EBP Table of Contents

Question Templates for Asking PICOT Questions

INTERVENTION

In _____(P), how does _____ (I) compared to

_____(C) affect _____(O) within _____(T)?

ETIOLOGY

Are_____ (P), who have _____ (I) compared with those

without _____(C) at _____ risk for/of _____(O)

over _____(T)?

DIAGNOSIS OR DIAGNOSTIC TEST

In _____(P) are/is _____(I) compared with

_____(C) more accurate in diagnosing _____(O)?

PROGNOSIS/PREDICTION

In _____ (P), how does _____ (I) compared to _____(C)

influence _____ (O) over _____ (T)?

MEANING

How do _____ (P) with _____ (I) perceive

_____ (O) during _____(T)?

Short Definitions of Different Types of Questions:

Intervention: Questions addressing the treatment of an illness or disability.
Etiology: Questions addressing the causes or origin of disease, the factors which produce or predispose toward a certain disease or disorder.
Diagnosis: Questions addressing the act or process of identifying or determining the nature and cause of a disease or injury through evaluation.
Prognosis/Prediction: Questions addressing the prediction of the course of a disease.
Meaning: Questions addressing how one experiences a phenomenon.

Sample Questions:

Intervention: In African-American female adolescents with hepatitis B (P), how does acetaminophen (I) compared to ibuprofen (C) affect liver function (O)?

Etiology: Are 30- to 50-year-old women (P) who have high blood pressure (I) compared with those without high blood pressure (C) at increased risk for an acute myocardial infarction (O) during the first year after hysterectomy (T)?

Diagnosis: In middle-aged males with suspected myocardial infarction (P), are serial 12-lead ECGs (I) compared to one initial 12-lead ECG (C) more accurate in diagnosing an acute myocardial infarction (O)?

Prognosis/Prediction: 1) For patients 65 years and older (P), how does the use of an influenza vaccine (I) compared to not receiving the vaccine (C) influence the risk of developing pneumonia (O) during flu season (T)?

2) In patients who have experienced an acute myocardial infarction (P), how does being a smoker (I) compared to a non-smoker (C) influence death and infarction rates (O) during the first 5 years after the myocardial infarction (T)?

Meaning: How do 20-something males (P) with a diagnosis of below the waist paralysis (I) perceive their interactions with their romantic significant others (O) during the first year after their diagnosis (T)?

PICO Question by Therapy

Patient population/disease (P)*	
Intervention/topic of Interest (I)*	
Comparison of Intervention or Issue of Interest (C)	
Outcome of Interest (O)*	
Time (T)	
Setting (S)	
Combined PICO/PICOT question format	
Type of Question Intervention/Diagnosis/Diagnostic test	1. Systematic review/meta-analysis of RCTs 2. RCTs 3. Non-RCTs 4. Cohort study or case-control studies 5. Meta-synthesis of qualitative or descriptive studies 6. Qualitative or

	descriptive single studies 7. Expert opinion
Prognosis/Prediction/ Etiology	1. Synthesis of cohort study or case-control studies 2. Single cohort study or case-control studies 3. Meta-synthesis of qualitative or descriptive studies 4. Single qualitative or descriptive studies 5. Expert opinion
Meaning	1. Meta-synthesis of qualitative studies 2. Single qualitative studies 3. Synthesis of descriptive studies 4. Single descriptive studies 5. Expert opinion

References

Melnyk, B. M. & Fineout-OVerholt, E. (2015). *Evidence-bases practice in nursing & healthcare: A guide to best practice*. Wolters Kluwer Health: Philadelphia, PA.

*include in your evidence search

Rapid Critical Appraisal Questions for Cohort Studies

1. Are the results of the study valid?

a. Was there a representative and well defined sample of patients at a similar point in the course of the disease? Yes No Unknown

b. Was follow up sufficiently long and complete? Yes No Unknown

c. Were objective and unbiased outcome criteria used? Yes No Unknown

d. Did the analysis adjust for important prognostic risk factors and confounding variables? Yes No Unknown

2. What are the results?

a. What is the magnitude of the relationship between predictors (i.e., prognostic indicators) and targeted outcome?

_____

b. How likely is the outcome event(s) in a specified period of time?

_____

c. How precise are the study estimates?

