Letter to the editor

Participatory action research on framework of promoting action on research implementation in health services: A pathway to evidence-based changes in the development of medical science education

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Medical education is facing daunting challenges caused by social changes and a failure to use new approaches. Curriculum reform is a difficult process since it can be affected by various factors, including existing values, resistance to change, and the accreditation process. To tackle this problem, it is necessary to use evidence-based methods to bring about changes aligned with contextual possibilities and needs (1, 2). In this regard, it is necessary to use new approaches to identify educational problems, implement context-based interventions, and evaluate them (3). In 2019, the action research approach was proposed with the aim of using an evidence-based curriculum as an effective method for improving the quality of teaching and solving curriculum problems. In this approach, self-reflection is used to identify problems and develop educational processes, which can improve educational performance (4).

In this type of research, during a team process, a group of researchers and stakeholders identify and evaluate existing problems. Thereafter, according to the possibilities and conditions of the desired context, the necessary interventions are proposed, and in a collaborative process, appropriate options are selected and used (5-7). In the executive nature of this method, all people who are involved in the change process participate in the study (8) and get a common understanding of the conditions in which the problem exists (9). The main goals of action research include generating knowledge, making changes in the performance of a group of people, empowering participants, as well as increasing awareness and commitment (10).

Action research implies an approach in which the distance between the working environment and the context of knowledge generation is reduced as much as possible. However, it should be kept in mind that the practical application of knowledge is not easily possible due to the inherent complexity of the practice, and it faces daunting challenges (11-13). These challenges have been addressed in a framework entitled "Promoting Action on Research Implementation in Health Services (PARIHS)". Unlike previous researchers who introduced the practical application of knowledge as a linear process, the developers of this framework believe that the

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successful application of evidence is the result of a complex interaction of several factors (14).

The initial version of the PARIHS framework was developed inductively by Kistone et al. as a conceptual framework. The initial hypothesis of this framework is that the successful use of evidence in practice is a function of the mutual effects of the three basic elements of evidence, the type and nature of the context, and the quality of process facilitation. In this framework, "context" is an acceptance of change and new ideas. This important dimension includes the culture that governs the context, the leadership approaches used, how managers are evaluated, as well as access to human, financial, and support resources and required infrastructure.

In order to make change, it is necessary to pay attention to all these dimensions, and the intended interventions to cause change should be explained based on these dimensions (15). Therefore, in the first step, for the educational development of medical sciences, it is necessary that the problems be investigated and identified by managers and stakeholders based on the existing conditions in order to create changes, and then solutions be proposed based on appropriate evidence. "Evidence" in the PARIHS framework includes research results, stakeholders' experiences, and information extracted from the environment. It is worth noting that research findings are only one of the constituent elements of evidence. That is to say, the findings of well-designed research are necessary but not sufficient. Other dimensions of the resulting evidence, including the experiences of people and the examination of the environment, are equally important (15). Another critical point is that research evidence is not always used in practice and requires special arrangements.

"Facilitation," as the third arm of the PARIHS framework, has a key role in the process of evidence application. This dimension is described as a process or role needed by people to use evidence. The role of the facilitator is to work with relevant stakeholders to identify and review available evidence and find strategies to support its implementation in the context of research implementation (14, 16). The typical model of facilitation includes the presence of external and internal facilitators who provide opportunities for critical thinking and development in cooperation with each other.

The external facilitator (external change agent) is responsible for developing training courses and acting as an external consultant, while the internal facilitator (internal change agent) is in charge of implementing changes in the local context. To implement facilitation, the duties of stakeholders and their participation in the study should be clarified (16). In this regard, in educational environments, in line with the implementation of the framework, we need to know how to engage emotionally and intellectually with the proposed change and attract the cooperation of individuals, teams, and organizations to create and maintain it in a receptive and supportive context.

According to the mentioned issues, the use of the PARIHS framework in action research provides new opportunities for performance development for the progress of medical science education. The integration of these two methods leads to the identification of the problem, the implementation and evaluation of the process and outcomes during the cycles of the research action, and paying attention to the basic elements of the PARIHS framework can increase the probability of success in the practical application of knowledge. In fact, during the process of action research, the problems in the context are extracted based on the information existing in the context, including the environment and experiences of students, professors, and officials. Thereafter, in order to find appropriate interventions, the research findings are combined with the information obtained from the experiences of beneficiaries and the data available in the context. Finally, context-based solutions will be identified, implemented, and evaluated during brainstorming sessions.

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