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Striving for evidence-based practice innovations through a hybrid model journal club: A pilot study☆

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SUMMARY

Objective: The purpose of this study was to pilot a "hybrid" style journal club and determine whether measurable effects could be detected over 8-weeks' time on evidence-based practice ability, desire, behaviors, use, and barriers.
Background: Journal clubs have been suggested as a method to increase nurses' confidence with using research evidence to guide practice. However, it is yet unknown how nurse educators can best implement effective programs for clinicians with varying schedules, education levels, and research skills.
Setting and participants: Thirty-six participants from one large urban United States hospital (72% registered nurses) were invited to access bi-weekly interdisciplinary journal club activities. Nurse educators created curriculum focused on clinical problem solving that was offered via in-person sessions or a social media site.
Methods: A pretest–posttest no control group design was used to measure impacts of those engaged in journal club activities. Data were collected using a combination of validated evidence-based practice instruments and program participation records.
Findings: A two-tailed paired *t* test showed significant increases over 8 weeks' time in evidence-based practice use ($p = .002$) and behaviors ($p = .007$). Slight preference for in-person sessions was reported, although greater participation was reflected in online activities. Mean satisfaction ratings were high; however, attrition rates suggest that more is needed to maximize clinician engagement.
Conclusion: A hybrid method using online and in-person sessions was feasible and adaptive for varying learning styles and work schedules. Positive changes in measurements were detected among journal club participants. Instruments were identified that may be useful for trialing similar programs intended to increase evidence-based practice self-efficacy, use, behaviors, and ability.

Introduction

Evidence-based practice (EBP) is the careful and intentional use of the best, most current and relevant research alongside sound clinical judgment to determine appropriate patient care. Using practices validated by pertinent clinical research allows for safer and more effective patient care (Sackett et al., 1996). One goal of the United States Institute of Medicine (IOM) is that by 2020, 90% of clinical decision making will be based on the best-known evidence (Institute of Medicine [IOM], 2009). Nurses continue to resist EBP citing a lack of time, information and resources and forgo applying best practices that can improve patient outcomes (Melnyk et al., 2012; Pravikoff et al., 2005). Nurse educators in both clinical and academic settings are charged with improving nurses' EBP skills. The full engagement of health care professionals in accessing, interpreting and applying current evidence is paramount in order to reach goals for global improvements in clinical care.

Background/literature review

Since the late 1880s, journal clubs have served as a method of teaching health care professionals how to access and critically appraise research articles (Linzer, 1987). Through structured discussions, journal clubs assist in integrating research findings into clinical practice (Laaksonen et al., 2013). Literature searches were conducted in MEDLINE and CINAHL to identify articles across multiple disciplines (medical, nursing, pharmacology, allied health) which discussed different journal club settings (in person, virtual), structures, purposes (improving knowledge, clinical practice applications) and outcomes. Journal clubs are viewed in the literature as an inexpensive way to make research accessible to health care professionals (Honey and Baker, 2011). However, no standards exist for their organization,

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evaluation of gained knowledge, or implementation of change as a result of participation (Deenadayalan et al., 2008; Honey and Baker, 2011). Journal clubs using an educated facilitator with clearly defined goals have had better attendance (Fowler et al., 2011; Honey and Baker, 2011). Additionally, clubs that were formed around a similar interest with members of the same discipline discussing issues relevant to clinical practice were also well attended (Deenadayalan et al., 2008). Other successful journal clubs required mandatory attendance and offered incentives for participation (Deenadayalan et al., 2008; Hinkson et al., 2011), yet other research found that mandatory attendance was contrary to the principles of adult learning theory and hindered success (Honey and Baker, 2011). Evidence of learning reinforcement was seen in clubs that held more frequent sessions, offered informal mentoring by qualified senior staff, and used structured literature appraisal tools (Harris et al., 2011; Honey and Baker, 2011). Journal clubs were also seen to increase perception of knowledge and competency in nursing leaders (Duffy et al., 2011) as well as increase awareness of critical thinking and EBP among clinical staff (Fowler et al., 2013).

To address journal club attendance and accessibility, innovative solutions have included traveling journal clubs which met home health nurses at their job sites (Campbell-Fleming et al., 2009) late night journal clubs for night shift nurses (Stewart et al., 2010) and different technological platforms. The term "e-learning" has gained acceptance to describe online and computer-assisted educational offerings that rely on information and communication technologies (Koch, 2014). Examples have included virtual reality (Berger et al., 2011; Billingsley et al., 2013), online conferencing (Sortedahl, 2012; Yang and Meals, 2014), intranet sites (Lehna et al., 2010) and blogging (Kean, 2013).

