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COGNITIVE ANALYSIS OF CONFLICT-GENERATING POTENTIAL IN THE "COSMETOLOGIST-PATIENT" SYSTEM

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Abstract

The social nature of the conflict-generating potential in aesthetic medicine is noted. For analysis of the problem of proneness to conflict in aesthetic medicine it is suggested to use methods and tools that are successfully used to study social problems in various applied areas. It is suggested to conduct a study of problems in the "Cosmetologist-Patient" system using the method of cognitive analysis which has the fundamental capacity to visually represent the structure and dynamics of functioning of the studied relations. We have developed cognitive models of the basic process of aesthetic medicine and the conflict potential in aesthetic medicine. It is shown that all factors in the cognitive model of conflict potential in aesthetic medicine are displayed as nodes of relations, i.e. they are problematic. The model is a multi-loop structure with two enclosing positive feedback loops and two internal loops with negative and positive feedback. The central role in the model is given to the *Doctor's qualification* factor which participates in all conflict interactions and assumes responsibility for the conflict potential of the system as a whole. This structure allows for implementation of a strategy of reducing the risk of adverse events in aesthetic medicine. The results of the analysis based on the cognitive model confirm the need to revise the organizational and regulatory documents governing the interaction of patients and doctors in aesthetic medicine.

Keywords: Cosmetologist-patient system, conflict, model, cognitive analysis

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1. Introduction

Aesthetic medicine has already passed the initial stage of dynamic development, accompanied by the euphoria of expertise of cosmetologists and the natural curiosity of patients (Legrand, 2003). At present, it can be stated that the medical community is aware of both the possibilities (technologies, instruments, medications) of modern aesthetic medicine and the problems generated by these possibilities (Kaplan et al., 2019; Manturova et al., 2017). These possibilities and problems are discussed both in the professional community of cosmetologists, and in the scientific interdisciplinary discourse, and in the already quite extensive social environment (Montemurro et al., 2021). The topics of scientific publications cover a wide range of problems from the features of technologies and the complexity of their assimilation to the classification of the causes of professional errors of cosmetologists (Kalandar et al., 2018; Manturova et al., 2017). But, certainly, the fundamental difference of research in aesthetic medicine is the focus of a number of studies on its potential for conflict generated by socially ambiguous clinical results (Sarwer et al., 2005). This only confirms the premise that "conflicts in medicine are of a social nature" (Volchansky & Fomina, 2012). However, despite the social nature of conflicts in aesthetic medicine and their interdisciplinary environment of generation and distribution, the studies are conducted mainly within the framework of methods that are traditional for medicine.

2. Problem Statement

In our opinion, with increasing frequency the aesthetic medicine is faced with problems that already involve the use of interdisciplinary research methods in accordance with their interdisciplinary environment of generation and distribution. Therefore, at this stage of development it is so important to involve methods and tools to analyse the social problem of proneness to conflict, with the help of which it would be possible to more effectively analyse the indicated problems of conflicts in aesthetic medicine as social ones and use more pertinent methods to solve them. First of all, to study the structure of this environment, i.e. the structure of the "cosmetologist-patient" system. To identify the cause-and-effect relations that underlie the emergence of conflicts. Finally, to reveal the characteristics of the structure of knowledge involved in the interaction of the parties. Even this brief problem statement allows one to steadily focus on the system approach to research, in particular on the methodology and tools of cognitive analysis.

3. Research Questions

Therefore, we suggest including the following questions in the list of questions to be researched in this article.

1. Substantiate the choice of the methodology and tools of cognitive analysis as a method for researching the "cosmetologist-patient" system.
2. Make the cognitive analysis of the basic structure of the "cosmetologist-patient" system.
3. Present the cognitive model of conflict potential in aesthetic medicine which makes it possible to identify the cause-and-effect relations involved in the interaction of the parties.

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4. Purpose of the Study

The purpose of the study is a cognitive analysis of the conflict potential in the "cosmetologist-patient" system, based on the social nature of the relationship that initiates the emergence of conflicts.

