

Інформаційні технології в медицині

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USING THE METHOD FOR DETECTION CORRELATION PLEYADES ASSOCIATION BETWEEN INDICATORS OF CEREBROVASCULAR DISEASE

In the present article, cerebrovascular pathology is characterized as a medical and social problem that occurs on a background of crisis in family relations. Using the method of correlation pleyades analyzed the link between indicators of psychological tests to detect the absence or presence of a crisis in the family. In this study, we compared groups of women living in families with a lack of crisis and families in crisis, and identified links pointing to relations between spouses, which improves the quality and timely delivery of necessary assistance in the correction of these relations. The results obtained in this study, the results show the importance of the prediction of family crisis to prevent cerebrovascular disease and may be useful for neurologists, psychotherapists and psychologists.

Keywords: *correlation pleyada, family crisis, cerebrovascular disorders.*

Introduction

In modern conditions the problem of vascular brain pathology can not be considered only from the point of view of angioneurology, cardiology, internal medicine and rehabilitation. There is no doubt that cerebrovascular pathology - an interdisciplinary problem which is based on the principles of psychosomatic pathology sociology share, quality of life conditions of the population, factors shaping social stress, the phenomenon of mental and emotional "burnout", conflict interpersonal communication, etc. [1] Violations emotional stability is one of the most common factors that lead to neurological disorders.

Morbidity and mortality from cerebrovascular disease are closely linked to a number of factors, among which the important role played by severe stressful life events.

The last decades are characterize by significant changes not only in economic and political life of the country, but also by changes in the forms of family life.

Today, health increasingly depends on the mental and psychosomatic state. Uncertainty and frustration in family relations exacerbate emotional disorders, leading in turn to cerebrovascular disorders and pathologies.

There is no doubt that in recent years, cerebrovascular disease is one of the reasons for the high degree of disability, and even death in the most developed countries in the world [2].

The majority of patients with organic and symptomatic mental disorders that occur against the background of cerebrovascular disease, marked emotional disorders of varying severity.

Disorders of mental activity and negative psychological factors make it difficult for the disease, restora-

tion and rehabilitation processes, and are a major cause of temporary disability and disability of patients in more than 50% of cases. [2, 3].

Formulation of the problem

One of the methods to prevent the development of cerebrovascular disease on the background of emotional disorders can become complete human realization in this or that sphere of activity in and out of negative factors affecting the relationship between husband and wife. A manifestation of the crisis of the family is divorce, which is often accompanied by emotional stress. In modern Ukraine at the state level are not considered reasons leading to divorce the spouses, so the study of risk factors for divorce, and therefore, prevention of emotional disorders, is an urgent task that could prevent the emergence or development of cerebrovascular disease.

Results

Our findings group four patients were analyze. The first group consisted of women who are not experiencing a crisis in family relations (126 pers.). The second group consisted of women living in crisis families (224 pers.). Divorced women were selecte in the third group (104 pers.). In the fourth group were men from families in crisis (194 pers.). All patients underwent psychological testing and interviews. In total we have 89 psychological indicators were analyze: 1 – rivalry, 2 – cooperation, 3 – compromise, 4 – avoidance, 5 – a device, 6 – way out of difficult situations, 7 – understanding, 8 – the emotional attraction, 9 – authority, 10 – denial, 11 – suppression, 12 – regression, 13 – compensation, 14 – projection, 15 – substitution, 16 – intellectualization, 17

