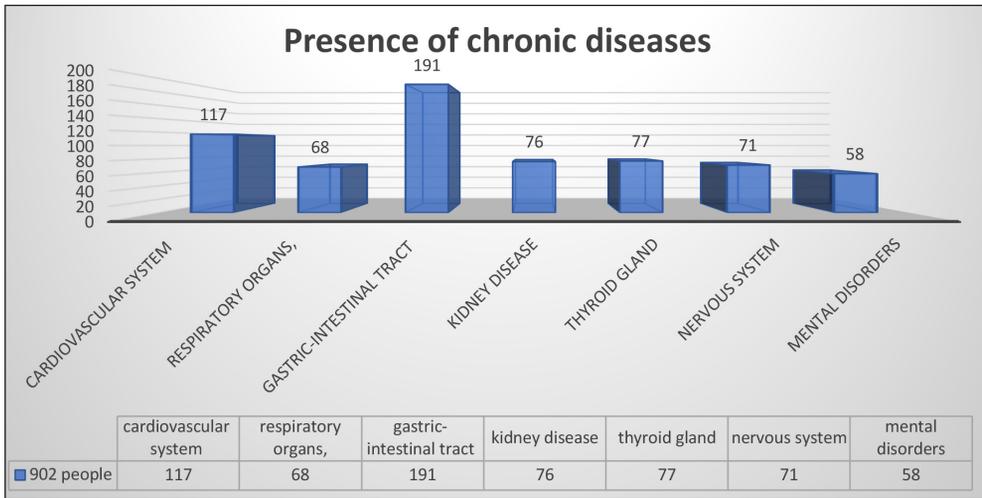


Fig. 2. Presence of chronic diseases

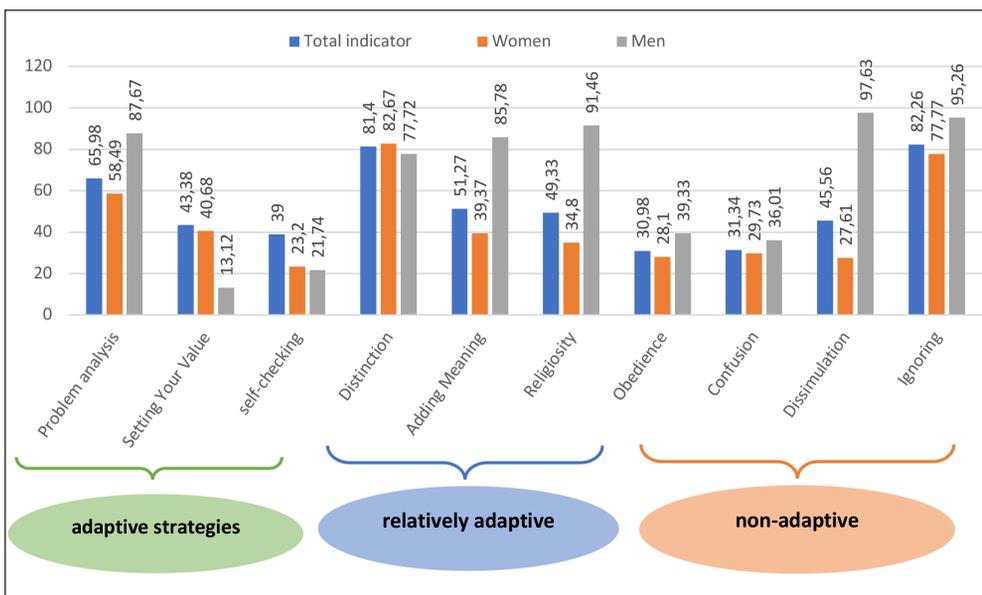


Fig. 3. Cognitive coping strategies in the surveyed group

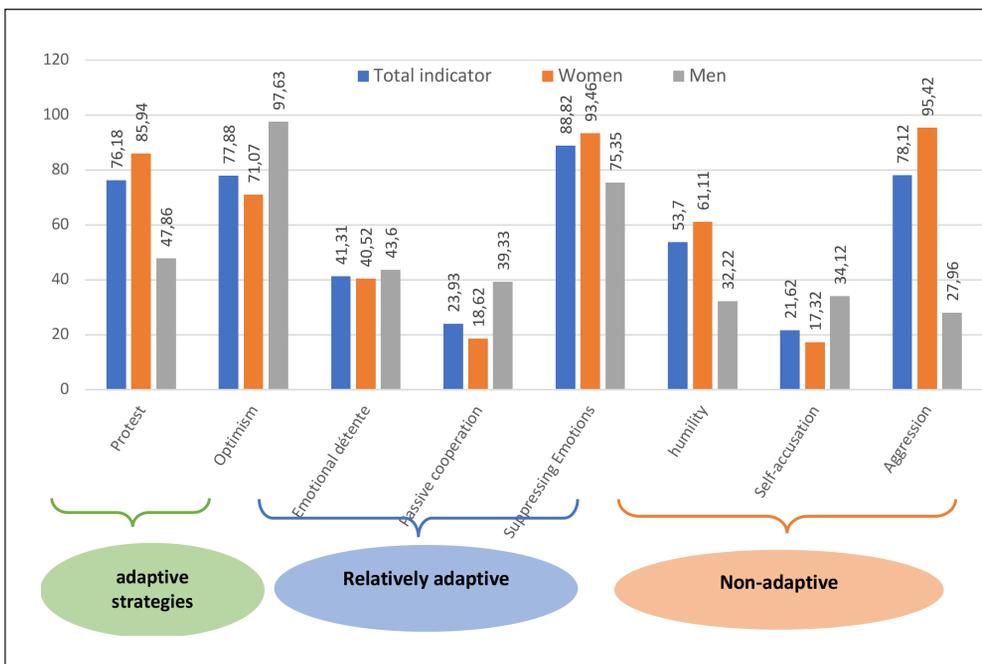


Fig. 4. Emotional coping strategies in the surveyed group

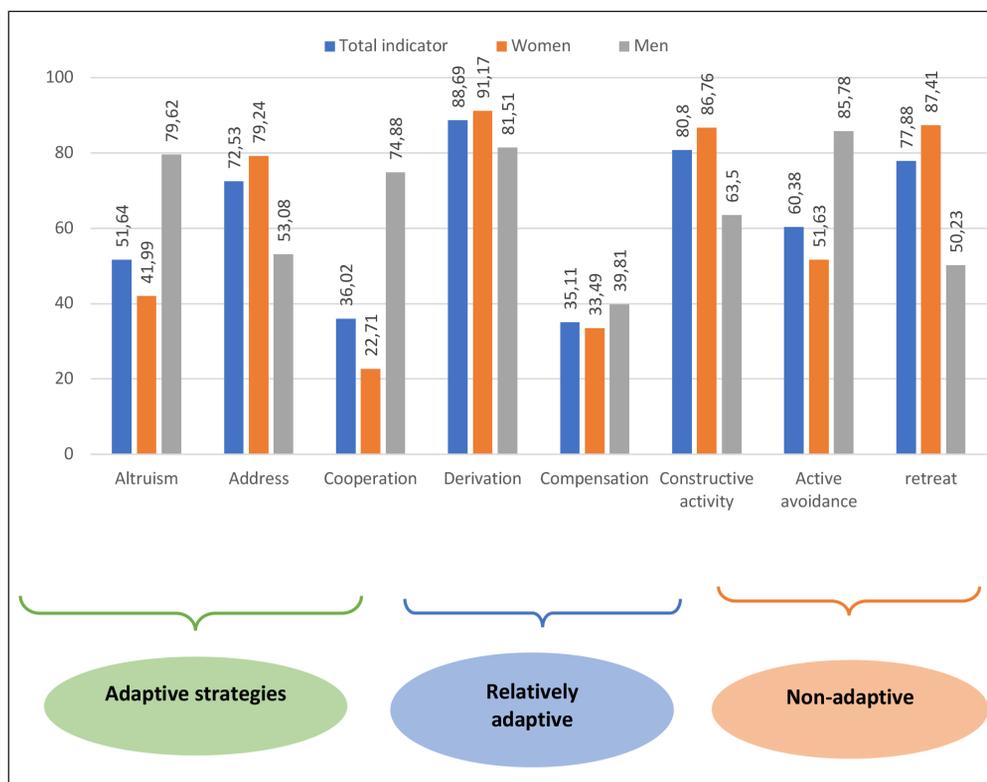


Fig. 5. Behavioral coping strategies in the surveyed group

dents used predominantly “distractions” (88,69 %, with $\varphi^* \text{ emp} = 3,595 > \varphi^* \text{ cr} = 2,31$, where $p \leq 0,01$) and “constructive activity” (80,80 %, with $\varphi^* \text{ emp} = 6,939 > \varphi^* \text{ cr} = 2,31$, where $p \leq 0,01$). In women and men, this pattern persisted (91.17% and 86.76% for women and 81.51% and 63.50% for men).