5. Research Methods

So, in this article, we suggest to conduct a study of the conflict potential in the "cosmetologist-patient" system using the method of cognitive analysis which has been successfully used to study social problems in various applied areas (see, for example, Rozin et al., 2020; Tarasenko et al., 2019). The advantages of this scientific analysis toolkit are determined by the fundamental possibility of visual representation of the structure and the dynamics of functioning of the studied relations in the "cosmetologist-patient" system to a wide range of specialists in various applied areas. At the same time, the logical-semantic connections of the cognitive model reflect the structure of relations, and their causality reflects the dynamics (Rozin et al., 2020; Tarasenko et al., 2019). The analysis of the structure of relations in the context of conflict potential will help to understand the causes of the problem. And the analysis of the dynamics of functioning within the framework of the cycles of interaction of all participants with their differently motivated strategies of behaviour will help to identify trends in the development of the situation. Cognitive analytics evaluates, models and interprets the results of interaction in the "cosmetologist-patient" system, making it possible to develop the most pertinent ways to solve the problem that take into account the ambitions of all social groups interested in solving the problem.

An important factor in the orientation of social analysts to the methods of cognitive analysis and modelling is the weak structuring of social systems and situations which include many elements of a different nature, and the dependencies between the elements of which are both quantitative and qualitative. This is precisely the situation in the field of analysis of the conflict potential in the "cosmetologist-patient" system. Cognitive models will help structure relationships in the "cosmetologist-patient" system, identify the factors that initiate conflicts, specify feedbacks in the system which determine the nature of the process cyclicity.

6. Findings

6.1. Cognitive analysis of the basic process of aesthetic medicine

Based on the tradition of analysis in the patient-cosmetologist system (Sarwer et al., 2005; Sharova et al., 2017), we distinguish four factors in the process: *Need for a procedure, Indications for the procedure, Quality of the procedure and Evaluating the result*. The factors are interconnected by causal relations in the technological cycle, the cognitive model of which is shown in Figure 1.

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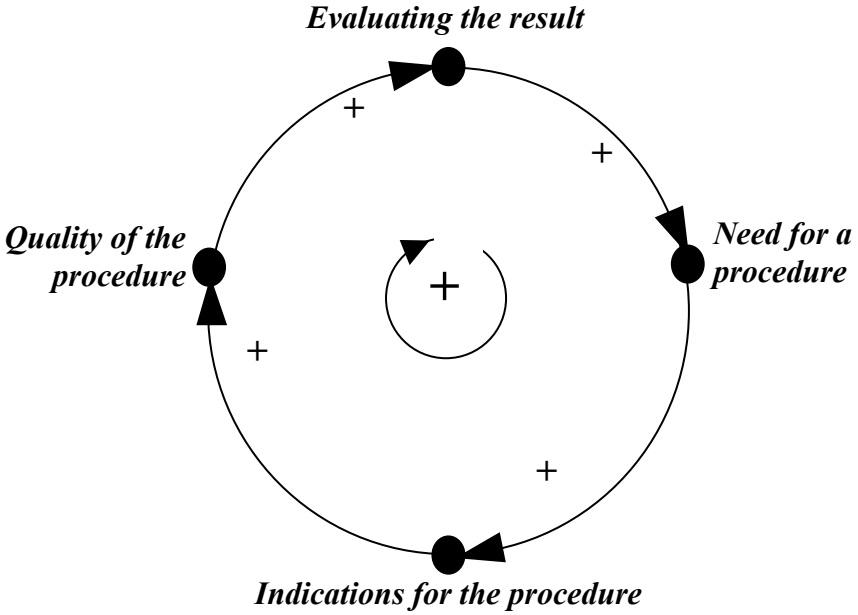

Figure 1. Cognitive model of the basic process of aesthetic medicine

The model is a positive feedback loop that continuously initiates an increase in the need for a procedure. It should be noted that the factor *Need for a procedure* may reflect the patient's behavioural strategies. The very presence of the need for a procedure starts the cycle of the process of aesthetic medicine. Then, two factors reflect the professional strategies and competencies of the cosmetologist (*Indications for the procedure, Quality of the procedure*). The factor *Evaluating the result* is the least determined in the cycle, the potential for conflict is accumulated in it in a concentrated form. As long as the patient is satisfied with the quality and results of the procedures, the positive feedback loop will self-sustain an active growth of the patient's interest in receiving the respective procedures. However, the positive feedback loop is a highly unstable dynamic system. It will support the opposite trend just with the same "success". Unfavourable development of the situation may be initiated by negative assessments of the result of the procedure, loss of interest in continuing the procedures, i.e. reducing the factor *Need for a procedure*, which blocks the indications for the procedure (in case of a harsh rejection of the result of the procedure) and stops the implementation of the cycle in the future. The potential for conflict was realized in the conflict of the "cosmetologist-patient" system.

