Coping with Stress of Nurses Employed in the Internal Medicine and Surgical Departments

Abstract

Introduction. Stress is a state of tension that arises when events or requests from the environment are assessed as threatening or too demanding. In the process of coping, we use different cognitive and behavioral strategies. Problem-oriented coping involves strategies aimed at changing or removing stressors. Emotion-focused coping encompasses stress-induced arousal management strategies. No coping strategy is universally effective, but the success of coping is assessed in the interaction of an individual’s characteristics and a stressful situation. The prevalence of individual coping patterns among nurses may depend on their workplace.

Aim. To determine nurses in the internal medicine and surgical departments of two Croatian hospitals cope with stress.

Methods. The participants were 163 nurses from the internal medicine and surgical departments of the Sisak General Hospital “Dr. Ivo Pedišić” and the General Hospital Karlovac. The measuring instruments used are the Questionnaire on how to deal with stress and the Scale for assessing the importance of events and the possibility of control.

Results. The most common ways of coping with stress are planned problem solving, seeking social support, and self-control, while the rarest way of coping is avoidance. Nurses perceive the success of coping with stress as moderate, and the degree of control over stressful situations as rather low. Stressful situations are most often perceived as a threat, and least often as a challenge. With the perception...
of a greater degree of control over the situation, they more often choose to accept responsibility as a way of coping. In internal medicine departments, stressful events are assessed as significantly more disturbing than in surgical departments.

**Conclusion.** The results confirm that for further education of nurses on successful coping with stress, it is important to examine and further explore cognitive processes in selecting ways of coping: the meaning they attach to the situation, assessing control over the situation, and self-assessing coping success.

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**Introduction**

Multiple studies have shown that significant levels of workplace stress exist among nurses (1-6). At the individual level, stress of nurses leads to a number of physical and emotional symptoms, and favors the development of professional burnout while significantly compromising the quality and efficiency of provided health care (7-10). Also, when there is dissatisfaction with the workplace and the volume of work, it is difficult to retain skilled and qualified nurses (11-14). A large number of international (15-22) and Croatian studies (23-30) have researched the sources of stress in the workplace of nurses. Such research provides insight into what happens to nurses during the work process, but provides no insight into how they cope with that and how successful the coping mechanisms they use are in dealing with stress. This is important because modern theories of stress emphasize the difference between potential stressors and stress as a comprehensive reaction of the organism. The most famous is the theory of stress by Lazarus (31), which points out that the stress of a situation depends not only on the characteristics of what is happening, but also on the characteristics of the person experiencing stress. The same situational circumstances have different meanings for different people because a person’s level of stress depends on their cognitive assessment of the situation. Two processes are crucial: assessing the importance and significance of a situation and assessing the possibility of controlling the situation (31). If an event is assessed as important and threatening, we attach stressful significance to it. We perceive it as a *loss* (we estimate that some permanent damage has occurred), a *threat* (we estimate that some damage is very likely to happen) or as a *challenge* (we estimate that there is a possibility of both a positive and a negative outcome). Depending on the assessment of the possibility of control over the situation, the person selects the ways in which they confront it. Coping is a process, and it involves the application of a variety of cognitive and behavioral strategies with the goal of overcoming or reducing stressors, or improving coping with them. Lazarus and Folkman (31) divide ways of coping with stress into problem-oriented coping, emotion-focused coping, and coping by avoidance.

*Emotion-focused coping* involves expressing, mitigating, and/or controlling emotional reactions in order to more easily cope with the excitement caused by a stressful situation. By facing stress in this way, we try to change how we think about the stressor and/or how we feel about it. These ways of coping are more appropriate in situations where we have little control over the situation.

*Problem-oriented coping* is the mechanism by which we try to act on the stressor, to change the situation by solving the problem and/or taking action. It is appropriate for situations where there is a possibility of control.

*Coping by avoidance* refers to the cognitive, emotional, or distancing actions in relation to a source of stress or our mental and physical reactions to a stressor. In everyday life, we most often use problem-oriented coping and emotion-focused coping, so we try to affect the situation and change the way we think about it and how we feel about it. Usually, however, one type of coping dominates, and this is called the preferred response style (31).

In line with their interactive approach, Lazarus et al. point out that none of the ways of coping is universally effective in itself. It makes sense to evaluate the success of a way of coping only in a temporal perspective (a way of coping that helps us in the short term can be harmful in the long run) and in relation to a specific situation and a specific person.

