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RESEARCH ARTICLE

Evaluating the Current Bachelor of Public Health Programs in Saudi Arabia: A Core Competency Analysis Approach

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Abstract:

Aims:

This study aims to evaluate public health programs offered at Saudi universities. Bachelor's public health programs vary in their program design, the number of credits required, and the duration of internships. This study identifies and assesses such differences using a public health program competency framework that focuses on building a public health program with an interdisciplinary approach to prepare public health professionals to address newly emerging health issues.

Background:

With the growing complexity of current public health problems and the rising recognition of the role of public health interventions in prompting modifiable risk factors, the need for a well-educated public health professional is increasing substantially. In Saudi Arabia, the burden of disease has shifted from communicable to non-communicable diseases, which also requires a unique type of knowledge and skills in understanding and promoting healthy lifestyles. Such experience, coupled with the unprecedented need for public health professionals, prompted universities to offer public health education at both the undergraduate and graduate levels.

Objective:

Two questions guided our investigation: 1. What is the degree of discrepancy between undergraduate public health programs offered by Saudi universities? 2. Are public health programs in Saudi Arabia meeting the updated public health competencies?

Methods:

The courses of undergraduate public health programs in Saudi Arabia were systematically evaluated. The evaluation was based on the 2016 Certified Public Health (CPH) framework developed by the National Board of Public Health Examiners (NBPHE) and the Council of Education for Public Health (CEPH), the accreditation agency for Public Health Programs in the US.

Results:

The findings show a deviation in most of the public health programs offered by Saudi universities from the public health core competencies. Such results should alert Saudi university officials to periodically examine their public health curricula to ensure they meet social needs and respond to current health problems.

Conclusion:

This study can serve as a call for action to develop core competencies for public health professionals in Saudi Arabia to ensure current public health programs are providing the knowledge and skills needed to address public health issues particular to the Saudi culture.

Keywords: Public health program, Evaluating curricula, Saudi universities, Public health education, Core competency, CPH.

Article History

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1. INTRODUCTION

The need for public health professionals is growing at a rapid pace, fueled by a national movement toward prevention, a shift in the burden of disease from communicable to non-

communicable diseases, a change in population demographics, and increasing awareness of the potential of public health as a profession [1]. This rapid growth has led to an expansion of public health education at both the bachelor's and master's levels and made public health one of the top five most needed majors [2]. According to the Association of Schools and Programs of Public Health (ASPPH), between 2003 and 2016,

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more than 75 thousand public health degrees were awarded, and half of those degrees were conferred between 2011 and 2016 [3].

In Saudi Arabia, the field of public health is garnering increasing attention. The country is charting a new way of development that no other country has attempted. In recent years, and in line with the Saudi 2030 vision, numerous governmental and non-governmental plans have been launched to increase people's quality of life and health [4]. For instance, the Ministry of Health (MOH) in Saudi Arabia has adopted a successful shift in its healthcare system from the traditional reactive delivery system to a proactive approach centered on disease prevention and public awareness [5]. This approach emphasizes the role of addressing external upstream issues of major modifiable risk factors such as smoking, mental health, poor nutrition, and physical inactivity. All of these are prominent risk factors for several leading causes of death, such as heart disease, cancer, and stroke [6].

To achieve an effective preventive healthcare system, knowledge and skills are essential to assess, evaluate, and promote healthy living. Thus, MOH has initiated several commissions that focus on public health, such as the National Center for Disease Prevention and Control [7] (MOH, 2019). Since their creation, such commissions have gone a long way in developing numerous health initiatives that aim to tackle prevalent chronic diseases such as obesity, poor diet, sedentary lifestyle, mental health, road safety, and tobacco use [7]. Given the high prevalence of such diseases among the population and the growing number of Saudis, the need for well-qualified public health professionals is rapidly increasing. Thus, organizational and non-organizational health institutions are relying on academic institutions to provide a cohort of public health professionals with the proper knowledge and skills to deal with new challenges.

In Saudi Arabia, as of 2023, several universities are offering a bachelor's degree in public health. Despite the similarity in their goals and mission to equip their graduates with the needed knowledge and advanced skills to face and handle the ever-increasing challenges, such universities differ in their curriculum specifications and provided courses. Evaluating universities' curricula is critical to ensuring their alignment with current global standards and needed public health competencies.