– overcompensation, 18 – isolation / communicative, 19 – intelligence, 20 – emotional instability / emotional stability, 21 – subordination / dominance, 22 – restraint / expressiveness, 23 – lower regulatory behavior / high normative behavior, 24 – shyness / boldness, 25 – rigidity / sensitivity, 26 – credulity / suspicion, 27 – practicality / daydreaming, 28 – straightness / diplomacy, 29 – tranquility / anxiety, 30 – conservatism / radicalism, 31 – conformity / nonconformity, 32 – low self-control / high self-control, 33 – relaxation / tension, 34 – anxiety / adaptability, 35 – introversion / extroversion, 36 – emotion / balance, 37 – subordination / independence, 38 – marital satisfaction, 39 – the permissibility, 40 – realizeness, 41 – sexual neurotic, 42 – impersonal sex, 43 – pornography, 44 – sexy shyness, 45 – chastity, 46 – sexual aversion, 47 – sexy excitability, 48 – physical sex, 49 – aggressive sex, 50 – sexual libido, 51 – sexual satisfaction, 52 – masculinity / femininity, H53 – competence over time, 54 – support the scale, 55 – values, 56 – flexibility of behavior, 57 – sensitivity, 58 – spontaneity, 59 – self-respect, 60 – self-acceptance, 61 – human nature, 62 – synergy, 63 – adoption aggression, 64 – pin, 65 – cognitive needs, 66 – creative, 67 – somatization, 68 – obsessive-compulsive disorder, 69 – interpersonal sensitivity, 70 – depression, 71 – anxiety, 72 – hostility, 73 – phobia, 74 – paranoia, 75 – psychoticism, 76 – additional questions, 77 – the level of mental distress, 78 – love, 79 – sympathy, 80 – alarm, 81 – depression, 82 – the scale of the total internality, 83 – internality in the achievements, 84 – internality in the failure, 85 – internality in the area of family relations, 86 – internality in the field of interpersonal relations, 87 – internality in the field of industrial relations, 88 – health internality, 89 – psychosocial stress index.

By all accounts carried comparison groups and investigated correlations indicators.

In these studies, the prevalence observed weak correlations between the indicators that point to the indirect impact of a condition on human health in general. To account for the different dependencies on force, we applied the method of correlation pleyades P.V. Terentyev [4], which allows you to select features of the group with strong and medium connections by setting the threshold value of the correlation coefficient r_0 , forming "clusters" relationships that are accepted as the pleyades. A clear party presented method is the graphic interpretation of the correlation of the pleyades, which allows tracing the structure, direction and strength of the relationship between the signs.

For exceptions to the correlation graph of weak ties by setting the threshold value $r = 0.3$, were screened out all the edges, where the correlation coefficient was less than the threshold for the module.

Thematic analysis of the correlation pleyades revealed two important indicators that help in their interpretation; pleyades core (top with the largest number of

edges) and the closeness of the relationship. A variable can contain a smaller number of the ribs, but closer relations, and on the contrary, a greater number of connections, but they are less close.

Fig. 1 represented correlation pleyades of groups of women who do not experience a crisis in family relations. Analysis of the data showed that the core of the pleyades is a measure of satisfaction in marriage, which has a strong correlation with indicators of love ($r = 0,514$), sympathy ($r = 0,593$), the emotional attraction ($r = 0,501$); average connection performance: understanding ($r = 0,340$), credibility ($r = 0,329$), out of the difficult situations in life ($r = -0,423$), implementation ($r = 0,333$). Tightness ties with the listed core figure was 3,033.