_____

3. Will the results help me in caring for my patients?

a. Were the study patients similar to my own? Yes No Unknown

b. Will the results lead directly to selecting or avoiding therapy? Yes No Unknown

c. Are the results useful for reassuring or counseling patients? Yes No Unknown

Rapid Critical Appraisal Checklist for a Randomized Clinical Trial (RCT)

1. **Are the results of the study valid?**

   A. Were the subjects randomly assigned to the experimental and control groups? Yes No Unknown

   B. Was random assignment concealed from the individuals who were first enrolling subjects into the study? Yes No Unknown

   C. Were the subjects and providers blind to the study group? Yes No Unknown

   D. Were reasons given to explain why subjects did not complete the study? Yes No Unknown

   E. Were the follow-up assessments conducted long enough to fully study the effects of the intervention? Yes No Unknown

   F. Were the subjects analyzed in the group to which they were randomly assigned? Yes No Unknown

   G. Was the control group appropriate? Yes No Unknown

   H. Were the instruments used to measure the outcomes valid and reliable? Yes No Unknown

   I. Were the subjects in each of the groups similar on demographic and baseline clinical variables? Yes No Unknown

2. **What are the results?**

   A. How large is the intervention or treatment effect (NNT, NNH, effect size, level of significance)? _____

   B. How precise is the intervention or treatment (CI)? _____

3. **Will the results help me in caring for my patients? (40 pts)**

   A. Were all clinically important outcomes measured? Yes No Unknown

   B. What are the risks and benefits of the treatment? _____

   C. Is the treatment feasible in my clinical setting? Yes No Unknown

   D. What are my patients/family's values and expectations for the outcome that is trying to be prevented and the treatment itself? _____

Rapid Critical Appraisal of Systematic Reviews of Clinical Interventions/Treatments

1. Are the results of the review valid?

A. Are the studies contained in the review randomized controlled trials? Yes No

B. Does the review include a detailed description of the search strategy to find all relevant studies? Yes No

C. Does the review describe how validity of the individual studies was assessed (e.g., methodological quality, including the use of random assignment to study groups and complete follow-up of the subjects)? Yes No

D. Were the results consistent across studies? Yes No

E. Were individual patient data or aggregate data used in the analysis? Individual Aggregate

2. What were the results?

A. How large is the intervention or treatment effect (OR, RR, effect size, level of significance)? _____

B. How precise is the intervention or treatment (CI)? _____

3. Will the results assist me in caring for my patients?

A. Are my patients similar to the ones included in the review? Yes No

B. Is it feasible to implement the findings in my practice setting? Yes No

C. Were all clinically important outcomes considered, including risks and benefits of the treatment? Yes No

D. What is my clinical assessment of the patient and are there any contraindications or circumstances that would inhibit me from implementing the treatment? Yes No

E. What are my patient's and his or her family's preferences and values about the treatment that is under consideration? Yes No

Rapid Critical Appraisal of Qualitative Evidence

1) Are the results of the study valid (i.e., trustworthy and credible)?

a) How were study participants chosen?

_____

b) How were accuracy and completeness of data assured?

_____

c) How plausible/believable are the results?

i) Are implications of the research stated? Yes No Unknown

(1) May new insights increase sensitivity to others' needs?

(2) May understandings enhance situational competence?

d) What is the effect on the reader?

(1) Are results plausible and believable? Yes No Unknown

(2) Is the reader imaginatively drawn into the experience? Yes No Unknown

2) What were the results?

a) Does the research approach fit the purpose of the study? Yes No Unknown

i) How does the researcher identify the study approach? Yes No Unknown

(1) Are language and concepts consistent with the approach? Yes No Unknown

(2) Are data collection and analysis techniques appropriate? Yes No Unknown

ii) Is the significance/importance of the study explicit? Yes No Unknown

(1) Does review of the literature support a need for the study? Yes No Unknown

(2) What is the study's potential contribution?

_____

iii) Is the sampling strategy clear and guided by study needs? Yes No Unknown

(1) Does the researcher control selection of the sample? Yes No Unknown

(2) Do sample composition and size reflect study needs? Yes No Unknown

b) Is the phenomenon (human experience) clearly identified?

i) Are data collection procedures clear? Yes No Unknown

(1) Are sources and means of verifying data explicit? Yes No Unknown

(2) Are researcher roles and activities explained? Yes No Unknown

ii) Are data analysis procedures described? Yes No Unknown

(1) Does analysis guide direction of sampling and when it ends? Yes No Unknown

(2) Are data management processes described? Yes No Unknown

c) What are the reported results (description or interpretation)?

i) How are specific findings presented?

_____

(1) Is presentation logical, consistent, and easy to follow? Yes No Unknown

(2) Do quotes fit the findings they are intended to illustrate? Yes No Unknown

ii) How are overall results presented?

_____

(1) Are meanings derived from data described in context? Yes No Unknown

(2) Does the writing effectively promote understanding? Yes No Unknown

3) Will the results help me in caring for my patients?

a) Are the results relevant to persons in similar situations? Yes No Unknown

b) Are the results relevant to patient values and/or circumstances? Yes No

Unknown

c) How may the results be applied in clinical practice?

