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Evidence Based Public Health and Decision Making

PHASE II COURSE

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INTRODUCTION

In an attempt to understanding Evidence Based Public Health and Decision Making, we will begin by defining Evidence Based Public Health and analyze its role in strengthening the national health systems. This evidence obtained from results of epidemiological studies and trials serve as ground for evidence used in decision making. Public Health Emergency Preparedness and Response (PHEPR) which is an indispensable tool in decision making will not be left out.

We will use Multiple Choice Question Approach with Answers to explain our responses.

MULTIPLE CHOICE QUESTIONS AND ANSWERS

1. Evidence Based Public Health (EBPH) is defined as:

    a. Development, implementation and evaluation of effective programs and policies
    b. Development, evaluation, strengthening and empowering of public health structures
    c. All of the above
    d. None of the above

Response: A. EBPH is defined by Brownson et al as the development, implementation and evaluation of effective programs and policies in public health through application of principles of scientific reasoning including systematic use of data and information systems and appropriate use of program planning models.

2. Evidence is defined as:

    a. Available body of facts or proposition, indicating whether the proposition is true
    b. Some form of data for use in making judgement or decision
    c. All of the above
    d. A only

Response: C. Brownson et al define evidence at the most basic level as the available body of facts or information indicating whether a believe or proposition is true or valid. For a public health professional, evidence is some form of data, including epidemiologic data, results of program or policy evaluations, and qualitative data for use in making judgements or decisions.

3. The absence of excellent evidence does not make decision making impossible:

    a. True
    b. False

Response: A. The absence of excellent evidence does not make evidence-based decision making impossible; what is required is the best evidence available not the best evidence possible (Brownson et al).

4. …… Domains influence evidence-based decision making:

    a. Best available evidence
    b. Population and resources
    c. B only
    d. All of the above

Response: D. According to Brownson et al, best available research evidence, population characteristics, needs, values and preferences, resources, including practitioner expertise and environment and organizational context are domains that influence evidence-based decision making.

5. EBPH has important role in:

    a. Project management in health institutions
    b. Strengthening the national health system
    c. A only
    d. All of the above

Response: B. EBPH has important role in strengthening the national health system, supports effective interventions and hence provides the ground for evidence-based distribution of resources and workforce (Wahabi et al).

6. One of the main obstacles of implementing EBPH is:

    a. Lack of knowledge and skills
    b. Shortage of biomedical experts
    c. All of the above
    d. A only

Response: D. One of the main obstacles to the implementation of EBPH is the lack of knowledge and skills needed for translation of evidence into programs and policy (Wahabi et al).

7. There is need to include EBPH into postgraduate curricula:

    a. True
    b. False

Response: A. In order to scale up EBPH movement, efforts should focus on its introduction into the postgraduate public health curricula in addition to the workshops designed for professionals and policy makers (case in the Arab world).

8. Results of epidemiological studies and trials serve as:

    a. Ground for evidence used in decision making
    b. Basis of research
    c. All of the above
    d. None of the above

Response: A. Public Health program includes among others courses in EBPH and advanced epidemiology. Results obtained from epidemiological studies and trials provide evidence in decision making (case of the College of Medicine at King Saud University).

9. It is important public health practitioners always incorporate scientific evidence in selecting and implementing programs:

    a. True
    b. False

Response: A. Ideally, public health practitioners should always incorporate scientific evidence in selecting and implementing programs, developing policies and evaluating progress (Brownson et al).

10. Barriers to implementing EBPH include:

    a. Policy enactment
    b. The political environment and information systems
    c. Law enforcement
    d. All of the above

Response: B. Barriers to implementing EBPH include the political environment and deficits in relevant and timely research, information systems, resources, leadership, and the required competencies (Brownson et al).

11. Concepts to achieving a more evidence-based approach include:

    a. Intensive research
    b. Scientific information on the program
    c. Marry information on evidence-based interventions
    d. All of the above
    e. B and C only

Response: E. Several concepts are fundamental to achieving a more evidence-based approach to public health practice. First, we need scientific information on the programs and policies that are more likely to be effective in promoting health. Second, to translate science to practice, we need to marry information on evidence-based interventions from the peer-reviewed literature with the realities of a specific real-world environment. Finally, wide-scale dissemination of interventions of proven effectiveness must occur more consistently at state and local levels (Brownson et al).

12. EBPH and Evidence Based Medicine (EBM) differ in the type and volume of evidence:

    a. True
    b. False

Response: A. Important distinctions can be made between evidence-based approaches in medicine and public health. The type and volume of evidence differ. Medical studies often rely on randomized control trials of individuals, in contrast to public health interventions which often rely on cross-sectional studies, quasi-experimental designs and time-series analyses. Furthermore, population-based studies generally require a longer time period between intervention and outcome (decades of data collection and analyses). This in contrast to treatment of a medical condition, likely to produce effects in days or weeks, or a few years for cancer patients (Brownson et al).