This study aims to evaluate public health programs offered at Saudi universities. Bachelor's public health programs vary in their program design, the number of credits required, and the duration of internships. This study identifies and assesses such differences using a public health program competency framework that focuses on building a public health program with an interdisciplinary approach to prepare public health professionals to address newly emerging health issues. Two questions guided our investigation:

1. What is the degree of discrepancies between undergraduate public health programs offered by Saudi Universities?

2. Are public health programs in Saudi Arabia meeting the newly updated public health competencies?

The findings of this study offer university administrators and academics a systematic method of evaluating the differences between public health bachelor's curricula in Saudi Arabia. In addition, it provides a useful guide for universities aiming to open new public health bachelor's degrees in their institutions.

2. METHODS

The courses of undergraduate public health programs in Saudi Arabia were systematically evaluated. The evaluation was based on the 2016 Certified Public Health (CPH) framework developed by the National Board of Public Health Examiners (NBPHE) and the Council of Education for Public Health (CEPH), the accreditation agency for public health programs in the US (Krisberg, 2016) [8]. The framework divides the objectives of public health education into ten core public health competencies. Each specified competency is distinct and represents a crucial element in the knowledge and skills required in the public health field. The competencies used in this evaluation include an evidence-based approach to public health, communication, leadership, law and ethics, collaboration and partnership, program planning and evaluation, program management, and policy in public health. To ensure courses are assigned to the proper category, each course was analyzed based on course descriptions obtained from the university websites and study plans.

Seven universities were included in the evaluation (Table 1). All evaluated universities had well-developed websites containing information about the offered public health programs, such as study plans, course descriptions, and credits required to earn the degree. We thoroughly searched each university's website to determine current program study plans and course descriptions. The courses offered in the study for each university were then entered and coded in an Excel sheet. The coding specified the name of the university, the gender of accepted students, the public health track offered, the number of required hours to earn the degree, and the competency of the provided course. Based on the course description, courses were assigned to one of the ten competencies specified in the CPH framework. The research project received an exemption from the research ethics committee of the Saudi Electronic University.

3. RESULTS

The study results contain answers to the two research questions:

1. What is the degree of discrepancies between undergraduate public health programs offered by Saudi Universities?

Seven universities in different regions of Saudi Arabia were included in the evaluation (Table 1). Not all universities evaluated in this study offered public health degrees for male and female students. In some universities, the public health program was offered strictly to males. Others offered admission to female students but in fewer public health tracks relative to male students. However, most universities offered the program to male and female students in all tracks. Differences between universities were also noticeable in the

required hours to attain the degree, which ranged from 120 to 145 hours. This discrepancy in the number was also identified within some universities. For example, at one university, the environmental public health track required 135 credits of coursework, whereas education and health promotion required 132 credits. In addition, despite mandating an internship period for all of its students, the duration of the internship varied between universities. Most universities require their students to engage in a training period of one year after completing the coursework. However, a few universities required only three months of training internships.

2. Are public health programs in Saudi Arabia meeting the newly updated public health competencies?

The evaluation of university curricula and offered coursework showed substantial differences (Table 2). Comprehensive foundational courses such as English and computer skills courses were an essential component of all examined curricula. However, there was some variation between programs, with some universities providing only 7% in general foundational courses while others offered as much as

26%. Another critical component is the foundational medical-related courses such as biology, chemistry, and physics. Students' exposure to such courses varied. Some universities provided as many as 20% of foundational medical-related courses, whereas other programs provided only 5%.

In examining public health curricula against the 2019 CPH competencies, universities' curricula differ in meeting each public health competency. In public health biology and human disease risk competency, universities' curricula had a wide range (20%-44%) of courses dedicated to covering such competency. In the evidence-based approach to public health competency, there was a considerable variation between the offered public health curricula. Some universities had a high proportion of their courses focusing on the evidence-based approach (32%), while other programs had a substantially low proportion (5%). In the program management competency, most universities allocate a small percentage of offered courses to program management (range 0%-7%). In the law and ethics competency, most programs offered courses related to public health ethics, but in a low proportion compared to other competencies (range 0%-3%).

Table 1. Characteristics of Saudi universities public health programs.

University Number	Tracks Offered	Credit Hours	Gender
University 1	Epidemiology	145	M/F
	Environmental Health	141	
	Health Promotion and Education	138	
	Occupational Health	141	
University 2	Public Health	144	M/F
University 3	Public Health	120	M
University 4	Public Health	134	M
University 5	Public Health	136	M
University 6	Epidemiology	131	M
	Education and Health Promotion	132	M/F
	Environmental Health	135	M
University 7	Epidemiology	133	M/F
	Environmental Health	133	M/F
	Health Promotion	133	M/F

Table 2. Core competency analysis of Saudi universities public health programs.

