

CHALLENGES AND LIMITATIONS IN APPLYING ADHERENCE IN THE EVERYDAY PRACTICE OF HEALTHCARE WORKERS

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Abstract: Medical adherence serves as a link between the healthcare system and the patient. Barriers and challenges encountered in adherence implementation are a daily reality, posing a significant challenge in treating various health conditions. Methods for measuring adherence levels are categorized into several types, including direct and indirect methods, each with its own advantages and drawbacks. Patients face disadvantages such as insufficient disease control, lack of awareness, inadequate education of healthcare staff, poor patient disease issues, among others. This research involved 200 participants who provided their opinions on the state of medical adherence implementation, whether satisfactory or unsatisfactory. The majority of participants agreed on the very poor implementation of medical adherence, inadequate organizational structure within healthcare institutions, issues within the healthcare system, inadequately effective adherence measurements methods, while a smaller number of participants held a different perspective. Additionally, medical adherence is not adequately represented in the daily operations of healthcare professionals due to numerous limitations and barriers faced by healthcare workers. One of the key barriers and obstacles is the lack of sufficient knowledge and skills, a result of the absence of adequate formal and informal education systems. Medical adherence influences more professional job performance, enhancing the overall quality of the healthcare delivery system. The organization of tasks and the working system in healthcare institutions do not encourage an increase in patient adherence, posing a significant challenge and limitation in the implementation of medical adherence. The absence of instructions and adequate knowledge about measuring the degree of patient adherence prevents healthcare employees from actively participating in reducing patient non-adherence. Numerous issues within the healthcare system in Bosnia and Herzegovina transfer to healthcare institutions providing healthcare services. One major problem is the lack of adequate financial resources necessary not for normal operations but also for improvements in healthcare delivery. One way to increase motivation among employees is through financial support in the form of rewards and incentives. None of the respondents mentioned that the motivation system, especially incentives, serves as a way to increase the level of medical adherence. It is necessary to enhance the curriculum of formal education, specifically the educational institutions that educate future healthcare workers. The role and significance of adherence in the treatment process have been recognized by the WHO, partly due to numerous studies conducted worldwide, indicating the role and importance of adherence. It is also important to establish an adherence system of continuous education that recognizes the role and significance of medical adherence. This includes creating a model for informing and educating healthcare employees through internal and external training and seminars. Educating healthcare workers about medical adherence is a key factor in increasing the level of medical adherence in healthcare institutions. The research results indicate the conclusion that healthcare workers are intrusted in and make individual efforts in education, but these efforts are insufficient, among other reasons, due to the research results presented in the previous chapter of the paper. In order to increase the implementation of medical adherence, which, based on research results, affects the more professional performance of healthcare workers and influences treatment outcomes, it is necessary to create a strategy whose implementation should result in reducing or eliminating the barriers faced by healthcare workers in their daily work with patients. The healthcare system in Bosnia and Herzegovina needs to develop a strategy to enhance the implementation of medical adherence in healthcare and establish a foundation for creating specific activities within healthcare institutions. Undoubtedly, one of the biggest challenges is creating an adequate system, reducing the burden on healthcare employees, and finding necessary financial resources. Certain recommendations presented require significant financial resources and cannot be realized in a short period. It is also possible to improve the curriculum

of educational institutions, creating internal and external training programs aimed at increasing knowledge, skills and practical advice for future and current healthcare workers. By investing in education, we invest in the future and in this context, in the nation's health.

Keywords: adherence, methods, healthcare, patients

1. INTRODUCTION

Adherence represents a complex, dynamic and multifactorial process that encompasses physical, psychological, social, cultural and behavioral aspects. In healthcare practice, it is also referred to as the „degree to which a patient follows the advice given by healthcare professionals „, and serves as a key mediator between medical practice and treatment outcomes. High adherence forms the basis of positive treatment outcomes (Panahi et al., 2022). However, medical adherence poses a significant obstacle in achieving therapy goals and improving treatment outcomes, especially among chronic patients. Unfortunately, a large percentage of patients are a non-adherent, leading to inadequate treatments outcomes, among other issues (Kuypers, 2020). Moreover, chronically ill patients exhibit a high degree of non-adherence, posing a challenge to the healthcare system (Cea-Calvo et al., 2020). Adherence levels are influenced by various actors, serving as barriers to addressing non-adherence, with key causes including forgetfulness, insufficient education and high medical costs. Approximately 50% of patients diagnosed with a chronic illness cease to be adherent within the first year, with the highest level of non-adherence occurring in the initial months. Adherence rates range from 43% to 78%; however, there are specific challenges associated with measuring patient adherence. Current methods for measuring adherence encompass both direct and indirect approaches. Unfortunately, these methods have numerous drawbacks and none of the existing techniques allow for precise measurement of adherence levels with an acceptable level of reliability. The complexity of measuring adherence levels only adds to the intricacy of an already highly complex problem. The inefficiency and sluggishness of the healthcare system hinder the development of adequate interventions that should result in patient adherence (Gutierrez-Crespo et al., 2023). Patient non-adherence reduces the effectiveness of therapy, increases the complexity of treatment, raises direct and indirect treatment costs and ultimately can lead to a fatal outcome for the patient. Increasing adherence levels or reducing non-adherence, can be significantly aided by healthcare workers in their daily practices if they have appropriate conditions in place (Walsh et al., 2019). However, regrettably, a significant number of healthcare workers of employees lack the necessary knowledge and experience, as well as a clearly defined strategy on how to enhance patient adherence.