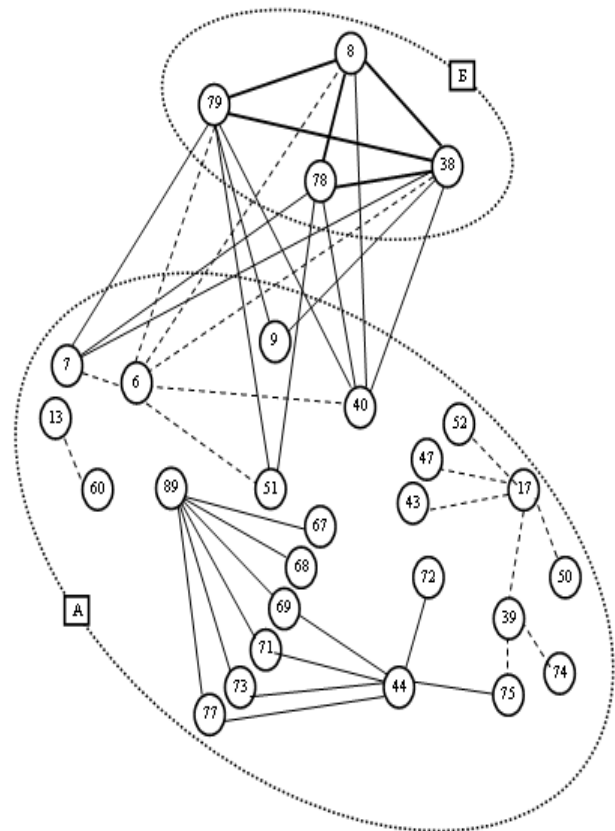


Fig. 1. Correlation pleyades of groups of women who do not experience a crisis in family relations:
 $0,3 < r \leq 0,5$ – average positive relationship ————
 $0,5 < r \leq 0,7$ – strong positive correlation —————
 $-0,3 > R \geq -0,5$ – average negative relationship - - - - -
 $-0,5 > R \geq -0,7$ – a strong negative correlation - - - - -

Fig. 2 shows the correlation pleyades group of women living in crisis families. Analysis of the findings of this group showed that the core of the Pleiades can be two measures with the most connections (total internality and psychosocial stress index). By comparing the closeness of the relationship, we have found that the pleyades is the core of the data rate of general internality (6,244), which has a very strong inverse correla-

tion with the index ($r = -0,727$), a strong bond with the index of anxiety ($r = -0,559$) and average connection performance : regression ($r = -0,318$), overcompensation ($r = -0,337$), emotional stability ($r = 0,371$), shyness / boldness ($r = 0,396$), credulity / suspicion ($r = -0,402$), calm anxiety ($r = -0,357$), weakness / strength ($r = -0,350$), intro / extroversion ($r = 0,406$), self-esteem ($r = 0,403$), self-acceptance ($r = 0,459$), the adoption of the aggression ($r = 0,356$), depression ($r = -0,362$), depression at hospital scale ($r = -0,444$). Tightness ties psychosocial stress index was 6,002.

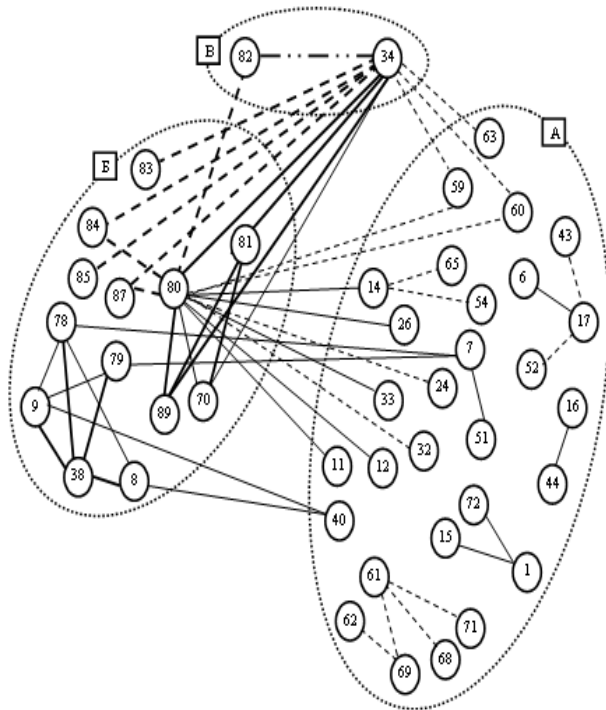


Fig. 2. Correlation pleyades group of women living in crisis families:

$0,3 < r \leq 0,5$ – average positive relationship —————
 $0,5 < r \leq 0,7$ – strong positive correlation —————
 $-0,3 > r \geq -0,5$ – average negative relationship - - - - -
 $-0,5 > r \geq -0,7$ – a strong negative correlation - - - - -
 $0,7 < r \leq 0,9$ – a very strong positive correlation — - - -

