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“DOCTOR AS A DRUG” IN A STROKE FOLLOW-UP**E.A. Aleshchenko^{1,2}, V.V. Kashtalap³**

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Highlights

• We described a new concept of illness. Within its framework we have shown the role of a physician-patient relationship in the improvement of follow-up adherence in the post-stroke patient during COVID-19 pandemic.

Abstract

Each year about 400 000 people in Russia get strokes. Whereas an acute treatment takes place in specialized intensive care units in hospitals, follow-up is handed over to general (rarely – private) practitioner. The majority of stroke survivors show low adherence to follow-up resulting in repeated hospitalizations and growth of multi-morbidity burden. With COVID-19 pandemic negatively affecting availability of medical services and increasing health risks for stroke survivors, a physician-patient relation becomes the means of persuading patients to health-promoting behaviour.

Keywords

Stroke survivors • Follow-up • Physician-patient relation • Case management

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New concept of illness

Each year about 400 000 people in Russia get strokes [1]. Wade and Halligan [2], while studying the patients who had experienced a stroke, suggested looking at the disease from a different perspective by considering psychological and social factors influencing patients' perceptions and actions. They criticized an established biomedical model of illness as it assumes that:

- All diseases arise from an underlying abnormality within the body;
- All diseases give rise to symptoms;
- Health is the absence of disease;
- Mental phenomena do not relate to other disturbances of body functions;
- The patient is the victim of circumstances who takes no responsibility for the cause of the illness;
- The patient is a passive recipient of treatment.

They argued that for the majority of diseases it is not exactly so and that the subjective understanding of a person as “being ill” should be considered. The main idea of this model is that illness is a person's dysfunction in physical and social environment (*Figure*).

The main considerations of the model are:

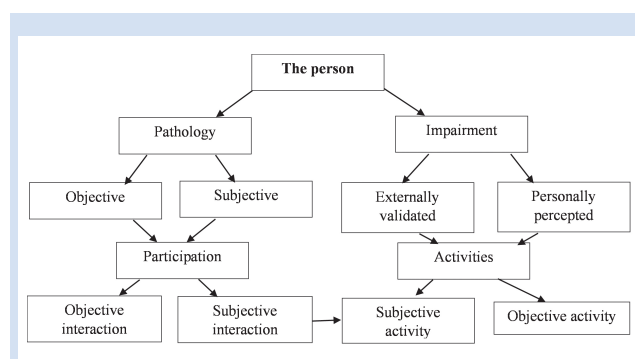
- People have two major systems. Their whole self with dysfunction is called impairment and their organs with dysfunction are called pathology;
- Two factors affect each person – personal context

and free will – thus affecting subjective perception of actual pathology and impairment;

- Objective and subjective disease perception results in an interpersonal interaction which is both subjective and objective;

- Objective and subjective impairment results in two forms of activities: goal-directed (objective) and participation (reflecting the meanings attributed to their behaviour by themselves or others – subjective activity).

The model shows that the pathological abnormalities are dependent on much more factors than those that were considered above. The focus is moving from discovering the pathology to understanding the illness in its complexity; the intervention could be targeted at one or more of its components [3, 4]. Healthcare systems



Schematic presentation of biopsychosocial model of illness

normally focus on pathology (e.g., acute care) but often ignore the patient's context, which is especially important in follow-up care.

Physician-patient relationship

The main intervention into a patient's context is a physician-patient relationship which is commonly defined as a twofold social interaction between a physician and a patient. On the one hand, this relation is a service provision but on the other, it is a personal trust-based communication between two people, having potentially a healing effect within.

The concept "doctor is a drug" was introduced by M. Balint in his book "The doctor, his patient and the illness". But he acknowledged that very little is known about the "pharmacological" aspects of this drug, such as the correct "dosages" (frequency of visits), any addictive properties (whereby the patient becomes increasingly reliant on the doctor), and side effects (i.e. what harm the doctor could do) [5].

Further research provided an evidence that a well-established physician-patient relationship influences positive adherence [6] and decreases treatment avoidance [7]. One of the latest studies stated that the role of this relationship is especially important for older adults with neurological disorders [8].

Having such an influence on a patient's behavior, a physician-patient relationship provides an easily accessible tool for the improvement of treatment results. Smith and his team have shown that the style in which patients present and doctors respond to illness is very important for the establishing successful relationship. If styles are not compatible, this may complicate the clinical transaction [9]. Older patients are used to a paternalistic model of a physician-patient interaction which is not enough for follow-up and multi-morbidity care. Such patients cannot speak about their "subjective" health and psychosocial issues because they want to be perceived as a "good patient" and because they are not used to this form of care [10]. The role of an empathic physician is thus becoming crucial [11, 12]. The multi-morbidity burden and/or external factors (such as COVID-19 pandemic) might lead to disability to remember a certain aspect or to uncertainty of what is important to tell. These risks can be reduced through an appropriate physician-patient relationship [13].

A systematic review conducted by Ridd and his team [14] stated that a physician-patient relation is defined by the length of care provided, consultation experiences and the depth of such a relation. They also found out that each new interaction is influenced by the previous experience of both parties. That may result in two extremes: patients both over-idealize their doctors and believe that they cannot do anything wrong, or they

may openly mistrust anything the doctor offers and do not follow the recommendations.