2. MATERIALS AND METHODS

The research was conducted over a period of 3 months, from February to April 2023. The total number of participants was 200. It was carried out using an online survey (Google Forms). The survey of anonymous nature and comprised multiple questionnaires, including information from respondents regarding adherence and non-adherence, applications in everyday business, as well as obstacles and barriers. The study was conducted in accordance with the Convention on Human Rights and local laws regarding patient rights, which included: the Law on the Rights, Obligations, and Responsibilities of Patients in the Federation of Bosnia and Herzegovina; the Law on Personal Data Protection of Bosnia and Herzegovina, and the Regulation on regulations on records in the field of healthcare in the Federation of Bosnia and Herzegovina.

3. RESULTS AND DISCUSSION

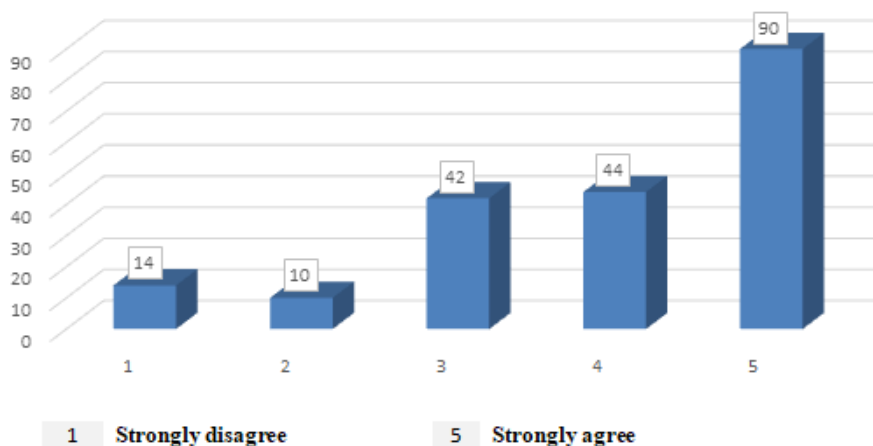
Within *Table 1*, respondents answers related to hindrance of adequate medical adherence due to poor organizational structure of healthcare organizations within Bosnia and Herzegovina are presented. The provided options for the given question were: *Strongly disagree*, *Partially disagree*, *Partially agree*, *Agree*, *Strongly agree*. The survey participants included male (80 respondents) and female (140 respondents) individuals. The results are as follows: the highest number of selected responses was for *Strongly agree* (M=40), representing 40% for male participants and (F=54) 45% for female participants. However, the lowest number of selected responses was for *Strongly disagree*, with a percentage of 8% for male participants (M=7) and 7% for female participants (F=9). In many literary sources, patients with specific diseases and issues are often aware of their condition and fairly well-informed about the problem. What constitutes a crucial issue is insufficient therapy and effectiveness (Jarak, 2019). Gandolfini et al. (2022) state that inadequate within the healthcare system has created significant health problems for individuals who have undergone kidney transplantation. Insufficient treatment strategy could potentially lead to two outcomes in the future: patient mortality and graft failure. In this regard, the strategy should have a specific insight into the problem, identification of the main risk factors for graft rejection in patients, individual consultations with patients, as well as scheduling activities and monitoring health conditions.