13. Some analytical tools and approaches to enhance the uptake of EBPH:

    a. Public health surveillance
    b. Systematic reviews and evidence-based guidelines
    c. A only
    d. All of the above

Response: D. Public health surveillance is a critical tool for those using EBPH, which involves the systematic collection, analysis, interpretation and dissemination of specific health data; as well as evaluate the effectiveness of the use of the disseminated data. Systematic reviews are synthesis of comprehensive collection of information on a particular topic. The use of explicit systematic methods in reviews limits bias and reduces chance effects, thus providing more reliable results upon which to make decisions (Brownson et al).

14. EBPH involves complex processes to improve population health and reduce disease burden:

    a. True
    b. False

Response: A. According to Allen et al, EBPH involves complex processes to improve population health and reduce disease burden. These processes include among others, the systematic use of population risk factor and disease burden data, intervention evidence and community assessment to make programmatic decisions and set priorities and program planning frameworks.

15. Federal agencies require the use of evidence-based approaches when funding population-based chronic disease prevention:

    a. True
    b. False

Response: A. The Centers for Disease Control (CDC) and other federal agencies increasingly require the use of evidence-based approaches when funding population-based chronic disease prevention and control units in state public health departments to fund and support local implementation (Allen et al).

16. Public Health Emergency Preparedness and Response (PHEPR) practitioners require knowledge of …….

    a. Systematic review
    b. Evidence-based practices for decision making
    c. Research and statistics
    d. All of the above

Response: B. PHEPR practitioners require knowledge of evidence-based practices to make effective decisions regarding strategies to mitigate the impact of public health emergencies on the public's health and save lives (Calonge et al).

17. PHEPR system has as mission to:

    a. Prevent, protect against, respond to and recover
    b. Prevent, advocate, prepare
    c. All of the above
    d. None of the above

Response: A. PHEPR system has as mission to prevent, protect against, quickly respond to and recover from public health emergencies, is inherently complex, encompassing policies, organizations and programs (Calonge et al).

18. The PHEPR system is divided into two domains:

    a. Supporting the agency response
    b. Managing the public health treat
    c. All of the above
    d. B only

Response: C. The PHEPR system is divided into two domains: supporting the agency response which captures the organizational features that ought to be present among responding entities; and managing the public health treat which identifies the practices that may be employed to respond to an event (Calonge et al).

19. Each domain of the PHEPR influences the other:

    a. True
    b. False

Response: A. Each domain of the PHEPR influences the other, as indicated by the knowledge, decision and action loop between them. The committee's framework which is intended to depict an adaptable and scalable PHEPR system reinforces that leadership, management and critical decision making. To the extent possible, strategic and tactical decisions should be governed by evidence and thoughtfulness and built on a robust evidence base (Calonge et al).

20. A PHEPR practice is:

    a. A type of process
    b. Its implementation is intended to mitigate adverse effects
    c. None of the above
    d. All of the above

Response: A PHEPR practice is a type of process, structure or intervention whose implementation is intended to mitigate adverse effects resulting from a public health emergency (Calonge et al).

21. The PHEPR practice may be aimed at the system level:

    a. True
    b. False

Response: A. The PHEPR practice may be aimed at the system level through targeting policies, legislation, response systems and technologies (Calonge et al). Examples include surveillance systems, systems to map at-risk populations, quarantine legal authorities.

22. The PHEPR practice at the organizational level targets mostly individuals:

    a. True
    b. False

Response: B. The PHEPR practice at the organizational level targets public health agencies or other partner organizations (Calonge et al). Examples may include information and data sharing practices, emergency operations coordination and staffing strategies.

23. The PHEPR practice at the individual level:

    a. Targets whole communities impacted by change
    b. Targets individuals impacted by a public health emergency
    c. Targets societies impacted by policies
    d. All of the above

Response: B. The PHEPR practice at the individual level targets individuals who may be or are impacted by a public health emergency (Calonge et al). Examples include dispensing and administering of medical countermeasures, preparedness training and mental health interventions.

24. Evidence-informed decision making is the process of:

    a. Distilling and disseminating the best available evidence
    b. Use of evidence to inform and improve practice
    c. All of the above
    d. B only

Response: C. Evidence-informed decision making is the process of distilling and disseminating the best available evidence from research and evaluation; context, systems and environment; stakeholders' values and preferences; and practitioner experience and expert judgement and using that evidence to inform and improve practice and policy (Calonge et al).

25. The benefits of using evidence-based practices range from:

    a. Uptake of health services
    b. Increasing the quality of information
    c. Greater workforce productivity
    d. All of the above
    e. B and C only

Response: E. The direct and indirect benefits of identifying and using evidence-based practices are manifold, ranging from increasing the quality of information on which policies are based to greater workforce productivity, increased accountability, and more efficient use of resources (Calonge et al).

Conclusion

Studying evidence-based public health and decision making has enabled me get a clearer view on evidence-informed decision making as a process of distilling and disseminating the best available evidence from research, context and experience (political, organization) and using that evidence to inform and improve public health practice and policy. Best decisions are taken prior to clear and concise evidence based on preparedness and response faced with certain interventions.

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