Patients value both clinical (e.g., physicians' professional expertise) and interpersonal quality of care regardless of their socio-demographic characteristics and health status [15–17]. But patients' communication preferences differ – they like and dislike patient-centred approach¹ [19], thus there is no universal instrument to affect patients' health behaviour.

Example case

Dr. K, as a private cardiologist, was supervising the follow-up of patient M, 68-year-old man with a coronary artery disease, who had a stroke at the beginning of 2019. The patient had a slight neurological deficit in the form of moderate left-sided hemiparesis. He actively participated in the rehabilitation programs and had a good recovery of personal activities. To avoid repeated cardiovascular events against the background of atherosclerosis, he was in the follow-up (lipid-lowering, antithrombotic, antihypertensive therapy) with regular check-ups of hemodynamic parameters (blood pressure and heart rate) and effectively took the prescribed medications. The patient was adherent to the follow-up recommendations, including life-style changes. He quit smoking and drinking alcohol, and limited the consumption of table salt to 2 g per day. During that follow-up the patient stepped into COVID-19 pandemic.

The patient complied with the instructions for staying at home and was not infected. As the vaccination started in autumn 2020, he was not ready to get vaccinated due to his fear of the vaccine itself and concerns about its possible complications. Motivating conversations were useless though it had previously been shown that any viral infection, especially a new coronavirus, can become an additional risk factor for a repeated cardiovascular event and might lead to death [20–22]. Vaccination is one of the instruments decreasing the risk: influenza vaccination prevents general and cardiovascular mortality in patients with myocardial infarction and reduces any probability of a repeated cardiovascular event within 12 months after myocardial infarction [23].

He got vaccinated with "Sputnik V" only at the end of spring 2021 and had no side-effects. When asked what the decisive argument in favour of vaccination was, he replied that it was Dr. K's post on Instagram, where he stated his personal position on vaccination and described his own vaccination experience.

To discuss the patient's behaviour, we applied Wade and Holligan's disease model (Table).

Thus, the state of Mr. M's disease is a dysfunction of the person in his physical and social environment which includes:

- Mr. M with his personal health model, medical

¹ Patient-centred communication includes "identifying and responding to patients' ideas and emotions regarding their illness", and "reaching common ground about the illness, its treatment, and the roles that the physician and patient will assume" [18].

awareness, problem-solving style, socialization, internal picture of the disease, opinion of the immediate environment;

- Cardiologist with his own characteristics of professional socialization and empathy, special medical knowledge and skills, style of consultation, means of communication;

- The peculiarities of their relationship: duration, the doctor's preference for therapeutic cooperation, the patient's communication language; gender, age, status differences (affecting the degree of patient's identification with a physician);

- The maturity of Mr. M's intrapersonal reflection of the disease symptoms.

The case of Mr. M illustrates an exemplary patient-physician interaction. The patient was characterised by high compliance to stroke follow-up. Being in a high-risk because of COVID-19 pandemic, he still refused to be vaccinated. Patient's M subjective health perception added to overestimation of vaccination risks. Healthcare professionals' attempts to persuade him were unsuccessful. Only the physician's own example became a sufficient reason for him to get vaccinated. The explanation of this effect is twofold: a long-term follow-up defined the perception of the physician as a "professional" and being "in his side" personal interaction resulted in a shared identity [24].

Discussion

Regular collaborative and supportive interactions

Application of Wade and Holligan's model on a real case

Element	Objective (medical) description	Subjective (patients') description
Pathology	CAD, multifocal atherosclerosis, in 2019 had a mild stroke	Severe stroke
Impairment	Mild left-sided hemiparesis	Left body side is weak and unreliable
Activities	Good recovery of personal activities	Still feels disabled and vulnerable
Participation	Returned to his everyday life	Still feels as a patient, avoiding any uncertain situations
Personal context	Afraid of virus and possible side-effects of vaccination, established long-term relationship with a cardiologist supervising his follow-up	
Social context		
Physical context	COVID-19 pandemic	

Note: CAD – coronary artery disease.

are necessary for stroke survivors. First of all that refers to the care coordination and management of cooccurring conditions due to the focus on one dominant [25]. Being in constant contact, a physician has an opportunity to adequately correct the follow-up or adjust it to changing circumstances (in case study – COVID-19). Similarly, Chang and his team highlighted the importance of the process continuity [26].

Previous research states that most outpatient contacts are conducted in a predominant style [27] that might provoke a desire of counteraction in some patients. In that case we saw that Mr. M was deaf towards motivating conversations, whereas physician's own example influenced his behaviour through the mechanism of concordance (shared identity). Patients interacting with a physician, who they perceive as similar to themselves, assume them as a role model, having the same understanding of health behaviour [28, 29]. Such perception results in trust and desire to imitate their actions. The same study has shown that socio-demographic characteristics are less influential than patients' assumptions that the values are similar.

Conclusion

This article contributes to the growing evidence that a well-established long-term physician-patient relationship is necessary in follow-up care. As our case illustrates, it is a powerful instrument to alter patients' self-perceptions. A complex understanding of a patient's disease provides more instruments to change their health behaviour.

Conflict of Interest

E.A. Aleshchenko declares no conflict of interest. V.V. Kashtalov is the member of the editorial board of the journal "Complex Issues of Cardiovascular Diseases".

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Author Contribution Statement

AEA – data collection, manuscript writing, approval of the final version, fully responsible for the content

KVV – data interpretation, manuscript writing, approval of the final version, fully responsible for the content

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