Table 1. Organizational structure of healthcare institutions hinders adequate implementation of medical adherence

The organizational structure of the healthcare institution hinders the adequate implementation of medical adherence:	Gender			
	Male		Female	
	N	%	N	%
<i>Strongly disagree</i>	7	8%	9	7%
<i>Partially disagree</i>	4	5%	12	10%
<i>Partially agree</i>	15	18%	25	20%
<i>Agree</i>	16	40%	30	25%
<i>Strongly agree</i>	32	40%	54	45%
Total:	<i>80</i>	<i>/</i>	<i>120</i>	<i>/</i>

Furthermore, in *Graph 1*, similar observations follow as in the previous results. Dissatisfaction among surveyed citizens (200 participants) indicates that once again, a significant emphasis on the problem of inadequate implementation of medical adherence is placed on the healthcare system, the primary step in proving health support. A large number of participants (M+F=90) expressed significant dissatisfaction, as indicated by the results, where the highest number of selected responses was for *Strongly agree*, while the smallest number of participants, 10, disagreed with the statement. Research conducted by Nikiloć et al. (2022) in Brčko indicates that the focal point of issues in the healthcare system includes the prevalence of emotional exhaustion among healthcare workers (51%), depersonalization (33%), as well as low patient awareness (45%). Additionally, doctors mostly experienced moderate or low emotional exhaustion, whereas medical technicians/nurses exhibit a moderate level of depersonalization, leading to reduced implementation of medical adherence in the healthcare system of Bosnia and Herzegovina. Kvarnstorm et al. (2021) argue that poor access to healthcare and long waiting times cause patients poor medication adherence. Lack of communication between general practitioners and local doctors, along with poor coordination between primary and secondary care and treatment fragmentation due to multiple prescribers can lead to treatment issues. Lack of support and empathy from healthcare providers and a paternalistic approach can negatively impact adherence.

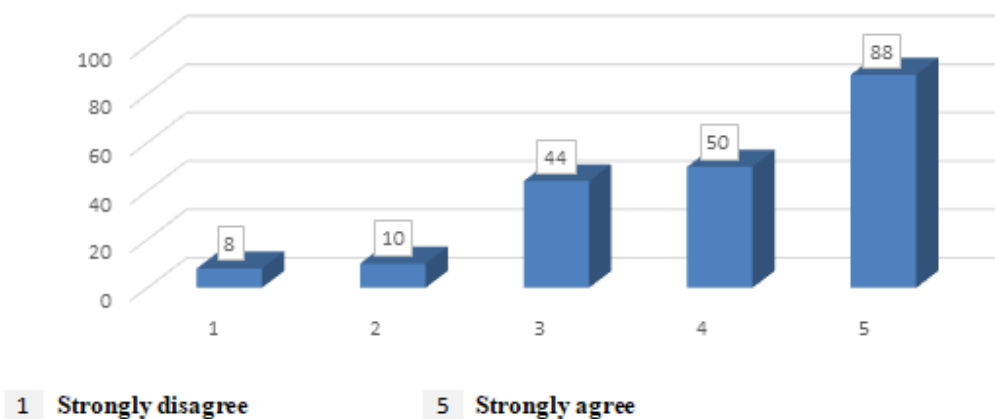
Graph 1. Healthcare system issues hinder adequate implementation of medical adherence



In *Graph 2*, the responses of participants (M+F=200) to the sub-question of whether the lack of adequate adherence measurement methods affects medical adherence are recorded. The scale ranged from denial to affirmation, with the highest number of participants (88) indicating complete agreement with the statement, while the smallest number of participants (8) disagreed with the statement. These results suggest a very low awareness of medical adherence, which could result from several factors: lack of interest, insufficient motivation for new knowledge and

improvement and ultimately, insufficient political involvement in the entire healthcare system. The common classification method for measuring adherence used by WHO involves subjective and objective methods. Subjective methods include the patient's selfassessment of medication-taking behavior (questionnaire) and are subject to a certain degree of readiness with this method having many disadvantages where the patient's actual state can change due to multiple factors. In contrast, objective methods provide a much better insight into the patient's health status by counting the medications consumed and monitoring patients through electronic monitoring devices. For the method to be effective (direct/indirect), it needs to be primarily multimodal, acceptable and straightforward to every patient, cost-effective, beliefs or concerns that the patient might have (Anghel et al., 2019).

Graph 2. Lack of adequate adherence measurement methods affects the level of implementational and dedication to medical adherence



4. CONCLUSION

Medical adherence is crucial in providing healthcare and improving the efficiency and effectiveness of treatment outcomes. In this context, increasing patients adherence levels has multiple benefits: better treatment outcomes, improving quality of life for patients and reduction in direct and indirect healthcare costs. Additionally, better healthcare organization, primarily improved education of healthcare professionals (doctors, nurses, technicians), patient plans and programs that should be reviewed monthly and discussing disease-related issues with patients would undoubtedly provide much better insights into medical adherence and thereby improve it.

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