

Critical appraisal of papers systemic and narrative reviews nursing essay



**ASSIGN
BUSTER**

The intention of this essay is to critically appraise one paper of systematic review and one paper of narrative review by using CASP tool and then compare and contrast the difference between the two reviews. This assignment will start with by illustrating the types of literature review (systematic and narrative reviews) and the strengths and weaknesses for both. It will follow with the role of systematic and narrative reviews in the evidence based. Following this, critical appraisal will be discussed with the justification of the choosing tool. Finally, the choosing papers of systematic and narrative reviews will be appraised.

Types of literature review

In the healthcare sector, reviews have always been considered as part of the healthcare profession. All specialists and professionals are required to collate knowledge with published evidence on a particular topic or question.

Scientific reviews are studies which use database searches to retrieve results of research, and have as their goal and objective of a specific topic. Two main types of review articles are commonly found in the scientific literature: Systematic and narrative reviews. Each type of the review articles has its own purposes and characteristics (Rother, 2007).

Narrative review (NR) is a review which summarizes all of the primary studies tempered by years of practical knowledge from the reviewer's personal experience. It aims to provide a broader picture and comprehensive background within a given topic. It is helpful to refine or to focus on broad question. It has the advantage of including a wide range of relevant information and years of experience from the author. This type of review is

useful in developing a theoretical and conceptual framework (Kirkevoid, 1997).

Although narrative reviews may benefit from having broad background information, they have many drawbacks. This review is built on the reviewer's personal beliefs and experience. According to Torgerson (2003) expert opinion is considered the lowest type of evidence (bias). Moreover, NRs are not very explicit about the study assessment, integration, and also how the studies were selected. Thus, this type of review is not as rigorous as it should be (Garg et al., 2008). Therefore, the inadequacies of narrative reviews make it necessary for establishing a new rigorous systematic approach such as systematic review.

Systematic review (SRs) is defined as “ explicit, formulated, reproducible, and up-to-date summaries of the effects of healthcare intervention” (Egger et al., 2001; p. 2). It is conducted according an explicit and very well structured method. It includes a peer review protocol which is prepared by two reviewers who are experienced in a clinical area, and review methodology which minimizes the possibility of bias (Hemingway and Brereton, 2009). In addition, SRs are the process of identifying relevant studies according to the specifically focused questions, appraising the quality of the identified studies, summarizing the results, and presenting vital findings (Cook et al., 1997). Thus, it appears that SRs have the advantages of being more transparent than NRs.

Unlike narrative reviews which may be open to bias and subjectivity (Porta, 2008), SRs have more objective appraisal of the evidence and may thus SRs

play a role to resolving uncertainty when original research and reviews disagree (Egger et al., 2001; Higgins and Green, 2008). They improve our understanding of inconsistencies among different studies (Cook et al., 1997) and may enhance the generalisability of findings (Glasziou et al., 2004). By using an efficient scientific technique, SRs also can counteract the need for further research studies and stimulate the timelier implementation of findings into practice (Lipp, 2005). Thus, they guide policy makers in the development of practice protocols (Cook, Mulrow and Haynes, 1997; Egger et al., 2001). SRs can also inform the research agenda by identifying gaps in the evidence (JBI, 2001) and generating questions that will shape future research studies (Handoll et al., 2008; Lipp, 2005). Apart from defining the boundaries of the known and unknown, SRs helps clinicians to avoid knowing less than has been proven (Cook, Mulrow and Haynes, 1997). Moreover, they provide definitive answers to clinical questions which may be uncommonly ascertained in a single study (Davidoff, 1995). Thus, Badget, O'Keefe and Henderson (1997) contend that SRs may promote learning as they minimise the time and effort required in reading individual research studies.

Despite the enormous benefits of SRs, they are not without limitations. The retrospective and observational nature of SRs makes them subject to random errors and systematic biases (Crowther and Cook, 2007). They are time-consuming (Manchikanti, 2008), laborious (Petticrew and Roberts, 2006) and expensive (JBI, 2000). Moreover, they require expertise in both the subject matter and the review process (Manchikanti, 2008) without which inaccurate conclusions may result in the inappropriate application of findings (Cook et al., 1995; Mulrow et al., 1997). The inclusion of poor quality

research studies in SRs and publication biases may also compromise the results of reviews as well as its applicability (Egger et al., 2001).