_____

Evaluation Table

Source (APA Citation)	Purpose of study Theoretical framework	Design/Method	Sample/setting	(names and definitions) Independent and dependent Variables Measured	Outcomes measure	Findings	**Level of evidence (Strengths, Limitations)**

Brown, S. J. (2014). *Evidence-based nursing: The research-practice connection*, Jones & Bartlett Learning, Burlington, MA:

Burlington, MA.

Melnyk, B. M. & Fineout-Overholt, E. (2015). *Evidence-bases practice in nursing & healthcare: A guide to best practice*. Wolters Kluwer Health: Philadelphia, PA.

Synthesis Table

Source (author and Date)	Sample Size	Sample Design	Intervention	Major findings

Brown, S. J. (2014). *Evidence-based nursing: The research-practice connection*, Jones & Bartlett Learning, Burlington, MA:

Burlington, MA.

Melnyk, B. M. & Fineout-Overholt, E. (2015). *Evidence-bases practice in nursing & healthcare: A guide to best practice*. Wolters Kluwer Health: Philadelphia, PA.

Evalution Table

Source (APA Citation)	Purpose of study Theoretical framework	Design/ Method	Sample/setting	Independent and dependent Variables Measured	Outcomes measure	Findings	**Level of evidence**
Burke & Renker, 2014	1. Measures efficacy of standardized process to assess and give pain medicine 2. Increase PACU nurse's confidence in assessing sedation when given medications and quality of care 3. Facilitate communication during handoffs	Quasi-experimental Pre: 3 months Post: 30 months one year later	PACU Midwestern inner-city hospital (two PACUs and six nursing units) Patient: PACU, nonventilated, trauma or nontrauma-related (knee, elbow, shoulder) Subsequent surgeries were not included N=842 Nurses: PACU and postsurgical nurses N=67 46 PACU 21 patients	Independent: PACU POSS protocol Dependent variable: quality of patient care	1. ADEs requiring naloxone 2. NP safe quality care and comfort with comm 3. PACU nurses c with PMA and avoiding OS 4. avg. length of stay in PACU 5. requests for assistance of physicians or anesthesia 6. amount of medication given 7. patient's perceptions of pain while in PACU 8. Fidelity (compliance) to new guidelines	1. NSF 2. SF-↑NP of safe QC, CC comfort with comm 3. SF - ↑in PACU c withPMA and avoiding OS 4. NSF Avg LOS 5. NSF 6. NSF 7. NSF 8. F=92.7%with F=88.4% at Discharge F=96%per guidelines (random sample of 297 doses)	III Well designed controlled without randomization. Answers PICO.

NSF, no significant finding; ADE, adverse drug events; SF, Significant finding; NP, Nurses' Perception; QC, quality of care; Comm, Communication; C, Confidence; PMA, Pain med administration; OS, over-sedation; avg. LOS=average length of stay; F, Fidelity. ISS, Inova Health System acute care sedation scale; POSS, Pasero Opioid-Induced Sedation Scale; RASS, Richmond agitation sedation

Evaluation Table

Source (APA Citation)	Purpose of study Theoretical framework	Design/Method	Sample/setting	(names and definitions) Independent and dependent Variables Measured	Outcomes measure	Findings	**Level of evidence**
Nisbet and Mooney-Cotter, 2009	To report and measures of reliability and validity of three sedation scales currently used to measures sedation.	Descriptive Cronbach alpha T-tests	Setting: Inova Health system N=535 identified 54 required 96 participated Excluded peds, periop, ED, and CC.	ISS POSS RASS	1. Validity of study tool 2. Reliability of three sedation scales 3. Total correct (score and nsg action) 4. Ease of use, info give make CD, and confidence	1. Internal consistency 0.780 2. Reliability RASS α=770 POSS α=.903 3. POSS SF higher than RASS of total CS and NA 4. POSS SF higher than RASS in EU, UIP, and C	VI Answers PICO

scale; CS, correct score; NA, Nursing action; EU, Ease of use, UIP useful information provided; C, Confidence

Evaluation Table

Source (APA Citation)	Purpose of study Theoretical framework	Design/Method	Sample/setting	Independent and dependent Variables Measured	Outcomes measure	Findings	**Level of evidence**
Willens, Jungquist, and Polomano, 2013	Establish baselines practice analysis survey to develop clinical guidelines for monitoring patients for opioid-induced respiratory depression and excessive sedation.	Cross-Sectional Descriptive Survey Descriptive stats(frequencies) Open-ended items analyzed for meaningful patterns and themes.	ASPMN current members Online survey January 2009 to February 2009 N=147 responses 90 unique institutions	None	None	Reported the use of sedation scales increased Scales used: Aldrete 30% POSS 21% Modified Ramsey 13% Ramsey Scale 15% RASS 12%	VI Does not answer PICO. Good background info