University	Program Planning and Evaluation Courses (%)	Program Management Courses (%)	Policy Courses (%)	Leadership Courses (%)	Law and Ethics Courses (%)	Communication Courses (%)	Collaboration and Partnership Courses (%)	Evidence-Based courses (%)	Foundational Medical-related Courses (%)	PH-related Preparatory Courses (%)	Foundation Courses (%)	Health Equity and Social Justice Courses (%)
University 1	0	2.31	1.54	1.54	1.54	3.08	2.31	4.62	41.54	13.85	23.85	0
University 2	3.05	3.05	3.05	0	1.53	0	0	28.24	19.85	19.85	17.56	0
University 3	2.07	3.45	6.90	4.14	1.38	1.38	3.45	10.34	43.45	8.28	9.66	0
University 4	15.79	6.77	4.51	2.26	2.26	3.76	0	15.79	36.09	4.51	21.80	0
University 5	9.17	4.17	7.50	0	2.50	0	0	10.83	25.83	19.17	6.67	0
University 6	0	3.45	1.38	0	0	0	0	31.72	22.07	15.86	25.52	0

(Table 2) contd....

University	Program Planning and Evaluation Courses (%)	Program Management Courses (%)	Policy Courses (%)	Leadership Courses (%)	Law and Ethics Courses (%)	Communication Courses (%)	Collaboration and Partnership Courses (%)	Evidence-Based courses (%)	Foundational Medical-related Courses (%)	PH-related Preparatory Courses (%)	Foundation Courses (%)	Health Equity and Social Justice Courses (%)
University 7	0	0	4.86	2.10	2.10	2.10	2.08	13.19	33.33	13.19	20.83	0
Average (%)	4.30	3.31	4.25	1.43	1.61	1.47	1.12	16.39	31.74	13.53	17.98	0

Similarly, in the policy in public health competency, all the programs offered courses about policy in public health, but in a relatively small percentage (range 1%-7%). In terms of program planning and evaluation competency, only half of the evaluated public health programs offered courses with a focus on planning and evaluation in public health. Even within programs that offered courses related to program planning and evaluation, there was a significant variation (range 2%-16%). In terms of leadership competency, most of the programs provided none or below 2% of their courses in leadership. This was also noticed in the communication competency area, where most curricula had a trivial focus on communication in public health (range 0%-3%). In the collaboration and partnership in public health competency, most programs offered no courses related to collaboration in public health (range 0%-2.3%). Finally, in terms of health equity and social justice competency, none of the programs offered any courses that focused primarily on the elements of health equity and social justice in society.

4. DISCUSSION

This study sought to distinguish between the curricula of the bachelor's public health programs among universities in Saudi Arabia. In addition, our investigation attempted to evaluate the degree to which these curricula's courses align with the 2019 core competencies of public health professionals set by the Council of Education for Public Health (CEPH). Between the seven universities included in the study, the findings showed substantial variations in several categories, such as the number of credits required to earn the degree, the type of public health tracks or concentrations provided, and the gender to whom programs were offered. In evaluating the degree to which offered courses met the CEPH core competencies, not all the competencies were sufficiently met. In most programs, there was a substantial focus on several competencies while neglecting other crucial ones. For instance, not all universities offered courses with specific knowledge on health equity and social justice. On the other hand, most universities allocated more than a third of their offered courses to cover the core competency "Public Health Biology and Human Disease Risk." Thus, our findings indicate a narrow focus in most offered programs in Saudi Arabia and a deviation from the global shift toward a broader knowledge base for future public health professionals.

The significant discrepancy between current public health programs in Saudi Arabia is partially attributed to the lack of an independent public health agency to supervise and govern the quality of public health education. Countries with a robust public health foundation have a regulating body specialized in reviewing the educational process and ensuring that core public

health competencies are met. In Saudi Arabia, the Saudi Commission for Health Specialists (SCHS) is the governmental entity responsible for "supervising and evaluating training programs, as well as setting controls and standards for the practice of health professions" [9]. In addition, the SCHS is the sole accreditation body for health institutions and programs; however, most of the SCHS's focus is on reviewing regulations, standards, and training for clinical professionals. Thus, universities' public health programs are developed with unclear strategies and guidance based on the needs of society and to help graduates find a suitable career in public health. This was indicated by the findings of this study, which showed a vast difference between the objectives and competencies in the evaluated course at each university. The provision of such standardized regulations for public health education will ensure a unified way to evaluate and develop the curricula of public health programs in Saudi universities.