Fig. 3 shows the correlation pleyades group of divorced women. After analyzing the data of this group, we found that the core of the pleyades is a measure of depression on the scale of the hospital. The core of the pleyades has a strong correlation with the indicators: anxiety ($r = 0,651$), additional questions ($r = 0,549$), the level of psychological distress ($r = 0,519$); average connection - with indicators: regression ($r = 0,320$), replacement ($r = 0,315$), tranquility / anxiety ($r = 0,304$), relaxation / tension ($r = 0,301$), anxiety / flexibility ($r = 0,396$), competence over time ($r = -0,321$), self-esteem ($r = -0,329$), somatization ($r = 0,395$), obsessive-compulsive disorder ($r = 0,327$), interpersonal sensitiv-

ity ($r = 0,441$), psychosocial stress index ($r = 0,391$). Tightness ties with the listed core figure was 3,573.

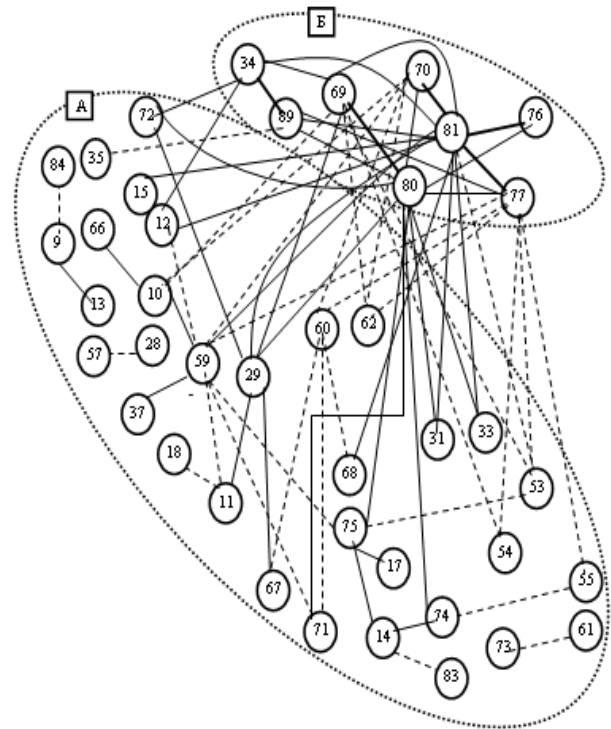


Fig. 3. Correlation pleyades group of divorced women:
 $0,3 < r \leq 0,5$ – average positive relationship —————
 $0,5 < r \leq 0,7$ – strong positive correlation —————
 $-0,3 > r \geq -0,5$ – average negative relationship - - - - -
 $-0,5 > r \geq -0,7$ – a strong negative correlation - - - - -

Fig. 4 shows the correlation pleyades group of men living in crisis families. Analysis of the data revealed two measures, which are equal to the maximum number of connections with other indicators, and can be the nuclei of the pleyades. After analysis of the closeness of the relationship (2,860) became the core component of the pleyades in the field of internal failures. Pleyades kernel does not have strong correlations with other measures, but revealed the average correlation with the indicators: awareness ($r = 0,386$), regression ($r = -0,355$), somatization ($r = -0,317$), obsessive-compulsive disorder ($r = -0,339$), depression ($r = -0,306$), anxiety ($r = -0,395$), paranoid symptoms ($r = -0,375$), the level of psychological distress ($r = -0,387$).

Conclusions

Thus, by analyzing the correlation of the pleyades four different groups were identified the main features that influence the emergence of the crisis in family relations, which made it possible to conduct the correction of these relations and prevent the occurrence or the development of cerebrovascular disease.

