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Evaluating the responsiveness of higher education system in relation to social determinants of health

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Abstract:

BACKGROUND AND AIM: To answer the society's health-care needs related to social determinants of health (SDH), higher education system must be responsive in training knowledgeable students and faculty members. Therefore, this study was carried out to determine the responsiveness of higher education system in relation to the SDH.

METHODS: This is a content analysis study carried out using qualitative approach. Semi-structured interviews were used to gain access to the knowledge of experts in the fields of health care, education, and SDH. Sampling was carried out until data saturation was achieved during which 15 experts were selected using purposeful sampling method with highest possible variety. Data were categorized using qualitative content analysis approach.

RESULTS: In total, 11 themes and 43 categories of codes were identified in semi-structured interviews with experts. A total of two approaches were identified for the training of responsive students including educational–research approach and cultural–social approach; five approaches were identified for the development of faculty members including cognitive development, executive development, evaluation, promotion and incentives, and revisions; two approaches were identified for provision of theoretical and practical education including education in a real and active environment and structural education; and finally, two approaches were identified for evaluation of students and faculty members in regard to their responsiveness to society's health needs and SDH including content and operational approaches.

CONCLUSION: In general, the results of the current study indicate the need for the higher education system to use educational, research, and society-based approaches in real and social environments along with an incentive system and use of evaluation for responsiveness to society's health needs and SDH. These results can be useful for the health-care system and the higher education system.

Keywords:

Higher education system, qualitative study, responsive education, social determinants of health

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Introduction

There is no universal definition for the concept of "social determinants of health (SDH)." In a somewhat comprehensive definition provided by Mikkonen and Raphael, SDH are defined as socioeconomic conditions and their distribution among the population which affects the health situation of

individuals and various groups.^[1] The sustainable development goals committee of the World Health Organization (WHO) introduces SDH as important factors in the improvement of health with examples such as equal access to education, job security and work conditions, childhood development, food security, housing, social acceptance, and gender and ethnic equality. The most important characteristic of SDH is their high policymaking

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capacity^[2-4] which necessitates their consideration in education and response to needs and demands.

Responsiveness and accountability includes the need and commitment to explain one's actions in relation to one's self or others. The WHO defines responsiveness as the ability of the health-care system for meeting the legitimate health needs of the population with nonclinical dimensions affecting the development of the health-care system. According to this view, one of the main goals of health-care systems is their responsiveness.^[5-9] Along with responsiveness in relation to health and treatment, responsiveness in the educational environment must also be a priority of health-care policymakers.

By nature, education is a useful investment and a key factor in development and improvement of individuals and organizations,^[9] and training of professional human resources will greatly affect other aspects of health-care system, including the provision of health and medical services.^[10]

Therefore, due to rapid changes in society's needs in the field of health and medicine, it is necessary to carry out periodic revisions in the medical education curriculums based on the society's needs. Educational programs must be revised in a way that improves the ability of graduates for identifying the health problems in the society. In this regard, responsive education aims to respond to society's health needs and prepare students for work and provision of services in the society. In this executive program, which is enacted in the society, students will be familiarized with various methods of dealing with society's problems and gain necessary skills and abilities for dealing what they might encounter later in their careers.^[11]

During the review of Persian sources, the researchers failed to find similar studies related to responsive education and SDH. In their study, Biglar and Bastani investigated the management challenges of the Iranian Medical Education System in a qualitative analysis of in-depth and semi-structured interviews with 24 faculty members employed by ministry of health. According to the findings of these interviews, participation of stakeholders, and information management in medical education were identified as the two main themes and their challenges were introduced as part of the essential interventions for improving the management performance of the health education system.^[10] In another study, Yaghoubi Far *et al.* evaluated the internship course for environmental health in Sabzevar University of Medical Sciences according to students with an emphasis on responsive education, using survey approach and research-made questionnaires. Their results indicated that according the students, the curriculum and courses of environmental health engineering

internship course do not have suitable situations in regard to design, organization, compatibility between theoretical and practical courses, and compatibility with educational programs which showed a need for revision in the curriculum.^[11] Klein Klaine *et al.* in a study investigated the effect of adding courses on SDH to the curriculum of pediatrics students as an intervention on attitude, knowledge, documentation, and clinical performance of these students based on evaluation scores of students in higher years. To this end, the performance of students receiving the intervention was compared to that of the students in the control group. The findings showed that educational intervention regarding SDH can improve students' knowledge and awareness regarding these concepts and improves their ability in the documentation of social inquiries but has had no significant effects on their clinical performance.^[12]