Comparing «relatively» adaptive copings in men and women, it is indicated that women were more likely to use constructive activity (86.76% and 63.50%).

Non-adaptive behavioral copings in the general group were used in the forms of “active avoidance” (60.38%) and retreat (77.88%). In the group of women, the “retreat” strategy was more often used (87,41 %, with $\varphi^* \text{ emp} = 10,497 > \varphi^* \text{ cr} = 2,31$, where $p \leq 0,01$), in men - “active avoidance” (85,78 %, with $\varphi^* \text{ emp} = 9,875 > \varphi^* \text{ cr} = 2,31$, where $p \leq 0,01$).

The same pattern was manifested when comparing groups of men and women.

In order, to study the probable mechanisms of formation of clinical and psychopathological disorders, we conducted a correlation analysis. The study of reliable correlations indicated the following.

Non-adaptive cognitive coping (“disregard”) was characterized by the presence of direct strong correlations with a high level of distress ($r = 0.67$). Adaptive emotional copings (“optimism”) correlated with a minimum level of anxiety ($r = 0.59$), and non-adaptive (“humility”) correlated with moderate expressiveness of depression ($r = 0.52$). The behavior of “active avoidance” correlated with high anxiety ($r = 0.55$).

The findings suggest the need to study coping strategies in the population in order to prevent negative psychological and psychopathological consequences of COVID-19.

DISCUSSION

In quarantine conditions, a person is affected by a complex of psycho-traumatic factors, which include the risk to the life and health of relatives and loved ones (81.4%); diseases COVID-19 family members (79.6%); risk to the life and health of relatives and loved ones (81.4%); uncertainty about the actions of the authorities (63.5%); the emergence of a new wave of COVID-19 disease (61.2%); restriction of leisure activities outside the home (59.4 per cent); possibility of complications after vaccination (59.5%).

That is, all respondents during quarantine were exposed to many psychogenic factors that are due to the risks of COVID-19 disease itself, violations of the usual stereotype of life and insecurity in social protection.

At the same time, the feeling of stress was different among respondents. A high level of stress was recorded - at 10.53%, an average level of anxiety - at 11.75%, a high level of anxiety - at 7.43%, severe depression - at 9.53% and very severe depression - at 7.76%.

A possible reason for different stress tolerance is coping strategies that a person uses to master stress.

The work identifies the most common adaptive, relatively adaptive and non-adaptive copings in the cognitive, emotional and behavioral spheres.

It is proved that non-adaptive coping has a correlation with high levels of distress, anxiety and depression, adaptive - with low levels of anxiety. The development of adaptive behaviour among the population is one of the most important areas of prevention of psychological and psychopathological consequences of COVID-19.

CONCLUSIONS

Based on the survey, 902 people who voluntarily completed the questionnaire in Google format during quarantine established the following.

Most of the respondents lived in large cities and regional centers of Ukraine, had higher and incomplete higher education, were unmarried, had no children, lived in good living conditions. Among the respondents, female people under the age of 30 prevailed.

90.8% of respondents claimed to comply with quarantine, and 50.9% informed that they did not comply with all quarantine requirements.

In 72.9% of respondents, chronic somatic diseases were detected.

The assessment of the examined condition during the quarantine indicated the following. 80.3% of respondents noted that quarantine is normal; 30.0% complained of feeling lonely; 37.7% noted that they tolerate quarantine "not very well," and 9.2% reported that they "cannot stand it."

During the quarantine period, 10.53% recorded a high level of stress, 11.75% had an average level of anxiety, 7.43% had a high level of anxiety, 9.53% had severe depression, and 7.76% had very severe depression.

Among cognitive adaptive and relatively adaptive copings, the "rational approach" was superior, with an actualization of cognitive problem solving skills and an assessment of the difficulties of the past compared to the present. Non-adaptive copings appear in the form of "disregard" and "dissimulation."

The prevailing emotional copings (within the limits of adaptive and relatively adaptive) were strategies of "protest," "optimism" and "oppression of emotions." Non-adaptive emotional copings included strategies of "aggressiveness" and "humility".

In the structure of behavioral adaptive (relatively adaptive strategies), "conversions," "altruism," "distraction" and "constructive activity" were most often used. Non-adaptive copings include the use of "active avoidance" and "indention."

The definition of non-adaptive copings may be a prerequisite for the development of psychological and psychopathological and psychopathological consequences COVID-19.

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Conflict of interest:

The Authors declare no conflict of interest.

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