Little research has been conducted to determine how journal club participation can impact changes in EBP self-efficacy, ability or behaviors. No clear consensus exists on the amount of journal club activity, nor the best format, to affect change in desired behaviors (Deenadayalan et al., 2008; Honey and Baker, 2011). More information is needed on the expected effects of a journal club and how to best measure anticipated effects if various models are to be tested for their impact (Nesbitt, 2013). While e-learning has been found to be equally effective to traditional teaching methods (Cook et al., 2008; Koch, 2014; Lahti et al., 2014a), individual preferences must be considered when asking clinicians to engage in voluntary educational offerings. Therefore, more research is needed regarding effective journal club models, how technology can facilitate them, and how to successfully engage health care professionals. Our study addresses gaps in the literature by creating and testing a computer-aided intervention, and identifying reliable and validated EBP measurements that can monitor effects of future innovations.

Methods

The study

The purpose of this pilot study was to evaluate a multi-disciplinary journal club designed to increase the health care professional's ability to integrate current research into clinical problem solving. The journal club was conducted using a "hybrid" approach, allowing participant interaction via in-person group sessions or online using message boards on a secure, corporate social media site.

Aims

The specific aims of this study included 1) to determine whether significant differences could be detected after 8 weeks of participation in a hybrid journal club using self-reported measurements of EBP self-efficacy, use, behaviors, ability, desire, and barriers; 2) to determine if there were significant associations between EBP measurements and specific variables of age, educational level, years in clinical position, level of engagement in the journal club, and whether facilitator role was assumed; and 3) to describe participants' level of satisfaction and participation patterns with a hybrid program approach that allowed for both online and in-person interactions.

Participants and setting

The hybrid journal club study was conducted at a southwestern United States 898-bed Magnet®-recognized acute care hospital. All licensed health care professionals involved in patient care services, including nurses, physical therapists, occupational therapists, physicians, respiratory therapists, case managers and social workers, were invited to participate in the hopes that gathering individuals of diverse backgrounds would encourage creative interdisciplinary solutions.

To detect a moderate effect size from pre- to posttest on the selected EBP measurements, a power analysis determined *a priori* that this trial would need a single group sample of 30 participants, presuming $\alpha = .05$ and $\beta = .20$ (power = 80%). Recruitment was increased by 20% to account for expected attrition.

Approval was obtained prior to the study initiation from the associated hospital's institutional review board. The principle investigator explained risks and benefits of participation and emphasized that study enrollment was strictly voluntary during the informed consent procedures. Participants were free to withdraw from the study at any time.

Research design

This pilot study used a pretest–posttest quasi-experimental design with convenience sampling and no control group.

Data collection instruments

Two freely accessible tools were used at baseline and after 8 weeks: the Evidence-based Practice Capabilities Beliefs Scale (Wallin et al., 2012) and a modified version of the Information Literacy for Evidence-Based Nursing Practice tool (ILNP) (Pravikoff et al., 2005). As there is no consistent measurement in the literature for EBP (Oude Rengerink et al., 2013) these two tools were used together to add validation and confidence in the findings. The Evidence-based Practice Capabilities Beliefs Scale was used to assess the participant's perceived ability to use EBP in clinical decision-making. This one-dimensional scale is rooted in the theory of social cognitive psychology and is based on Albert Bandura's principles of self-efficacy. Beliefs about an individual's capabilities can enhance understanding of factors that may influence his or her use of EBP (Wallin et al., 2012). Participants were asked to measure how confident they were about performing steps of EBP on a scale from 0 (No, I cannot manage that) to 10 (I'm sure I can manage that) and to rate six questions on EBP and research use in their jobs on a scale of 1 (rarely/never) to 4 (several times a month). Prior psychometric testing of this instrument determined internal consistency using a person separation index (0.92) and correlated high EBP capability with high EBP practicing in tests of concurrent validity (Wallin et al., 2012).

Information literacy, or the recognition of the required information or skills to effectively use evidence, is necessary for EBP decision-making (Ross, 2010). The ILNP has four sub-scales identified in prior research that represent constructs of interest in EBP readiness: EBP frequency of behaviors, ability, barriers, and desire for EBP in clinical practice (Wilson et al., 2015). The tool's development and validation have been previously described using a content validity process (Pravikoff et al., 2005). Sub-scale Cronbach alpha reliability coefficients range from .81 to .91 (Wilson et al., 2015). Sample items for EBP behaviors include: "In the past year how frequently have you participated in the following activities?" (e.g., "Identified a researchable problem") with response choices 1 (not at all) to 4 (more than three times); and for EBP abilities "How would you rate your ability to do the following?"