Background: To promote healthcare collaboration among students of various disciplines, an interprofessional (IP) healthcare education project was developed and implemented in Spring 2017. Interprofessional healthcare teams consisted of final year graduate students in Psychiatric Mental Health Nurse Practitioner, Family Nurse Practitioner, Adult Gerontology Primary Care Nurse Practitioner, and Social Work specialties. The IP teams collaborate to develop preventive healthcare interventions for patients at multiple rural clinical sites. The two main project outcomes for evaluation are students’ IP competencies and IP teams’ intervention impact on patient health outcomes. While there has been increased emphasis on improving the quality of evaluating IP projects (Reeves, Boet, Zierler, & Kitto, 2015), very few publications and information are available regarding the description and illustration of detailed study designs and analysis plans for practice based IP projects.

Objective: the purpose of this presentation is to describe the design and analysis plan outlined to evaluate the implementation effect of a practice-based clinical education project focused on improving students’ IP healthcare competencies and patients’ health outcomes. The final study result is expected to (1) investigate the overall implementation effect of this project, (2) explore factors or patient characteristics that potentially influence the implementation effect, and (3) provide suggestions regarding research design and statistical analysis for future clinically-based interprofessional education projects involving students in healthcare fields.

Methods: Student participants voluntarily joined either the study group (IP teams) or comparison group (students from the same cohort of the study group participants). Both study and comparison group students completed identical survey instruments before and after each clinical session. To examine the educational effectiveness of this project, pre- and post-assessment results will be compared for study and comparison groups respectively using paired t-test. To exclude the effect of pre-existing differences between the study and comparison groups and to adjust for potential confounding (Skelly, Dettori, & Brodt, 2012) and/or effect modification (Knol & VanderWeele, 2012), the propensity score matching and propensity score weighting (Karpen, 2017) will be used to assess study and comparison group post survey score differences, adjusting for pre survey scores, sociodemographic characteristics, specialty and previous clinical experience. Measurements and data collection on patient physical and mental health outcomes are conducted at every patient visit. To evaluate the IP teams’ intervention impact on patient health outcomes, the Joinpoint Trend Analysis (Brown, Prince, Minami, & Abrantes, 2016) will be used to assess the trend of physical and mental health indexes change over time. In order to identify factors that potentially influence the intervention effect, the trend analysis will be conducted among different patient subpopulations defined by patient sociodemographic characteristics and/or disease diagnoses.

Results: Data collection began in January 2017 when the first teams were assigned to clinics and is expected to proceed until June 2020. Participants thus far include 46 students in the study group, 72 students in the comparison group and 69 patients. Eighteen student interprofessional healthcare teams have collaborated interprofessionally at five different clinical sites. Descriptive statistical results will be reported based on data collected up to the point of the conference presentation.

Conclusions: By describing the design and analysis plan prior to completion of data collection, this presentation provides a sample framework about study design and statistical analysis for similar practice-
based clinical education projects. The presentation also emphasizes the importance of considering potential confounding and modification effects at both study design and statistical analysis phases.

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Title:
Evaluating Interprofessional Educational Intervention: Design and Analysis Plan for a Four-Year Advanced Nursing Education Project

Keywords:
Interprofessional Education, Statistical analysis and Study design

References:


Abstract Summary:
This presentation introduces and describes a study design and statistical analysis plan for evaluation of a practice-based clinical education project aimed at promoting interprofessional healthcare collaboration. Information regarding survey instruments, research methods and procedures, and statistical analysis tests that are used to assess each student and patient outcome are included.

Content Outline:

1. Introduction
   1. Background about this IPE grant project
   2. Expected outcomes for evaluation
   3. Importance of dissemination on IPE project study design and analysis plan

2. Body
   1. Description of study design
      1. Study and comparison group recruitment and assignment
      2. Selection and development of measurement tools
      3. Description of data collection procedure
2. Description of analysis plan
   1. Purpose of assessment for each type of student and patient data
   2. Statistical tests used for assessment
   3. How to adjust for confounding and effect modification

3. Report on current results
   1. Current data collection summary and report of descriptive results
   2. Anticipated sample size after accomplishment of this project

3. Conclusion
   1. Summarize on information provided about study design and analysis plan for a practice-based clinical education project
   2. Plan for potential confounding and effect modification at study design and analysis phases

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