In another study, Klein *et al.* investigated the effect of video education of SDH concepts on the performance of pediatrics students and the families' understanding regarding medical treatments. To this end, senior-year students were selected as the control group, and sophomore students received the educational intervention. Educational videos included SDH concepts and experiences of families regarding different treatments. Then, a questionnaire was used to evaluate students' attitudes toward SDH concepts, and a survey study was used to determine the level of understanding of families regarding health services for both the groups. The results indicated that students participating in the educational intervention had more awareness and knowledge regarding SDH concepts.^[13]

In another study, Fireman *et al.* investigated the role of re-planning of health-care services with an emphasis on childhood poverty in the United States. To identify families faced with childhood diseases due to poverty, first, SDH related to poverty affecting children's health was identified, and then, plans were made for dealing with them. Screening method was used by the researchers to identify high-risk families. Finally, better relation between health providers and health-care professionals in each region who were more familiar with SDH concepts and families was identified for the best method for determining high-risk families.^[13]

To determine the need for revision of academic systems at an international level, Cho from Brigham and Women's Hospital and Department of Medical Education of Harvard University emphasizes that adding SDH to curriculums can significantly improve the health education system.^[14]

Currently, Iranian high education system lacks purposeful plans for the development and education

of students based on the society's needs and SDH. Given the fact that educational planning starts from need-assessment state,^[9] the current study aims to investigate the responsiveness of higher education system to SDH to provide policymakers of higher education system with main executive strategies to empower students and graduates in dealing with social aspects of health through implementation of comprehensive educational policies.

Methods

This is a qualitative study carried out using a content analysis approach. Semi-structured interviews were used to gather the opinions of experts in the fields of health care, education, and SDH. To this end, to determine educational strategies for answering the society's needs in the field of SDH, interviews were carried out with key figures including faculty members, executive authorities, researchers, and managers in deputy of education, department of education and development and center of research in SDH of Isfahan University of Medical Sciences. These individuals, identified as the main stakeholders, had an experience, held an organizational position, or had education related to fields of psychology, sociology, psychotherapy, social medicine, social health and welfare, health-care policymaking, psychological nursing, medicine, medical education, and educational planning. Sampling was carried out using purposeful sampling, and heterogeneous samples were selected to access different experiences, backgrounds, and opinions regarding the subject of the study. Sampling was carried out until data saturation was reached, and a total of 15 experts were interviewed in their offices.

Samples of interview questions are as follows:

1. How should the higher education strategies for training of students be determined to answer society's health needs related to social factors?
2. How should the higher education strategies for the development of faculty members be determined to answer society's health needs related to social factors?
3. How should the higher education strategies for the provision of theoretical and practical education be determined to answer society's health needs related to social factors?
4. How should the higher education strategies for the evaluation of students and faculty members be determined to answer society's health needs related to social factors?

In some cases, participants were asked to offer a more detailed or clearer explanation regarding a certain topic and to offer examples. Interviews were recorded with the consent of the interviewees and participants were ensured regarding the confidentiality of their

information and observation of ethical principles and were informed that there might be the need to conduct several interviews to offer full explanations on all topics. Participants were also allowed to leave the interview at any given time. The length of interviews varied between 20 to 55 min.

After gathering the answers, each interview was written down and content analysis approach for qualitative data was used to analyze the information. To this end, the interview's text was read sentence by sentence and codes related to each question were extracted. Then, similar codes were categorized under a more general category and subcategories were formed. Similar subcategories were integrated conceptually and categorized under a more abstract concept which created the main categories. To ensure the reliability of the study, member checking was carried out by the participants. The texts for some of the interviews as well as extracted codes and categories were presented to researchers and faculty members familiar with the topic of qualitative studies with no involvement in the study itself and they were asked to evaluate the coding process. This study was carried out under ethical code 960369.