The analysis of publications on the results of studies of conflicts in aesthetic medicine (Volchansky & Fomina, 2012) shows that the authors proceed from this simplified representation of the structure of relations in the "cosmetologist-patient" system. The factors in such a structure are lined up in a sequential chain of cause-and-effect (causal) relations, and the first and the last factor in the chain - *Evaluating the result* - closes the cycle and is a conflict generator of the loop. Therefore, it is quite natural to perceive the findings based on the subjectivity of the patient's assessment of the service received (Kalandar et al., 2018). However, neither the level of the conflict potential of the structure, nor the causal uncertainty of a number of interactions of the participants in the process can be explained within the framework of the considered model. For example, it does not reflect the problem of doctors' qualifications which was described in detail in (Manturova et al., 2017). In our opinion, each factor in the process of aesthetic medicine introduces both

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structural and causal uncertainties or tensions into the overall conflict potential of the system. Therefore, all (!) factors in the cognitive model of procedures in aesthetic medicine are problematic, i.e. they are displayed in the model as nodes of relations. Taking these reasons into account, the model should be significantly changed, namely, it is necessary to build in the *Doctor's qualification* factor, reflect additional relations that describe the node nature of factors, and finally, identify the signs of interactions in the newly formed loops.

6.2. Cognitive analysis of conflict potential in the cosmetologist-patient system

Figure 2 shows a cognitive model of conflict potential in aesthetic medicine which makes it possible to identify the cause-and-effect relations involved in the interaction of the parties.

The model retains the basic loop of the aesthetic medicine process, containing four factors: *Need for a procedure, Indications for the procedure, Quality of the procedure and Evaluating the result*. As mentioned above, the loop has a positive feedback (in Figure 2, this corresponds to the "big" arrow with a plus inside). However, the central role in the model is transferred to the newly introduced factor *Doctor's qualification.*

The procedures should be performed by a qualified doctor who had discrete training in dermatovenerology, cosmetology, botulinum therapy, etc. But this does not determine the central role of the factor in the model. The factor is connected to all factors of the basic loop by corresponding arcs, i.e. it enters into "important" causal relations with them. This position allows it to participate in all conflict interactions. Thus, the responsibility for conflict potential is transferred from the patient with his/her subjectivity in assessing the service received (Parmeshwar et al., 2018) to the doctor and his/her qualification.

Let us consider how this happens. First of all, the factor *Doctor's qualification* together with the factors *Quality of the procedure*, *Evaluating the result* and *Need for a procedure* forms a second loop with positive feedback (another "big" arrow with a plus inside in Figure 2). Thus, two factors of the basic process - *Quality of the procedure* and *Need for a procedure* - become node factors. Now the need for a procedure generates as a result not only the required indications for the procedure but also sets the requirements for the doctor's qualification. The authors point out that such a change is necessary in (Manturova et al., 2017). In particular, they recommend indicating clearly, for example, in the portfolio of a specialist, the tolerances to the possible volume of reconstructive operations. It is the high quality of results with a low number of adverse events that should determine the level of qualification of the doctor performing the procedure. Hence, the quality of the procedure is already a consequence of both the indications for the procedure and the doctor's qualification, i.e. the factor *Quality of the procedure* as a node one integrates the "causes" generated by the factors *Doctor's qualification* and *Indications for the procedure.*