Research on how nurses deal with stress is conducted in order to gain insight into the prevalence of different ways of coping and assess their effectiveness (32-36), but these are rare in Croatia (37,38). They are important because they can contribute to
the organization of systematic education of nurses on the development and selection of effective coping strategies, which on a personal level can help them regulate stress responses, and thus contribute to maintaining and improving the quality of health care.

Aim

To determine how nurses in the internal medicine and surgical departments in two Croatian hospitals experience the stressful situations they encounter, and which coping methods they most often use.

Specific aims

1. To determine the stressful situations experienced by nurses, the meaning they attach to them, and the assessment of the possibility of control and the success in coping with stress.
2. To determine the frequency of individual ways of coping.
3. To examine the relationship between coping patterns and the importance that participants attach to a stressful situation with an assessment of anxiety, controllability, and coping success.
4. To examine whether there are differences in stress, control, and coping performance with regard to the nurses' workplace.

Methods

Participants

The participants were 163 nurses employed in the internal medicine and surgery departments of the Sisak General Hospital “Dr. Ivo Pedišić” and the General Hospital Karlovac.

Ethics

The study was approved by the Ethics Committee of the Sisak General Hospital “Dr. Ivo Pedišić”, (registration number: 2176-125-04-3476-5/16) and General Hospital Karlovac, (registration number: 01-12-85/1). Nurses were invited to voluntarily participate in the study. Forms with information on the study were provided to the participants together with questionnaires. Participants were able to stop participating in the study at any time, and they were informed that the study was anonymous and numerically coded for identity protection purposes.

Instruments

Event Assessment and Control Possibility Scale included elements of Lazarus’ model of stress. The scale was created for the purposes of this study. Participants were asked to recall events at work that had upset them the most in the past week. Participants were asked to assess whether the event was a loss (injury, disappointment, loss of someone or something valuable, loss of self-esteem, respect for others, etc.), threat (threat, facing some kind of danger or concern about how something will end; potential loss of a person or something of value, potential loss of self-esteem, respect for others, etc.) or challenge (facing an opportunity for profit, gain, further development, improvement, well-being). After that, the respondents were asked the following: “On a scale from 0 to 3, circle the number that shows how much the event you remembered upset, worried, or frightened you, depending on how stressful the experience was.” Using these instructions, participants assessed how disturbing the event was for them. Then, also on a scale from 0 to 3, they assessed how much they thought they themselves influenced the onset of that event and to what degree they thought they had successfully coped with that event.

The Ways of Coping Questionnaire (WOC) consists of 66 statements about cognitive and behavioral efforts used to manage a specific stressful event (from “0 - not applicable or not used” to “3 - used to a great extent”) divided into eight subscales: coping by confrontation, planned problem solving, distancing, self-control, seeking social support, accepting responsibility, avoiding problems, positive reassessment. Such strategies are in this questionnaire viewed as a consequence of the characteristics of the situation and the cognitive processes during it,
rather than as a lasting personal coping style (40). Cronbach’s α coefficient of internal reliability in this study was 0.92.

To determine the frequency of use of each coping strategy, the average value of responses for each scale was calculated by dividing the total gross score of the scale by the number of claims, according to the Manual of the Stress Management Questionnaire (39).

The questionnaire on how to deal with stress was ordered from a publishing house that has the right to distribute its translation in Croatia.

Statistical data processing was performed using IBM SPSS Statistics 23.

**Procedure**

The study was conducted in two hospitals, lasting 15 to 20 minutes, which was enough to give instructions to participants and for them to fill in the questionnaires. Participants were provided with personal space to complete the questionnaires independently.

Participants first completed the Event Assessment and Control Possibility Scale. Participants then completed a Ways of Coping Questionnaire, taking into account the ways of coping used in the situation they recalled in the first part of the survey. After filling in the questionnaires, the participants put them in a box prepared for that purpose so that the researcher would not have an insight into their order.

**Results**

The majority of the total of 149 participants (91%) were female, and 14 participants (0.9%) were male. As shown in Table 1, most respondents have a high school education and are in a relationship. The average age is 37, and the average number of the years of work experience is 16.

<table>
<thead>
<tr>
<th>Table 1. Descriptive indicators</th>
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</table>
Participants assessed the stress of the stressful event they recalled on a scale of 0-3 as quite high (M = 2.07, SD = 0.758), the control assessment was relatively low (M = 0.76, SD = 0.838), and the assessment of success in coping with a stressful situation is average (M = 1.65, SD = 0.774). For the majority of respondents, the stressful event they recalled represented a threat (N = 69, 42.3%), somewhat less often a loss (N = 57, 35%), and least often a challenge (N = 35, 21.5%).

