

# Solutions Manual for Evidence-Based Practice in Nursing & Healthcare 5th Melnyk

SOLUTIONS MANUAL SAMPLE PREVIEW

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## **Suggested Answers to Case Study, Unit 2: Step 3: Critically Appraising Evidence**

1. So far, DeShawn and his team have made it through Step 0 (cultivate a spirit of inquiry), Step 1 (ask a burning clinical question in PICOT format), and Step 2 (search for the best evidence) and they are now in Step 3 (critical appraisal).
2. When identifying what type of article you have, study characteristics to explore include how the study was designed, and how the data were collected, analyzed, and reported. In the case of quantitative studies, the types of methodologies discussed include such methodologies as randomized controlled trials, quasiexperimental (or controlled trials without randomization), cohort studies, case-controlled studies, and descriptive studies where numerical data are collected, analyzed using statistics, and reported using numbers. In quantitative studies, numerical data are collected, analyzed using inferential and/or descriptive statistics, and reported using numbers. Other terminology seen in articles that gives you a hint the study is quantitative includes calling the people involved "subjects," having a "power analysis" conducted to determine how many subjects are needed to reach "statistical significance." Data may be collected using such things as pre-post-tests, counting frequencies, or collecting data using surveys that ask for data to be reported numerically, as in the case of Likert scales. In the case of qualitative studies, methodologies often discussed

include phenomenology, ethnography, grounded theory, and participatory action research. Data are collected using interviews, focus groups, observations, or surveys, which have open-ended questions where participants can respond using their own words by filling in a blank or writing their words in sentences and paragraphs. Data are analyzed to identify themes, and reported using words instead of numbers. Other terminology seen in articles that gives you a hint the study is a qualitative study includes calling the people involved "participants," and using "triangulation" to verify the results.

3. When appraising a quantitative study, we are appraising the study for (1) reliability, (2) validity, and (3) applicability. When critically appraising a qualitative study, we are appraising it to see if it is trustworthy. The four criteria to establish trustworthiness are (1) credibility, (2) transferability, (3) dependability, and (4) confirmability. The criteria are different for quantitative studies versus qualitative studies because nature of what we are trying to accomplish is different (in quantitative studies, we are looking to see if we can establish a relationship between the independent and dependent variables to see if there is any level of cause/effect, compared to the nature of a qualitative study where we are looking to gain a deeper understanding of the lived experience of participants, the nature of the data collection methods, the type of data collected, and the methods of analyzing the data).

4. It is important to critically appraise clinical practice guidelines for several reasons. First, they are created by a wide variety of people, groups, and organizations; each of which may take a different approach to creating their guideline. It is important that they are critically appraised to be sure there was rigor in the development process. Second, the strength of guidelines is based on the validity and reliability of its recommendations, so appraising gives insight to the meaningfulness and practicality of the recommendations. Third, guidelines are a snapshot of the best evidence at the point in time when they were created. Therefore there must be a process in place to systematically update them regularly; searching for new evidence and updating the guidelines as new evidence becomes available.

## Case Study, Unit 2: Step 3: Critically Appraising Evidence

DeShawn and his community health nursing team are part of a community collaborative taking an evidence-based, comprehensive approach to addressing the opioid crisis in the community. DeShawn and his team are curious about the impact an opioid-addicted parent has on children's perceptions of drug use. They decide they're going to do an EBP project to explore the literature around this topic, hoping to see if the literature identifies best practice for addressing this issue. They create a PICOT question, use the keywords identified from their PICOT to search multiple electronic databases, and secure articles on the topic. They are now ready to begin critically appraising their articles.

1. Which steps of the EBP process have DeShawn's team made it through so far? (Unit objective 1)

**Case Study (cont.):** DeShawn and his team begin the critical appraisal process by determining what types of articles they have so they can choose the correct critical appraisal tool.

2. Identifying what type of article you have is the first step in critical appraisal, for determining what type of article you have will help you determine which appraisal tool you need. What are some of the key considerations when determining whether you have a quantitative or qualitative study? How would you differentiate between a quantitative study and a qualitative study? (Unit objective 5)

3. When critically appraising a study, you are looking to determine the worth of the study to your clinical inquiry and whether or not it should be included in your body of evidence. Key concepts you are looking for when appraising quantitative studies is slightly different than when you're appraising qualitative studies. What are the overarching key considerations when appraising quantitative and qualitative studies? (Unit objective 5)

**Case study (cont.):** Professional organizations and government agencies such as the U.S. Preventive Services Task Force have created clinical practice guidelines to help clinicians and patients in making decisions. DeShawn and his team search to see if there are any clinical practice guidelines to add to their body of evidence. If they were to discover such a guideline, DeShawn and his team wonder whether they would have to critically appraise it. DeShawn points out that there are two widely used tools to critically appraise clinical practice guidelines: the GRADE system and the AGREE II tool.