Results

Participants in this study included 7 women and 8 men. Nine of the participants had PhD education and Six had specialized degrees. Except two individuals with 5 years of work experience, all other participants had work experience of more than 15 years.

Findings in this section are presented in response to the five research questions. In total, 11 themes and 43 categories were extracted from 570 interview codes which are presented in Tables 1-4.

According to the findings presented in Table 1, ten subcategories and two main categories were identified in the interviews related to educational strategies for students including educational and research strategies and sociocultural strategies. Some of the comments related to these strategies are presented below.

Regarding "purposeful educational and training strategies for students," one female manager in higher education system stated: "If my physician asks all the patients to pay him 10 million extra charge, it means not paying attention to SDH. The problem is that I've failed to properly train him here during his education."

In regard to "Presenting cultural-based education," another female manager in Research and Development Center believed that "before, in the health centers, there was a program for delivering lentils to people with low

Table 1: Determination of higher education strategies for training of students to answer society's health needs related to social factors

Main category	Subcategory	Code examples
Educational and research strategies	Executive considerations in students' education	Dividing students into education and research-based students, starting the education from school years, familiarizing the students with SDG concepts in discussions, student as future policy-maker, manager, and planner
	Content considerations in students' education	Identification of real problems in the field of SDH, lack of singular attention toward cognitive fields in education, emphasis on emotional aims of education for approaching SDH
	purposeful educational and training strategies for students	Training of inquisitive students, creating sensitivity and awareness toward SDH in students during education, education with SDH approach, teaching the methods of thinking to the students
	Curriculum and educational content	Adding SDH content to educational curriculum, stating the relation between social factors and diseases in society, stating the important of biopsychosocial field
	Investment in faculty	Starting the change in attitude from faculty members, interest in teaching, feeling of responsibility in teaching, changing faculty member's attitude toward SDH, increased awareness to SDH in faculty members
Sociocultural strategies	Research-based education	Emphasis on researches with social themes, working on main SDH factors in research centers, updating students regarding the SDH field through research and development
	Presenting cultural-based education	Training students based on context; training students based on culture; difference between students' education in different contexts
	Social-centered education	Attention to occurrences in the society for credible learning and education; familiarizing the students with occurrences in the society; emphasis on improvement of relations between students and society or patients
	Changing the educational approach from medical to social	Dominance of biomedical approach in healthcare, the need for changing patient-centered approach at the ministry of health level; changing medical approaches toward psychological aspects
	Creating shared literature and language	Reaching a shared expression; shared language; shared understanding; discourse

SDH=Social determinants of health, SDG=The sustainable development goals

Table 2: Determination of higher education strategies for faculty development to answer society's health needs related to social factors

Main category	Subcategory	Code examples
Cognitive development	Training in thinking and analysis	Strengthening of inquisitiveness, strengthening vigilance regarding SDH, thinking about whys; attention to various factors affecting a problem
	Increased awareness and knowledge in faculty members	Familiarity with the concept of SDH; familiarizing the faculty members in each field with SDH; increased awareness of the faculty members; ability to offer SDG examples
Executive development	Educational skills	Learning how to pay attention to SDH during teaching; stating obscure details about SDH in class; active participation in the class; presenting the SDH goal in class every day; offering SDH-related homework; asking students to define SDH homework; attention to SDH examples
	Educational methods	Holding workshops; showing presentations; teaching using educational CDs; presenting educational booklets to faculty members; providing books, brochures, booths in scientific conferences; holding workshops and symposiums
Evaluation	Change in attitude	Strengthening of beliefs; changing the attitude toward factors affecting health and disease; changing attitude toward SDH
	Purposeful selection	Selection of faculty members with SDH approach; hiring faculty members by considering their belief regarding SDH
	Need assessment	Questionnaire need assessment; evaluating the amount of awareness and study in faculty members; fixing educational needs
Promotion and incentives	Evaluation	Annual evaluation with attention to SDH; follow; monitoring
	Promotion and ranking	Conditioning promotions and bonuses to having social outlook; stating SDH topics in reeducation classes; holding workshops with points counting toward promotion
Revisions	Incentives	Creating incentives using management tools; creating motivation for feeling of responsibility toward SDH; transferring social responsibility to teaching
	Revisions of teaching method and course content	Holding pre-service education courses based on the field of study; educational interventions including personal development, lesson planning, and faculty training programs related to SDH; changing the educational method; reducing the volume of basic science content
	Adjusting the medical approach	Adjusting the medical approach in the society; stating the direct and indirect effects of social factors on health and disease; teaching the role of social foundations in health problems
	Revision of regulations and executive policies	Changing the educational regulations; changing the promotion regulations; instantiation of SDH concept in the country; training members of relevant organizations as educators