Role of systematic reviews and narrative review in evidence based practice

With global concerns on quality and cost-effective healthcare delivery, evidence-based practice (EBP), which emerged from the work of Thomas Beddoes (1760-1808), is gaining increasing recognition (Goodnow, 2003). This process demands a thorough, clear and thoughtful application of current best available evidence in guiding clinical decisions (Guyatt et al., 2008; Sackett et al., 1996). Clinical decision making draws upon a broad spectrum of knowledge including scientific evidence, philosophical principles, personal experience, patient values, economic and political considerations (Kerridge et al., 1998). Thus, EBP involves the integration of the clinician's expertise, the patient's preferences, the current best available research evidence (Beaven and McHugh, 2003; Fineout-Overholt, Melnyk and Schultz, 2005) and the context of care delivery when making clinical decisions (Pearson et al., 2005). Muir-Gray (1996) highlighted that EBP bridges the gap between research and practice, and Bacon & Olsen (2003) believed that it is a guarantee for 'doing the right things right'.

SR is a secondary research method that reviews all primary or past research on a topic of interest. It intends to be systematic, explicit with its objectives and methods, and reproducible in its conclusions (Green, 2005; Joanna Briggs Institute, 2001). It is, therefore, a matter of interest for healthcare professionals to achieve additional detailed studies. It may, or may not include synthesizing statistical findings from different studies in meta-

<https://assignbuster.com/critical-appraisal-of-papers-systemic-and-narrative-reviews-nursing-essay/>

analysis that aim to produce a single estimate of the treatment effect (Cook et al., 1992). On this basis, the systematic review has been found to be a cornerstone of evidence-based practice, as it collects the best evidence by focusing on the clinical question, so that best decision can be drawn for effective practice (Polit and Beck, 2006). It is identified as an indispensable tool for busy healthcare providers to improve their practice (Greenhagh, 1997; Sachett et al., 1997).

While SRs remain the cornerstone of EBP (JBI, 2008; Polit and Beck, 2008), according to Hammersley (2002) NRs have a role in the evidence by providing a big picture by combining different types of studies, to outline the best and the most recent knowledge with the variety aspects of a problem. NRs have an effective role in continuing education (). It keeps the reader up to date with regard to a specific theme or topic by providing a background and developing concepts. Thus, both types of reviews can be adapted to clinical subjects for more focused or comprehensive topics (Collins and Fauser, 2005).

Critical appraisal and the justification of the chosen tool

The research process involves collecting data and then analyse it for useful information. However, not all the studies have a good quality of evidence and various studies found to be biased. Therefore, Critical appraisal is crucial skills required for healthcare professionals where they can decide whether the study is reliable and effective to be implemented (Chambers, 1998). It is a process by which clinicians are carefully and systematically research for its trustworthiness, value and its relevance in the practice context (Burls, 2009).

Critical appraisal is needed to provide a comprehensive assessment of the <https://assignbuster.com/critical-appraisal-of-papers-systemic-and-narrative-reviews-nursing-essay/>

research and also to identify its strengths and weaknesses. Moreover, it is essential to understand the research methodology conducted and to identify if there is a bias or not ()

For appraising the evidence, critical appraisal tools are frequently used by researchers to evaluate the quality of the research studies. These tools demonstrate critical evaluations of the quality of the study, specifically, the applied methods to minimise bias in a research. These issues are essential for researchers to determine if the study results are valid, and can be applied into other environment, such as education or clinical practice and policy (Custer, 2009). Critical appraisal tools are classified generally into research design-specific tools that focuses on methodological issues depend on the research design, and those that are generic which intends to enhance the ability of the researchers to synthesise a range of the quantitative and or qualitative evidence (Katrak et al., 2004).

However, selecting an appropriate critical appraisal tool is a vital component of evidence-based practice (Hill and Spittlehouse, 2001). Although the importance of critical appraisal tools has been acknowledged () there seems to be no consensus with regard to the ‘ gold standard’ tool for any evidence. Moreover, it appears that researchers are faced with a huge number of critical appraisal tools from which to choose. This is showed by the Agency for Health Research Quality report in which 93 critical appraisal tools were identified for quantitative studies (Shea et al., 2007).