In addition to the need for a specialized accreditation and regulating body, research on the feasibility and effectiveness of current public health programs is lacking [10]. Studies evaluating the objectives of public health courses and whether such objectives are linked to the current core competencies can provide an evidence-based tool to develop well-structured programs. In Saudi Arabia, to the best of our knowledge, no prior studies have evaluated current bachelor's public health programs. Investigating the competencies offered by Saudi universities and examining the needs of the market is crucial. Such knowledge can be obtained by engaging stakeholders in the research process by conducting surveys, focus groups, and interviews with officials at the MOH, Saudi Center for Disease Prevention and Control (CDC), Saudi Food and Drug Authority (FDA), SCHS, and other public health-oriented entities.

CONCLUSION

The study findings showed substantial neglect of the core competency "evidence-based approach to public health" in some universities. Contemporary health problems are interrelated and complex. Thus, identifying solutions to such problems requires interventions and programs guided by data and evidence. In addition, the recent move toward big data, mass risk factor surveillance, and electronic health records necessitates knowledge and understanding of statistical thinking and data analysis to inform proper decision-making. Thus, equipping public health students with knowledge-based skills is vital. Our findings indicated that public health students in some universities are underexposed to evidence-based courses, which could lead to insufficient knowledge in an essential public health core competency.

Some critical public health competencies comprise a small proportion of the total courses provided by each university [11]. Public health competencies such as law and ethics, policy in public health, planning and evaluation, communication, collaboration and partnership, health equity, and social justice received fewer shares of most universities' curricula [12]. The expansive focus on the higher levels of health determinants—social, environmental, and policy levels—requires knowledge about the regulations, laws, and policies that govern society and how such regulations influence the population's health and well-being. In addition, understanding the principles of communication and collaboration is essential to enacting positive changes on large scales sustainably, allocating the proper funding to initiate public health programs, and diminishing logistical resources to expand public health initiatives [13].

The wide range of discrepancies between the types of courses offered by Saudi universities and the deviation from meeting the core competencies of public health professionals pegs the following questions: how were such curricula developed, and is there a systematic mechanism to evaluate and reform current and outdated curricula [14, 15]? To answer such a question, researchers should focus on conducting extensive research, both quantitative and qualitative. For instance, conducting interviews with current public health department heads and deans or systemically evaluating the current and past curricula can help shed some light on the process and provide an informed perspective for public health academic institute administrators to develop better programs.

Despite the importance of these study findings, some limitations must be considered. First, the seven curricula evaluated in this study were extracted from university websites during the time of the study. Thus, it is assumed that these curricula are the most updated since they are the ones prospective students will inspect before making their admission decision. Second, there was some overlap in some courses in terms of covering some core competencies. For instance, courses such as healthcare system management would focus on management competency but also slightly touch on leadership. For such an overlap, we assigned the course according to the significant object of the course. Third, The scope of the research was confined to universities in Saudi Arabia and did not entail any cross-national comparisons with other academic programs. Subsequent research endeavors should broaden the range of evaluation to provide a comprehensive overview of programs in public health on a worldwide scale. Despite the previously mentioned limitations, the study provides an invaluable perspective for public health academic institutions to critically evaluate their current programs and employ global standards in incorporating courses that meet current society's needs. In addition, this study can serve as a call for action to develop core competencies for public health professionals in Saudi Arabia to ensure current public health programs are providing the knowledge and skills needed to address public health issues particular to the Saudi culture.

Practice points:

1. Public Health programs should be developed based on the global core competencies of public health professionals.

2. Current public health programs in Saudi Arabia can benefit from a core competency evaluation of the current curricula.

3. Engaging stakeholders in reforming future public health programs is essential to ensure career opportunities for public health graduates.

LIST OF ABBREVIATIONS

- CPH** = Certified Public Health
CEPH = Council of Education for Public Health
NBPHE = National Board of Public Health Examiners
ASPPH = Association of Schools and Programs of Public Health

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The research project received an exemption from the research ethics committee of the Saudi Electronic University.

HUMAN AND ANIMAL RIGHTS

No humans or animals were used.

CONSENT FOR PUBLICATION

Not applicable.

AVAILABILITY OF DATA AND MATERIALS

The data and supportive information are available within the article.

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CONFLICT OF INTEREST

The author declares no conflict of interest financial or otherwise.

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