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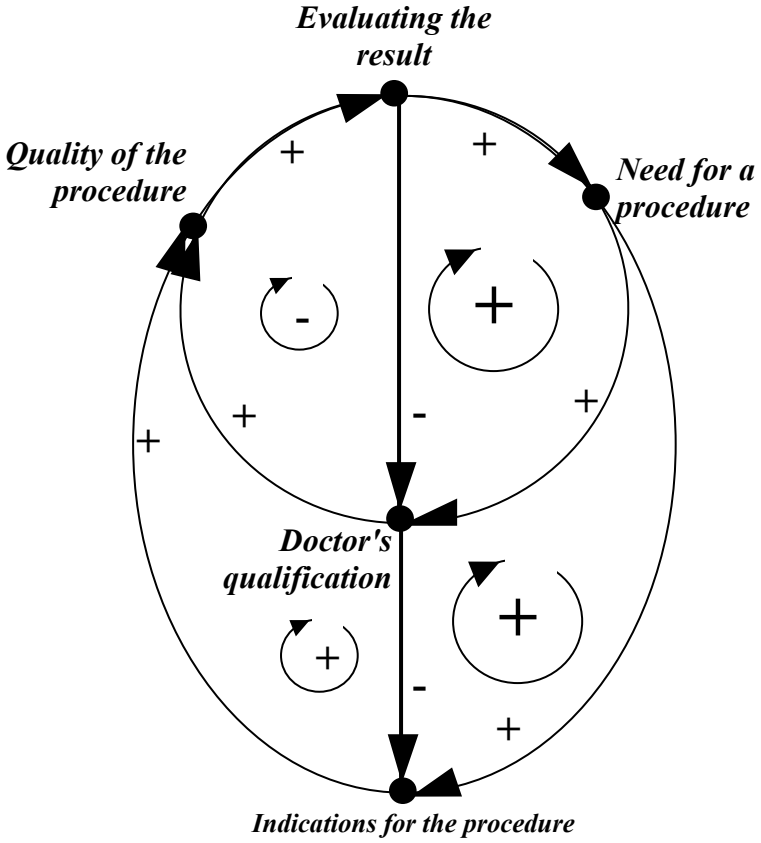

Figure 2. Cognitive model of conflict potential in aesthetic medicine

Two considered loops, namely, the basic loop of the aesthetic medicine process and the doctor's qualification loop, are positive feedback loops. We have already emphasized above the instability of such models in principle, and, in particular, their risk in the "cosmetologist-patient" system. Any dynamic surge in evaluation can initiate degradation of the process up to and including blocking. Therefore, it is necessary to provide for formation of stabilizing loops in the system to prevent instability and regression.

This is done in the proposed model by means of two oriented chords: factor *Evaluating the result* → factor *Doctor's qualification*; factor *Doctor's qualification* → factor *Indications for the procedure*. Thus, these three factors are transformed into node ones. In the node *Evaluating the result*, we already observe the decomposition of assessments in the areas → *Need for a procedure* and → *Doctor's qualification*. And the latest connection is more dynamic and negative in sign (in Fig. 2, the sign of the connection is "-"). Regardless of the nature and dynamics of development of the reaction to the need for a procedure, this makes it possible to form a stabilizing small loop with the factor *Doctor's qualification*. There are only three factors in the loop: *Doctor's qualification*, *Quality of the procedure* and *Evaluating the result*. But with the threat of failure of the result it is in it that the doctor's qualification upgrade is immediately required in order to stabilize the situation. The second chord also has a negative sign and forms a second small loop but already with positive feedback, which allows changing the indications for the procedure in accordance with the dynamics of evaluation of the results. The need to introduce this kind of connection has been repeatedly pointed out, for example, in (Kalandar et al., 2018), where the need for

postoperative procedures in aesthetic surgery is unambiguously associated with the quality of the care provided (Manturova et al., 2017).

7. Conclusion

The model is a multi-loop structure with two enclosing positive feedback loops and two internal loops with negative and positive feedback. In the model, the loops are combined into the patient-cosmetologist system with the target diagonal from the factor evaluating the result to the factors Doctor's qualification and Indications for the procedure. This structure allows for implementation of a strategy of reducing the risk of adverse events in aesthetic medicine.

The model fundamentally proceeds from the social nature of conflict potential in the patient-cosmetologist system and makes it possible to identify the factors that initiate the emergence of conflicts, structure their relations, and specify feedbacks in the system which determine the nature of the process cyclicity. The proposed model shows the real possibilities of cognitive analysis among other modern methods and models that provide predictable and orderly interaction in the "Cosmetologist-Patient" system. The results of the analysis based on the cognitive model confirm the need to revise the organizational and regulatory documents governing the interaction of patients and doctors in aesthetic medicine.

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