SDH=Social determinants of health, SDG=The sustainable development goals

Table 3: Determination of higher education strategies for provision of theoretical and practical education in order to answer society's health needs related to social factors

Main category	Subcategory	Code examples
Education in a real and active environment	Education in the field	Sending students to regional health centers during internship; identifying the needs of different groups in the field; working with related cases in the field
	SDH education methods	Holding interactive and two-sided classes; using focus groups; changeable nature of education; using cascade education; using info graphs, digital and multimedia capabilities and clips
Structural education	Revision of educational content and guidelines	Coordinating medical education content with SDH concepts; the need for revision of educational content to implement teachings; decisions for using theoretical or practical education based on context; teaching SDH in an applied manner
	Decrease in medicine	Teaching the importance of SDH in treatment of diseases; the importance of attention to social factors and lifestyle along with medical treatment; medical-centered nature of medical sciences
	Research-based	Using research articles in SDH field; presenting evidence-based SDH topics; inviting relevant researchers for evaluating the problems in a region from a social standpoint; using the literature regarding social factors in diseases
	Need assessment	SDH need assessment based on cultural values of the society; designing the education based on SDH need assessment
	Participation of relevant organizations	Contracts between university and SDH-related organizations; creating cooperative projects between universities and relevant organizations; strengthening the relation between university and industry; teaching the accountability of organizations to students
	Changing the attitude toward SDH	Learning to see SDH; out-of-box outlook; seeing the relation between phenomena; removing social factors from the sidelines

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Table 4: Determination of higher education strategies for student and faculty evaluation in order to answer society's health needs related to social factors

Main category	Subcategory	Code examples
Content	Evaluation criteria in education and university	Evaluating students' performance; evaluating faculty members' ability in teaching concepts; self-evaluation of the faculty; evaluating students' skills after education; evaluating the number of relevant topics presented by the faculty; evaluating the attention of students to social factors in writing patient history
	Evaluation criteria in real environment and society	Evaluating the result of education on employment position of students; evaluating the effects on services' evaluating the satisfaction of service recipients; evaluating the number of repeated customers or repeated use of services; outcome evaluation; evaluation of physicians' attention to social factors in prescriptions
Operational	Evaluator	Evaluation by operational and internship units; evaluation by group manager; peer valuer; other students; peers; self-evaluation by students
	Evaluation method	Performance reports by students in the field; using skills by the students in front of faculty members; 360-degree evaluation; evaluating the relation between students and cases during work; using post-test after classes
	Providing incentives and bonuses	Giving extra credits to the faculty members in case of proper implementation; adding SDH screening to final evaluation score of faculty members and promotion guidelines; providing certificates to faculty members for participation in training programs

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income since it's a rich source of iron. It also meant that during the internship, the students would visit homes to deliver the lentils and would see other problems up-close which is a type of education itself."

In relation to "Changing the educational approach from medical to social," one of the faculty members in the SDH research center mentioned an incident related to a pregnant woman: "people are the enemy of what they don't understand. We don't really know what psychosocial factors affect patients' health. There was a clip showing Ms. X who had a miscarriage due to bleeding and UN officials visited her low-income area to investigate and found out that the problem hasn't been just the bleeding but that blood transfer had not been available in that health center. They later found

out that health center's personnel didn't have sufficient education to act appropriately. Other than that, the roads were also damaged which prevented the women from getting their faster. They also found out that she had been transferred to the health center using an unsuitable transport which has increased the severity of the damage. This woman had an injury during pregnancy but hadn't received proper education about what to do which was partly due to her culture as well since in their home, men ate first and women would eat what remained afterwards which resulted in insufficient nutrition of the woman. Many other factors can lead to physical dimensions of the problem and show the role of SDH. We need this type of social approach in our education system but currently the dominant approach is only medicine."