In this assignment, the systematic and narrative reviews will be appraised by using CASP checklist of reviews. CASP intends to develop the needed skills to

critically appraise the evidence. CASP appraisal tools were created based on the guide of evidence based medicine group. However, using CASP appraisal tools require an awareness of the significance of appraising the evidence and finding, and gaining the needed skills of appraising evidence (Critical Appraisal Skills Program Checklists, 2009).

CASP is design-specific tool; it appears that has a very simple critical appraisal checklist according to study design with clear structured questions that is easy to understand. It provides an explanation and guidance for each question to be answered in comparison to the other appraisal tools. It allows making an assessment of any bias introduced by the reviewer in the reviews. In addition, this tool designed particularly for teaching purposes. However, these checklists were not designed to replace the clinicians' thoughts; it used to guide them for best decisions (ibid).

CASP addressed three main questions to make a sense of review which are: is the study valid? What are the results? And will the results help locally?. This design-specific appraisal tool contains different items. These items addressed the issues of data analyses and concerns of external validity. Items evaluating data analyses were focused on the methods used to summarize the results, assessment of sensitivity of results and whether heterogeneity was considered, whereas the nature of reporting of the main results, interpretation of them and their generalizability were frequently used to assess the external validity of the study findings. Furthermore, it has contained items related to the identification of relevant studies and search strategy used. However, randomisation and blinding procedures were infrequently mentioned in this critical appraisal tool (ibid).
<https://assignbuster.com/critical-appraisal-of-papers-systemic-and-narrative-reviews-nursing-essay/>

Appraising the systematic and narrative reviews

Systematic review:

The title of the paper is “ Effects of shift length on quality of patient care and health provider outcomes” conducted by Estabrooks et al. in 2009. According to CASP three broad issues should be considered to appraise the review as a following:

Is the study valid?

This systematic review had a clear focused question with the consideration of population, intervention and outcomes using PICO formula. The PICO question is P: healthcare provider (nurses, allied health professionals, doctors), I: effect of shift length 8h vs. 12h, O: 1-quality of patient care e. g. (errors, patient injury, and nurses’ perception of the quality of care). 2- Outcomes of healthcare providers e. g. (overall wellbeing, fatigue, drug/alcohol use, stress, physical/mental health complaints and job satisfaction). To answer this review question, the authors have clearly defined their inclusion criteria including the type of studies. Randomised control trial, clinical trials and observational studies (cohort, case-control, cross-sectional and survey design were included in this review which are appropriate designs to provide the answer of this review question.

Randomised controlled trials have been recognised as the best available evidence due to the use of measures that limit bias (Counsell, 1997). As a result, they are more likely to produce valid evidence concerning the effectiveness of an intervention (Bhandari and Tornetta, 2008; Sackett and Wennberg, 1997; Cochrane, 1979; Schlosser and Raghavendra, 2004; Sibbald and Roland, 1998). Therefore, it is going to provide the author with

<https://assignbuster.com/critical-appraisal-of-papers-systemic-and-narrative-reviews-nursing-essay/>

the best conclusion. In observational studies, an assessment and investigation of the relationship between the intervention and the outcome measure is made. Moreover, in this type of study the researcher is examining the intervention and observes the outcome (Bennett and Emberson). Thus, the types of the included studies in this review have appropriate designs to answer the review question.

Considering the search strategy, this SR has identified all relevant studies. It was prepared according to the method used by Dickersin and Lefebvre.