According to the results shown in Table 2, nurses most often use planned problem solving, seeking social support, and self-control as ways of coping. Escape or avoidance is the least used coping strategy.

<table>
<thead>
<tr>
<th>Table 2. Average results of using certain coping methods from the Questionnaire on Coping with Stress (WOC)</th>
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<tbody>
<tr>
<td>Method</td>
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<td>confrontation</td>
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<td>distancing</td>
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<td>self-control</td>
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<td>seeking social support</td>
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<tr>
<td>acceptance of responsibility</td>
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<tr>
<td>escape - avoidance</td>
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<td>planned problem solving</td>
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<td>positive reassessment</td>
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</tbody>
</table>

To determine whether there are differences in the chosen ways of coping depending on the importance that nurses attach to the situation (loss, threat, challenge), a series of variance analyses were conducted. A statistically significant difference was found only in the use of the strategy of accepting responsibility (F = 3.25, p<0.05). Post-hoc analysis by Scheffe’s test showed that this difference refers to more frequent acceptance of responsibility when the situation is perceived as a loss (M = 1.07) than when it is perceived as a threat (M = 0.78).

To determine the relationship of coping mode with anxiety assessment, controllability, and coping success, the correlations shown in Table 3 were calculated.
Table 3. Correlation coefficients (Pearson’s r) between measured variables (N = 163)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>stress / anxiety</td>
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<td></td>
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<tr>
<td>control</td>
<td>0.01</td>
<td>1</td>
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<td></td>
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<tr>
<td>coping performance</td>
<td>-0.15</td>
<td>-0.13</td>
<td>1</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>confrontation</td>
<td>-0.07</td>
<td>-0.17</td>
<td>-0.04</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>distancing</td>
<td>0.06</td>
<td>0.01</td>
<td>-0.10</td>
<td>-0.03</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>self-control</td>
<td>0.09</td>
<td>-0.02</td>
<td>-0.05</td>
<td>-0.26**</td>
<td>-0.14</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>seeking social support</td>
<td>0.09</td>
<td>-0.02</td>
<td>-0.05</td>
<td>-0.23**</td>
<td>-0.14</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>acceptance of responsibility</td>
<td>-0.11</td>
<td>0.29**</td>
<td>0.05</td>
<td>-0.34**</td>
<td>-0.30**</td>
<td>-0.15</td>
<td>-0.15</td>
<td>1</td>
<td></td>
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<tr>
<td>avoidance</td>
<td>0.12</td>
<td>-0.06</td>
<td>-0.12</td>
<td>-0.04</td>
<td>-0.03</td>
<td>-0.30**</td>
<td>-0.30**</td>
<td>-0.12</td>
<td>1</td>
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</tr>
<tr>
<td>problem solving</td>
<td>-0.05</td>
<td>-0.13</td>
<td>0.17*</td>
<td>-0.15</td>
<td>-0.26**</td>
<td>-0.12</td>
<td>-0.12</td>
<td>-0.24**</td>
<td>-0.26**</td>
<td>1</td>
</tr>
<tr>
<td>positive reassessment</td>
<td>-0.05</td>
<td>0.08</td>
<td>0.11</td>
<td>-0.14</td>
<td>-0.21**</td>
<td>-0.21**</td>
<td>-0.21**</td>
<td>0.18*</td>
<td>-0.02</td>
<td>-0.08</td>
</tr>
</tbody>
</table>

** = p < 0.01; * = p < 0.05

Although low, a statistically significant correlation was found between the assessment of control over the situation and the acceptance of responsibility. The higher the assessment of control over the situation, the more often nurses use accepting responsibility as a way of dealing with a stressful situation.

The last problem of the study was related to determining the differences in the measured variables between nurses from different departments. The results of t-tests are shown in Table 4. There was a statistically significant (t = 2.31, p<0.05) difference in the assessment of anxiety of nurses in the internal medicine department compared to the assessment of anxiety in participants from the surgical department. However, no differences were found in the assessment of the possibility of control and the success of coping between the participants from the internal medicine and surgical departments.
### Discussion

The purpose of this study was to examine the most common ways of coping with stress in nurses from two different departments in accordance with the Lazarus model of stress, and to determine the relationship between coping with the assessment of anxiety, ability to control and cope with stress, and the importance that is attached to stressful situations.