According to the findings presented in Table 2 for faculty development strategies, ten subcategories and five main categories were identified in the interviews including cognitive development, executive development, evaluation, promotion and incentives, and revisions.

In relation to faculty development, one of the male higher education managers in the university emphasized the importance of “educational skills” in the SDH topic and stated: “for example, someone has an environmental engineering degree and does good work relation to the environment but can’t relate them to people’s health. Naturally, what we teach that environmental engineer is that he must know how his work affects people’s health and this path should be shown to the students.”

The opinion of one of the faculty members in the department of health and social welfare related to “Increased awareness and knowledge in faculty members and changing attitudes” was that “people first have to have a positive attitude to change their behavior. This can create motivation ... they will seek knowledge, change their behavior and learn new skills. In an educational system, faculty members must know how to create this change in attitude and create a path from awareness to skill.”

According to the findings presented in Table 3, the interviews identified eight subcategories and two main categories including education in a real and active environment and structural education for theoretical and practical education strategies.

In regard to “education in the field,” one of the faculty members in the EDC stated that “they always say addiction; everyone knows what addiction is; what are the industrial drugs; but it is a very different matter to go see the related centers ... to see them in person, to see the addicts and their families and all the bad stuff that can happen. However, our education isn’t in a way that students can see them in the context of the addicts’ groups or in the social context dealing with the problems.”

One of the managers in the educational deputy of the university has this to say in relation to “revision of educational content”: “sometimes, when there is an important topic, we’d want to fragment it, meaning break it down into parts and teach them as separate course. For example, a course in SDH, one in entrepreneurship, one for unexpected disasters, a course on creativity and innovation, and a course on critical thinking. This is a problem. Our education system is fragmented enough as is but sometimes our desires make us want to have separate courses. The SDH should be presented in the context of the curriculum; as they say, ‘there is no

problem in Islam itself; all the problems are from us Muslims.”

In regard to “SDH educational methods,” one faculty members in the field of social medicine believed: “SDH isn’t a topic you can teach using lectures and traditional classes. Its education should be interactive and two-sided. Presenting cases in the class, using related applications, writing scenarios; role playing, showing films, visiting local health centers, creating workgroups, designing models and approaches and similar topics should be considered in teaching method of this course.”

According to the findings shown in Table 4, for evaluation strategies for students and faculty members, a total of five subcategories and two main categories of content and operational evaluation were identified.

One of the male faculty members in the field of medical education has this to say in regard to the person carrying out the evaluation: “our evaluation system is internal. We produce things ourselves and then we approve them. Of course, there are some capacities for evaluation in EDC and EDO at the ministry level and they do their jobs but evaluators should come from outside of the educational system in order to have proper leverage for offering incentives and punishments.”

In regard to “evaluation method,” one of the managers in educational affairs and a member of SDH research center believed that “there are two leverages for evaluation: A formal one and an informal one. The informal leverage is much stronger but is unfortunately damaged by the faculty members and the students because changes in values mean people are often very conservative in most activities. So, we had to use the formal leverage. The formal leverage isn’t that strong either and can only meet the minimum requirements; for example, faculty members must participate in at least 4 h of a certain program to be eligible for raise at the end of the year. That’s all the formal method can do. As they say: ‘a little water just makes the thirst worse; water should come from every direction.’”