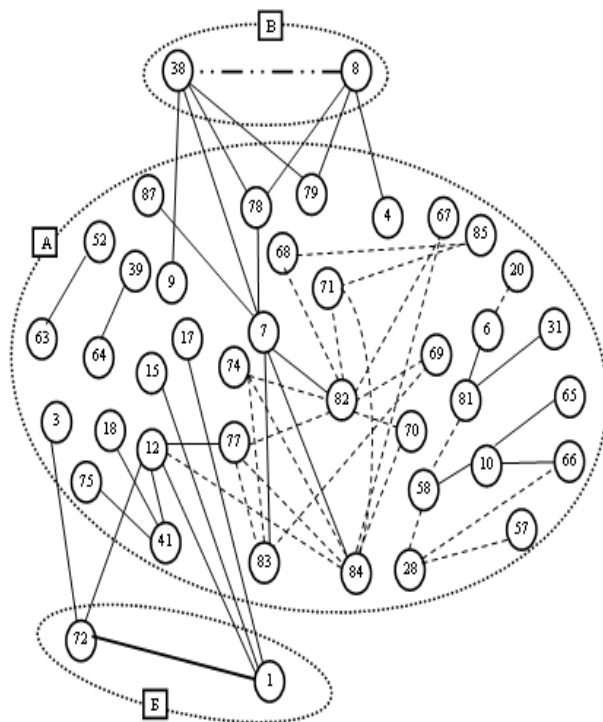


Fig. 4. Correlation pleyades group of men living in crisis families.

$0,3 < r \leq 0,5$ – average positive relationship ————
 $0,5 < r \leq 0,7$ – strong positive correlation —————
 $-0,3 > R \geq -0,5$ – average negative relationship - - - - -
 $-0,5 > R \geq -0,7$ – a strong negative correlation - - - - -

This study can be useful to neurologists and therapists working in neurological and psychiatric departments, as well as psychologists working with crisis families.

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ВИКОРИСТАННЯ МЕТОДУ КОРЕЛЯЦІЙНИХ ПЛЕЯД ДЛЯ ВИЯВЛЕННЯ ЗВ'ЯЗКІВ МІЖ ПОКАЗНИКАМИ ЦЕРЕБРОВАСКУЛЯРНОЇ ПАТОЛОГІЇ

О.В. Висоцька, Л.М. Рисована, Р.В. Алексеенко

У представленій статті цереброваскулярна патологія характеризується як медико-соціальна проблема, що виникає на тлі кризи в сімейних відносинах. З використанням методу кореляційних плейд проаналізовані зв'язки між показниками психологічних тестів, що дозволяють виявляти відсутність або наявність кризи в родині. У ході даного дослідження було проведено порівняння груп жінок, що живуть у родинах з відсутністю кризи й у кризових родинах, а також виявлені зв'язки, що вказують на відносини з чоловіками, що дозволяє підвищити якість і своєчасне надання необхідної допомоги в корекції цих відносин. Отримані в даному дослідженні результати свідчать про важливість прогнозування сімейної кризи для попередження цереброваскулярної патології й можуть бути корисні для невропатологів, психотерапевтів і психологів.

Ключові слова: кореляційна плейда, сімейна криза, цереброваскулярна патологія.

ИСПОЛЬЗОВАНИЕ МЕТОДА КОРЕЛЯЦИОННЫХ ПЛЕЯД ДЛЯ ВЫЯВЛЕНИЯ СВЯЗЕЙ МЕЖДУ ПОКАЗАТЕЛЯМИ ЦЕРЕБРОВАСКУЛЯРНОЙ ПАТОЛОГИИ

Е.В. Высоцкая, Л.М. Рисованая, Р.В. Алексеенко

В представленной статье цереброваскулярная патология характеризуется как медико-социальная проблема, возникающая на фоне кризиса в семейных отношениях. С использованием метода корреляционных плейд проанализированы связи между показателями психологических тестов, позволяющих выявлять отсутствие или наличие кризиса в семье. В ходе данного исследования было проведено сравнение групп женщин, живущих в семьях с отсутствием кризиса и в кризисных семьях, а также выявлены связи, указывающие на отношения между супругами, что позволяет повысить качество и своевременное оказание необходимой помощи в коррекции этих отношений. Полученные в данном исследовании результаты, свидетельствуют о важности прогнозирования семейного кризиса для предупреждения цереброваскулярной патологии и могут быть полезны для невропатологов, психотерапевтов и психологов.

Ключевые слова: корреляционная плейда, семейный кризис, цереброваскулярное нарушение.