Nurses have been found to assess stressful workplace events as quite disturbing, which is consistent with existing research (34,37).

The assessment of control over stressful situations is relatively low, and the success of coping was assessed as average. Most respondents experienced a stressful event as a threat, slightly less as a loss, and least of all as a challenge. These results contribute to elucidating the processes related to the experience of stress in nurses, given that according to our knowledge no previous studies have been conducted in Croatia on the subjective assessment of control and success of coping with stress and the importance that nurses attach to these stressful situations.

Such findings point to the need for further research and education of nurses on the effective selection of stress management strategies. Studies on the sources of stress at work among nurses have prevailed so far (23-30). These findings are useful in the case of stressors that can be controlled and/or avoided. However, the results of this study show that nurses assess control over stressful situations as low. This is understandable because we can assume, although this was not examined in the study, that some stressors are related to the characteristics of workplaces and patients in internal and surgical departments, and these are often stressors that cannot be avoided or significantly altered. However, it should be emphasized that the first spontaneous assessment of the situation and the perception of control over it can be more or less realistic. Some people underestimate and some overestimate the degree of control over a given situation. In both cases, selecting coping strategies is less effective in reducing the stressful experience.

The finding that nurses most often perceive stressful events as a threat, and least of all as a challenge, also emphasizes the importance of education about the possibilities of constant re-assessment, i.e. cognitive management of stressful situations. Whether we perceive a situation as a threat or a challenge depends on whether we estimate that there is a greater chance of negative outcomes of the situation or whether we also consider the possibility of a positive outcome. By encouraging nurses to re-evaluate stressful situations after the first spontaneous assessment, be as realistic as possible in assessing

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**Table 4. T-test values for differences in assessment of anxiety, control, and coping performance between internal medicine (N = 81) and surgical departments (N = 82)**

<table>
<thead>
<tr>
<th></th>
<th>anxiety</th>
<th></th>
<th>control</th>
<th></th>
<th>coping performance</th>
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<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>internal medicine</td>
<td>2.21</td>
<td>0.72</td>
<td>0.72</td>
<td>0.81</td>
<td>1.65</td>
<td>0.74</td>
</tr>
<tr>
<td>surgical departments</td>
<td>1.94</td>
<td>0.78</td>
<td>0.80</td>
<td>0.87</td>
<td>1.65</td>
<td>0.80</td>
</tr>
<tr>
<td>t</td>
<td>2.31*</td>
<td></td>
<td>-0.67</td>
<td></td>
<td>0.07</td>
<td></td>
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<tr>
<td>df</td>
<td>161</td>
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<td>161</td>
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</table>

*p < 0.05
control of the situation, and focus more attention on potential positive outcomes when the situation has not yet occurred, it is possible to alleviate stress and the meaning of some situations, changing them from a threat to a challenge. This significantly changes both emotional response and behavior in stressful situations and can contribute to better coping with stress (41), and thus better quality of nursing care.

The scale of assessing the importance of the event and the possibility of control predicts that respondents choose only one of the possible meanings of the event (loss, threat, challenge), but it is possible that some respondents could experience a situation as loss (e.g. a close colleague is dismissed) and as a threat (e.g. the respondent worries whether they will bear sanctions for the same omission that led to their colleague's dismissal). The results were processed under the assumption that the respondents opted for the meaning that dominated their experience.

Low correlations were found between different ways of coping, which is in line with expectations because in constructing the questionnaire the authors received an eight-factor structure according to which each of the examined ways of coping (coping by confrontation, planned problem solving, distancing, self-control, seeking social support, problem avoidance, positive reassessment) is a special independent factor, i.e. a measure of coping (39).

The results show that nurses use planned problem solving, seek social support, and self-control as the most common ways of coping, while the least used method is escape or avoidance. This is in line with expectations and previous studies conducted in Croatia (37,38,43), as well as with most international research (42,43). The dominance of planned problem solving is probably due to the fact that the health care process is action-oriented and directly addresses everyday professional challenges. In order to successfully achieve the goals of health care, ample planning, analysis, and organization of the work environment is needed, which is all part of planned problem solving as a strategy for dealing with stress.

Seeking social support as the second most common way of coping is in line with the results of existing studies, which show that social support, especially when it comes from co-workers and superiors, is one of the most important elements in preventing burnout of nurses (44).