Discussion

According to the findings presented in Table 1, the higher education strategies for training of students responsive to society’s health needs related to SDH included educational–research strategies and sociocultural strategies. One of the important dimensions of training students in any field is attention to the content of the education. The content is determined in educational curriculum and topics, and it is necessary to consider it in relation to other relevant topics to better prepare the students. Furthermore, faculty members in charge

of teaching the curriculum must have sufficient training and preparation regarding the content and method of the education. In regard to effectiveness of social-centered education, the findings of various studies indicate that educational interventions have increased students' knowledge regarding SDH concepts.^[15] Furthermore, another study indicated that considering social determinant of health in students' curriculum has resulted in a significant improvement of medical education.^[16] Furthermore, as stated previously, investing in scientific research facilitates the documentation of students' learning and answering scientific research questions. Another important thing to note is that due to the society-based nature of SDH education, it can better answer students' educational needs in a real and cultural-based environment. For example, using such an educational strategy can result in change in behavior. Changing the current biomedical approach in treatment of patients to a more society-centered approach can result in strengthening of preventive outlook instead of treatment-centered outlook.

According to the findings presented in Table 2, higher educational strategies for faculty development to answer the health needs of the society related to SDH included cognitive development, executive development, evaluation, promotion and incentives, and revisions. The first step in the development of educators and those receiving education is to increase knowledge and awareness and improving the attitude toward what needs to change. By increasing awareness, the performance and behavior of audiences toward the subject of education will also change. Afterward, developed faculty members can use educational methods based on SDH which include society-centered and reality-based education to better answer the educational needs of the students and facilitate the use of SDH. One of the requirements for better effectiveness of this method is evaluation and screening to receive feedbacks regarding performances and use of incentive systems for improving these performances. Achieving these aims is possible in course and educational content as well as at higher levels, including regulations and executive policies. A study in this regard emphasized the need for teaching SDH in medicine under real conditions. Faculty members must familiarize students with active learning strategies along with thinking and concentration on the connections between lesson contents and caring for involved clinical patients.^[17]

According to the findings presented in Table 3, higher educational strategies for methods of theoretical and practical education to answer the health needs of the society related to SDH included provision of education in real and active environment and structural education. The dominant educational method in most academic

fields is based on lectures and teacher centered. For teaching of topics such as SDH, which are by nature, society centered, these traditional methods are not effective and it is necessary to carry out education in a real environment. The requirement for this type of education is a structured and purposeful education which determines the needs for revisions and changes in educational content and guidelines through need assessment. Furthermore, emphasis on research-centered approach and controlling one-dimensional and medicine-centered approach can help fulfill the educational aims of SDH for combining education and healthcare services. In regard to moving from mere biomedical treatments toward a society-centered approach, one study stated that students must receive education related to social determinants from the start of their education to help reduce medical inequality.^[15] Another study believed that due to social nature of SDH, interpersonal interactions alone are not sufficient for education and stated that education must be compatible with all political and social levels and structures.^[16]

According to the results shown in Table 4, educational strategies for student and faculty evaluation for to answer the health needs of the society related to SDH included content and operational strategies. The usual evaluation in academic courses is carried out through filling of faculty evaluation forms with questions regarding discipline and the ability to control the lectures and the scientific ability of the faculty members. In relation to SDH education, due to social-centered nature of the topic, it is necessary to carry out part of the evaluation based on real environment and output of the education in the society. In this regard, the evaluators and the methods of evaluation are of great importance. Methods such as evaluating the effectiveness of education in real work environments; evaluating the attitude an outlook of stakeholders; evaluating the levels of awareness and knowledge and making demands; content evaluation of policies, regulations, and programs; and cooperation with other organizations can be used through design of suitable evaluation tools. In this regard, one study states that integration of social medicine in clinical curriculum of students can be used as a tool for evaluating the effectiveness of the educational system.^[18]

Since the subject of this study covered both SDH and responsiveness of healthcare system, very few managers and faculty members were specialized in both of these topics. Therefore, researchers were limited in their options for selecting the participants.

Conclusion

Due to the large span of higher education system, health-care field, and its social determinants, the findings

of this study used experts' opinions to investigate the responsiveness of educational system in relation to SDH and its results can be used in the educational system as well as in the field of health-care by managers, policymakers, planners, and executives.

Given the large correlation between social determinants in health-care system, it is necessary to provide education in a way that graduates are responsive and capable of meeting society's health-care needs by considering the social determinants of these needs.

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Conflicts of interest

There are no conflicts of interest.

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