4. Why is it important to critically appraise clinical practice guidelines? What are key components for rapid critical appraisal of clinical practice guidelines? (Unit objective 6)

## Suggested Answers to Discussion Topics, Unit 2: Step 3: Critically Appraising Evidence

| Suggested Answers to Discussion Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Learning Objective(s) |
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| <p><b>1A:</b> Key points when addressing issues where senior staff may have become biased and are trying to leverage their seniority/power to add bias to an EBP project include:</p> <ol style="list-style-type: none"> <li>1. When engaging in EBP or EBQI, it is important that we let the literature guide our work and our decisions; not our own beliefs or ideas about what we think is “the best” thing to do! Too many times people already have an idea of what they believe to be best practice and set out to prove themselves right; seeking literature that only addresses their “good idea,” rather than letting the body of evidence reveal what best practice is.</li> </ol> <p>EBP is best done as a team, meaning all team members have equal voice/power. Seniority doesn’t matter!</p> <p><b><i>Suggested questions that may be asked to keep the discussion moving or to guide students toward the target concepts we want them to get include:</i></b></p> <ol style="list-style-type: none"> <li>1. Can you think of a time or experience where someone’s bias may have influenced a decision? How did the influential person’s bias impact the outcomes?</li> </ol> <p><b>1B:</b> In this case, one could argue that the senior nurses were persuaded to endorse using alcohol-impregnated caps due to their experiences at the conference where they attended the luncheon presentation about data from a single study funded by the manufacturer of the caps. When taking an evidence-based practice approach to address issues, hierarchy and power should not be the driving force behind figuring out what the best practice is. The EBP team must be sure they’re not allowing their own biases to enter into the decision about which articles to include/not include in a body of evidence.</p> <p><b><i>Suggested questions that may be asked to keep the discussion moving or to guide students toward the target concepts we want them to get include:</i></b></p> <ol style="list-style-type: none"> <li>1. Should there ever be a time when seniority takes precedence in determining the idea to be pursued?<br/>Provide the rationale for your answer.</li> <li>2. When we let bias enter our decisions knowingly, what</li> </ol> | <p>1, 5</p>           |

| Suggested Answers to Discussion Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Learning Objective(s) |
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| ethical tenant(s) are we breeching?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                       |
| <p><b>2:</b> Key points include:<br/>Both quantitative and qualitative studies bring value to the body of evidence.</p> <ul style="list-style-type: none"> <li>• <b>Quantitative research</b> includes a variety of methodologies that create opportunities to utilize the most rigorous design by controlling for various factors that impact the relationship between the independent and dependent variables, hoping to show the relationship between the two. This is done in the most controlled environment possible so researchers can generalize findings to the broadest sample possible; numerical data are collected and analyzed using descriptive and/or inferential statistics.</li> <li>• <b>Qualitative research</b> brings a number of different types of methodologies that explore different aspects of the meaning of experiences or life. There are no variables being controlled or manipulated as in quantitative research; rather, in qualitative research, researchers seek to understand the natural, authentic experience in natural settings.</li> <li>• Both quantitative and qualitative designs each bring their own value to a body of evidence. Quantitative studies test interventions in the most sterile setting possible so they can generalize the results out to the broadest possible audience. However, quantitative studies are not often reflective of real-life situations. Qualitative studies, on the other hand, help us understand the “lived experience” when these interventions are put into real-life situations.</li> <li>• What ultimately affects how valuable a study is to addressing clinical inquiry is whether or not it is applicable to your population. The most beautifully conducted studies add no value if they are not applicable to your clinical inquiry.</li> </ul> | 5                     |
| <p><b>3:</b> As professors, our job is to encourage critical thinking. Sometimes we learn as much from our students as they do from us. EBP wasn’t around when many of us were earning our most recently acquired degrees, so we were charged with teaching ourselves. Therefore, it would be appropriate to inquire as long as the inquiry is made in a respectful, inquisitive, and professional manner. One would weigh whether they were going to do this publically or privately, depending on the context, culture, and relationship with the professor. However, it would be appropriate to question such an</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 6                     |



| <b>Suggested Answers to Discussion Topics</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Learning Objective(s)</b> |
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| <p>assignment as critique is a skill researchers use to not only identify the results of the study in search of the gap in knowledge, but also to explore how the researcher/author designed their study and whether the study design, data collection, analysis, and dissemination were in line with and appropriate for the research question being asked. Researchers also critique articles to gain a deeper understanding of how the researcher structured their study and “lessons learned” so they, themselves can learn from the lessons of those who went before them and avoid those pitfalls or shortcomings when designing their own research study.</p> <p>As professors, it is our responsibility to accept such inquiry in the spirit in which it is intended and use these opportunities to grow and learn ourselves, demonstrating that we, too, are lifelong learners!</p> |                              |