Evaluation Table

Source (APA Citation)	Purpose of study Theoretical framework	Design/Method	Sample/setting	Independent and dependent Variables Measured	Outcomes measure	Findings	**Level of evidence**
Jungquist, Correll, Fleisher, & Gross, 2016		Cross-sectional survey of EMS Guideline monitor and document RR, LOS, and SPO_2 q 2 hours, 2.5 (30 minutes leeway) threshhold the first 24 hours for PCAs	8 acute care urban and rural hospitals 100-500 beds During 2012 4,164 patients Excluded 1,342 PCA not started or ran < 2.5 hours.	none	• Monitoring by CMS Emeasure specifications • Naloxone use	• NP assessed q 2.5 hours • NP assessed every 2hours received naloxone (n=86). • 55 or 1.3% received naloxone. • RR to receive naloxone for patients who were not assessed q 4.5 hrs 1.43	VI Does not answer the PICO however shows the benefit of a sedation scale (scales used not noted).

NP, no patients; RR, relative risk.

Evaluation Table

Source (APA Citation)	Purpose of study Theoretical framework	Design/Method	Sample/setting	Independent and dependent Variables Measured	Outcomes measure	Findings	**Level of evidence**
Cooper, Stannard, & Noble, 2015		JBI Systematic review PUBMed and CINAHL Keywords: sedation opioids, Pasero English 1994-2014 Databases: PubMed EMBASE CINAHL PSycINFO Unpublished studies: Google Scholar Proquest (dissertr., theses)	Inclusion: PACU nurse adult patients	Descriptive study designs POSS tool	Nursing confidence using the POSS	No results yet.	Systematic review not completed or published yet just the method.

Evaluation Table

Source (APA Citation)	Purpose of study/ Theoretical framework	Design/Method	Sample/setting	Policy	Outcomes measure	Findings	**Level of evidence**
Smith, Farrington, & Matthews, 2012	Standardize monitoring of sedation in adult and pediatric patients receiving opioids Iowa Model of EBP	EBP Project Developed protocol to monitoring sedation in patients receiving opioids for pain management			1. Nursing knowledge 2. Chart audits- Documentation of initial POSS, initial respiratory assessment, peak POSS assessment, and peak respiratory assessment.	1. Improved ability to identify patients at risk for oversedation, start and stop monitoring, monitor after administration, use POSS for over sedation 2. Improvement at 6 months, 2 years in documentation initial POSS, initial respiratory assessment, peak POSS assessment, and peak respiratory assessment.	

Synthesis Table

Source (author and Date)	Sample Size	Sample Design	Intervention	Major findings
Burke & Renker, 2014	N=842 Nurses: PACU and postsurgical nurses N=67 46 PACU 21 patients	Quasi-experimental Pre: 3 months Post: 30 months one year later	PACU POSS protocol	9. SF-↑NP of safe QC, CC comfort with comm 10. SF - ↑in PACU c withPMA and avoiding OS 11. 92.7% 15 minute assessment, 88.4% discharge, and used guidelines used appropriately compliance
Nisbet and Mooney-Cotter, 2009	N=535 identified 54 required 96 participated	Descriptive	Use POSS, ISS, RASS	1. POSS more reliable than RASS 2. POSS SF higher than RASS of CS and NA 3. POSS SF higher than RASS in EU, UIP, and C
Willens, Jungquist, and Polomano, 2013	N=147 responses 90 unique institutions	Cross-Sectional Descriptive Survey	Use of POSS	Reported the use of sedation scales increased Scales used: Aldrete 30% POSS 21% Modified Ramsey 13% Ramsey Scale 15% RASS 12%
Smith, Farrington, & Matthews, 2012	Not defined	EBP Project	Developed protocol to monitoring sedation in patients receiving opioids for pain management	3. Improved ability to identify patients at risk for oversedation, start and stop monitoring, monitor after administration, use POSS for over sedation 4. Improvement at 6 months, 2 years in documentation initial POSS, initial respiratory assessment, peak POSS assessment, and peak respiratory assessment

EBP Project Challenge

1. Introduction

   Brief explanation of the clinical issue or interest, background, and its significance.

2. Clinical question addressed: PICO/PICOT format

   Formulate the clinical question in PICO/PICOT format

3. Search strategy for the Best Evidence

   Include all of the following in the databases used to find the evidence; keywords used for your search; terms used to limit your search; total number of studies found; & number of studies reviewed; number selected

4. Results of Critical Appraisal of the Evidence Performed

   Perform a rapid critical appraisal: number of articles appraised, level of evidence. Similarities and differences. Synthesis of the results. Recommendations. Implications for practice.

5. Evidence Integrated and Practice Change Implemented

   What really happened? How was the EBP practice change completed? Process of how the project was carried out, key stakeholders, solutions to barriers, timeline for success, EBP model used to implement practice change, and any challenges.

6. Outcomes Evaluated

   Results of measured outcomes.

7. Project outcome successfully Disseminated

   How and where was disseminated.