Dickersin and Lefebvre identified relevant studies for SR in 1994. The searching strategy was depending on the use of text words and Mesh terms in databases, hand searching and also reviewing the bibliographies of the studies. According to them, the search strategy of this review was based on three steps which are electronic databases, hand searching, and reviewing the bibliographies. The databases include CINAHL, EMBASE, Healthstar, MIDLINE, PsychoINFO, Web of Science, Cochrane Database of Systematic review and Cochrane Central Registration of Controlled Trials. Manual search includes searching in health provider organization websites and key journals. The websites include Canadian Medical Association, Alberta College of physicians and Surgeons, Institutes of Nursing, AHRQ, Canadian Institute of Health Information, and WHO Newsletter.. etc, while the key journals incorporate Ergonomics and the journal of Occupational and Environmental Medicine, and finally reviewing bibliographies of primary research articles. In addition, the authors of this review had a personal contact with health science librarian for consultation to provide information on ongoing review to inquire about unpublished studies. However, it is not clear that if the

reviewers identified the unpublished studies in this review or not. Moreover, this review limits the studies to English and Spanish languages only, but there was any restriction regarding specific date for searching.

According to the defined inclusion criteria, the studies were selected and retrieved by screening the titles and the abstracts of each study identified in the search strategy. The included studies which meets the inclusion criteria were then assessed and appraised by two reviewers. Two adapted tools based on Cochrane collaboration guideline were used to assess the quality of the included studies with a variety of study designs. According to the assessment, the studies were scored and then classified as (0. 50) weak, (0. 50-0. 74) moderate, and (0. 75-1) strong studies. The disagreement between the two reviewers about the quality was resolved by the third reviewer and the use of kappa coefficient to assess their agreement. The result of the assessment lead to the exclusion of all weak studies, and included quality ranged from moderate to strong studies.

What are the results?

In data extraction, the data extracted by two reviewer for specific details which are study design, sample/subject, setting, shift analyzed, measurement tool, reliability and validity, key findings and statistical test and clinical significance. According to these data the result of each study was clearly stated. However, due to the heterogeneity in the study design, settings, and outcomes, the results were synthesized and presented in narrative review. Because of this, a comparison was made in this review with two groups which are effect of shift length (8h vs. 12h) on quality of patient care, and the effect of shift length (8h vs12h) on healthcare providers
<https://assignbuster.com/critical-appraisal-of-papers-systemic-and-narrative-reviews-nursing-essay/>

outcomes. The odd ratio was presented in some of study results. This SR did not include meta-analysis; therefore, confidence interval was not reported. However, the significance of the results was reported by the p-value ($p < 0.05$).

The results of this review of the effects of shift length on patient safety, physical and psychological health and wellbeing, and job satisfaction of healthcare providers were ambiguous. With regard to the effect of shift length on quality of patient care, studies reported that longer shifts are more associated with errors and near errors. Considering healthcare provider outcomes including health complaints, well-being, drug and alcohol consumption, stress and job satisfaction, the results of this review were inconclusive. The healthcare provider outcomes were assessed by single studies which are insufficient evidence to provide the best conclusion. The studies found that 12-hour shifts had an impact on nurses' physical and psychological health and wellbeing such as musculoskeletal disorders, stress and drug and alcohol use.

Will the results help locally?

This intervention can be provided in other setting as it has the same population of this review. The results of this review considered only the patient and healthcare provider outcomes (individual) which can be applied and indicated the need for implication for practice. However, due to the insufficient evidence and inconclusive results, it is difficult to determine the effect of shift length (8h vs. 12h). Thus, robust studies are required as the reviewers suggested to evaluate the effect of shift length.

Narrative review:

The title of narrative review is “ Factors contributing to medication errors: a literature review” carried out by O’shea in 1999.

Is the study valid?

This literature review focuses on factors contributing to medication errors.

The review had a clear question; however, it has a broad and not focused question where the population, intervention and the outcomes were not considered.

The reviewer did not specify the type of studies to be included. This review included both quantitative (descriptive studies, cross-sectional) and qualitative studies in addition to retrospective reviews for a period of time. These studies provide the answer of this review question including staff opinion as to factors contributes to errors. To identify what are the contributing factors of medication errors the author included studies that interviewed nurses, doctors, and pharmacist. In addition, the majority of the studies provide the answer by surveying the nurses to assess their level of knowledge and their mathematical skills for drug calculation. To explore the type and frequency of drug errors, observation studies were included. The included studies provided the answer of the review question that is related to individual, system and organizational factors that contributes to medication errors.