Avoidance strategy consists of avoiding dealing with a stressful situation and denying the problem by turning to other activities. It can be effective in the short term, especially if we have no control over the situation, but if there is control, it is associated with poorer adjustment in the long run (40). Therefore, the finding that nurses use it the least speaks about their tendency to be active and mature.

Participants rely more frequently on acceptance of responsibility when they perceive a stressful situation as loss than as a threat. This is in line with one of the assumptions of Lazarus' model, according to which the choice of the coping model depends on the meaning a person attaches to the situation.

Comparisons of the results of participants from different departments showed that nurses of internal medicine departments assess their stressful events as significantly more disturbing than their colleagues from surgical departments, which suggests that the degree of stress depends on the characteristics of the work environment and the type of patients nurses work with. There is a lack of studies comparing the stressful experiences of nurses of these two departments, but existing studies show high levels of stress and burnout in internal medicine departments (45-47). When comparing the behavior of nurses from different departments in stressful situations, certain differences were also found (48,49), which is important when planning programs and interventions in order to alleviate workplace stress for nurses, as well as for nurses' adaptation to the specifics of the workplace (50).

This study has certain limitations, which is why any generalization about the entire nursing population should not be done lightly. Participants are employees of only two hospitals, and in future studies it would be desirable to include more participants from other hospitals with the same departments. The situation in other departments should also be examined, and additional personal variables should be explored, such as the quality of interpersonal relationships and elements of emotional control, which some studies have shown to be important predictors of stress perception and coping success (51).
Conclusion

Based on the results of this research, we can conclude that nurses experience quite disturbing stressful situations in the workplace. The participants have the impression that their control over such situations is quite low and their coping performance is mediocre. Stressful situations are most often perceived as a threat, and least often as a challenge.

Planned problem solving, seeking social support, and self-control are the most common ways of coping the participants use, while avoiding dealing with a stressful situation is the least used strategy. The strategy of accepting responsibility is more frequently used when a stressful situation is perceived as a loss rather than when it is perceived as a threat. The higher the assessment of control over the situation, the more likely a person will choose to accept responsibility as a coping strategy. Nurses of the internal medicine departments assess their stressful events as significantly more disturbing than their colleagues from the surgical departments.

References

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**Sažetak**

**Uvod.** Stres je stanje napetosti koje nastaje pri procjeni događaja ili zahtjeva iz okoline kao prijetnica ili prezahtjevnih. U procesu suočavanja primjenjujemo različite kognitivne i ponašajne strategije. Suočavanje usmjereno na problem obuhvaća strategije usmjerenе mijenjanju ili uklanjanju stresora. Suočavanje usmjereno na emocije obuhvaćа strategije reguliranja pobuđenosti izazvane stresom. Ni jedan način suočavanja nije univerzalno djelotvorni, već se uspješnost suočavanja procjenjuje u interakciji osobina pojedinca i stresne situacije. Zastupljenost pojedinih načina suočavanja kod medicinskih sestara djelomično može ovisiti o vrsti službe u kojoj rade.

**Cilj.** Ispitati načine suočavanja sa stresom medicinskih sestara u internističkim i kirurškim službama dviju hrvatskih bolnica.

**Metode.** U istraživanju su sudjelovala 163 ispitanika, medicinske sestre i medicinski tehničari iz internističkih i kirurških službi Opće bolnice „Dr. Ivo Pedišić“ i Opće bolnice Karlovac. Upotrijebljeni su mjerni instrumenti Upitnik o načinu suočavanja procjene važnosti događaja i mogućnosti kontrole.

**Rezultati.** Najčešći su načini suočavanja medicinskih sestara plansko rješavanje problema, traženje socijalne podrške i samokontrole, a najrjeđi izbjegavanje. Uspješnost suočavanja sa stresom doživljavaju kao prijetnju, a najrjeđe kao izazov. Uz percepciju većeg stupnja kontrole nad situacijom, češće biraju prihvaćanje odgovornosti kao način suočavanja. U internističkim službama stresni događaji procjenjuju se znatno više uznemirujućima nego u kirurškim.

**Zaključak.** Rezultati potvrđuju kako je za edukaciju medicinskih sestara o uspješnom suočavanju sa stresom važno ispitati i dalje istraživati kognitivne procese pri odabiru načina suočavanja: značenje koje pridaju situaciji, procjenu kontrole nad situacijom i samoprocjenu uspješnosti suočavanja.

**Ključne riječi:** medicinske sestre, stres u sestrinstvu, načini suočavanja