Considering the search strategy, terms and key words were used by computerized and hand searches of only MIDLINE and CINHALL from 1982 which increase the chance of missing some studies. In addition, reviewing

<https://assignbuster.com/critical-appraisal-of-papers-systemic-and-narrative-reviews-nursing-essay/>

bibliographies of all articles were retrieved. However, it is not mentioned that if the reviewer was searched for unpublished studies and for other languages and databases. Moreover, it is not stated that if the reviewer had a personal contact with experts. Therefore, it seems that not all relevant studies were identified.

The reviewer did not define the inclusion criteria for this review, thus, it is not clear that which strategy were used to select the studies. Nevertheless, the reviewer mentioned that he is looking for the contributing factors for medication errors and not for specific drug, so the studies were selected according to the topic. Regarding the quality of the studies, the reviewer did not assess the quality of the included studies, it is not mentioned that if the assessment or the scoring of the methodological quality were examined.

What are the results?

The total articles results of the studies were combined in a good way and presented into categories in which the results were clearly displayed.

However, the results are heterogeneous and this heterogeneity was not considered by the reviewer. The results presented in descriptive way and the other parameters for assessment such as odd ratio, relative risk, or p-value were not applicable or mentioned in this paper.

This review concluded with a variety of contributing factors which are related to individual, system, and managerial. Mathematical skills of nurses such as medication calculation identified as the major contributing factor for medication error and it remains an ongoing problem. Additional contributing factors identified by this review included workload, nursing care delivery

systems and staffing levels on different shifts which should be considered by nurse managers.

Will the results help locally?

The review showed a lot of factors and results that can be applied since most important factors that are related to individual and policy were considered where it might be contribute to change the policy of practice.

it can be seen that there are considerable differences between the two reviews. Narrative review established by asking a broad question in comparison to SR question that is a clear and focus question composed of population, intervention, comparison and outcomes. By structuring a well-defined review question, the answer may be found more efficiently. Thus, defining the review question using the exact patient population, intervention, comparator and outcomes (PICO) may provide direction to the review process (Richardson and Wilson, 1995). Moreover, this will enhance the quality of evidence by decreasing the chances of vague, very broad and sometimes, unnecessary results (Hamer, 2005).

NRs do not follow systematic criteria to minimize the risk of bias, and lack of explicit criteria regarding study selection were reported compared to SRs which follow specific evidence-based criteria. When the relevant studies have been selected, the assessment of their actual relevance is decided through the inclusion criteria which required determining the relevance of the primary studies that should be included in the review. It is also planned to reduce the risk of bias, which is introduced by the reviewer during the searching and selecting process (Garg et al., 2008).

The search strategy conducted in the NR found did not identify all relevant studies. NR only has hand and computerised search in MIDLINE and CINAHL by using terms and key words in addition to reviewing bibliographies.

Although NR had a search strategy, it is not comprehensive search as it is in SR. The authors in SR had three stages of search strategy. Firstly, search in all databases; secondly, manual searching, and then reviewing the bibliographies in addition to the identification of the unpublished studies. The most important and defining characteristic of a SR is the search strategy used in identifying relevant studies (Simunovic et al., 2009). This is because, the validity of the results of any SR is invariably related to the strategy used in exploring the scope of the evidence (Snowball, 2005). Thus, the search strategy should be clear, understandable and follow scientific rigour (Margarey, 2001) so as to minimise biases (Sindu and Dickson, 1997).

However, one of the most important issues was found regarding NR and SR is the assessment of the methodological quality of the included studies. The included studies in NR were not methodologically assessed, the author of the NR have frequently expert opinion (bias) and find articles to support the authors' opinion (selection bias). Whereas, the SR assessed each paper that met the inclusion criteria. Generally, the quality and reliability of evidence generated from SRs are dependent on quality and results of the contributing primary studies (Crowther and Cook, 2007; Garg et al., 2008). This is because critical appraisal helps to ascertain the validity of research methods and findings (Sampson et al., 2003). As decisions regarding the inclusion or exclusion of individual studies, and quality assessment often involve some degree of subjectivity, it is useful to have at least two reviewers to conduct

these processes independently (Simunovic et al., 2009). The reasons for this assessment are firstly, to minimize the risk of errors and bias of the results for both RCT and observational studies. Secondly, to determine the validity of the used research methods and to evaluate the intervention (Meade and Richardson, 1997).