Journal article research critique

Journal Article Research Critique by C. O'Neal MBA 532 UA – Quantitative Business Analysis Instructor: Dr. Ed Ohlson Cheryl O'Neal 3/8/2008 Journal Article Research Critique by C. O'Neal Introduction Cancer patients experience a variety of symptoms that are associated with the disease process itself and with the treatment regimens used to control or eradicate the disease.

The authors (Bender, Engberg, Donovan, Cohen, Houze, Rosenzweig, Mallory, Dunbar-Jacob, & Sereika, 2008) in their study, Symptom clusters in adults with chronic health problems and cancer as a comorbidity, have attempted to discover symptom clusters that have may have been nestled in the data retrieved in two previous studies involving rheumatoid arthritis (RA) sufferers and individuals with urinary incontinence (UI). The Bender et al. (2008) stated their research purpose was: to identify and compare symptom clusters in individuals with chronic health problems with cancer versus individuals with chronic health problems who do not have cancer. The secondary aim was to compare the number and types of comorbid chronic health problems for individuals with and without a history of cancer and to explore the effect of symptoms on QOL. (p.

E3) Substantive Qualities The above quoted statement is misleading. The sample that was examined had a history of cancer but the opening statement, " Patients with cancer frequently experience multiple symptoms concurrently. (Bender et al. , 2008, p.

E1) indicates the patients had a current diagnosis of cancer and that the research would look at patients who currently had cancer in addition to

another chronic health problem. This author realizes that this may seem like an insignificant issue, but in reality, the symptom clusters that would be expected in a cohort currently undergoing treatment for cancer could be expected to be significantly different than the symptom clusters found in cohorts that have completed treatment and are five to 10 years beyond treatment. Cancer can certainly be considered a chronic health problem in some instances and perhaps a sample of patients with a current diagnosis of cancer would have been a better fit for the objectives that were stated. Or perhaps adding the qualifying phrase " history of" would have served to help clarify the true objective of the study. In addition, the use of the word comorbidity, indicating simultaneous, (Neufeldt & Sparks, 1995) in the title and the body of the text further confuses the issue.

If the cohorts had a history of cancer then they would not necessarily have a simultaneous diagnosis. Study Design Qualities The statement of purpose was not posed as a hypothesis of any sort, null or alternative. The proper hypothesis would have indicated the direction that the study was expected to take. Did the researchers expect to find specific symptom clusters that were exclusive to the cancer history individuals? Or were the symptom clusters expected to be more severe in the cancer survivors than in the general chronic health population? The hypothesis could have been: there will be no significant difference between the symptom clusters of patients with a previous diagnosis of cancer with a chronic health problem as compared to patients with a chronic health problem that has never been diagnosed with cancer. Additionally, the hypothesis should have included the parameters for statistical significance.

The Bender et al. (2008) go to great lengths to describe the statistical processes used to evaluate the exploratory endeavor, but failed to disclose whether the parameters had been set before he study was begun which would have been the proper form. The literature search is supportive of the goal of this research. The review found several studies that supported the conclusion that individuals with a history of cancer do experience significant symptoms longitudinally from the end of treatment. One of the studies sited (Reyes-Gibby, Aday, Anderson, Mendoza, & Cleeland, 2006), compared symptom experiences of the cancer individual with individuals having chronic health problems. This study did not identify the types of comorbid conditions that they concluded had influenced the symptom clusters.

With the support of the studies already completed, it would be a logical step to look at retrospective studies including cohorts with and without cancer that also have other chronic health problems. The Comorbidity Questionnaire was the tool used to gather the original data. According to Bender et al. (2008) this tool was modeled after the Charlson Comorbidity Index (CCI). The detail of this modified tool was not disclosed nor was this author able to retrieve a copy of the tool used. However, it should be noted that the tool was approved for studies from National Institutes of Health.

The CCI on the other hand is a reliable and validated tool (Hall, Ramachandran, Narayan, Jani, & Vijayakumar, 2004). Therefore, it is impossible for this author to evaluate the tool that was used to collect the initial data but instead, inferences can be superimposed that would lead the reader to assume that if the CCI is a valid and reliable tool, then the modified tool should also be valid and reliable. However, it is never proper protocol to

make that kind of assumption. The statistical analysis was appropriate for a non-parametric study including the Kruskal-Wallis test, Chi-square, and Fisher exact test (Bender et al. , 2008, p. E3).

The data was analyzed with SPSS® and Mplus® but Bender et al. (2004) detailed all of the tests and their functions in relation to this study. The group went to great lengths to outline the statistical processes and outcomes but failed to state the p value (which was $p = 0.05$ as described in the analysis) in a hypothesis. Therefore, it is impossible to know if this parameter was set before the trial began or if it as set after the results were known.

The later, of course, is not appropriate. TheChi-Squared testlooks at the comparison between attributes in a sample to determine if there is any relationship that can then be used to predict a frequency of occurrence. The Kruskal-Wallis Test is used in the analysis of variance in situations are not necessarily normally distributed (Easton and McColl, 1997). The Fisher Exact Test is used to determine if there are nonrandom associations between two variables where the cell sizes were sparse (Weinstein, 2008). The results of these test would have lead the researchers to accept a null hypothesis if one had been established.

Questions also arise as to the sample used. The sample was a self-report and it was not made clear as to how the individuals were selected to receive the tool. The study also did not disclose how many participants were eligible compared to the number that participated. This author has serious doubts as to the validity of the sample since it was predominately Caucasian and the

majority had medical insurance. It does raise the question if the results would be skewed due to a lack of a representative sample pool.

Bender, et al, in discussing the RA portion, stated: " Consistent with the overall RA population, the sample was predominately female (81%, n= 516) and white (92%, n= 590). " (Bender et al. , p. E4) According to the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) and the National Institutes of Health (NIH), RA occurs in all races and ethnic groups with women being affected two to three times more frequently than men (Rheumatoid Arthritis, 2004). 1% women and 92% Caucasian would appear to be in excess of the distribution found in the general population that was supposedly sampled. In addition, the sample had 99.

8% insurance coverage (Bender et al. , 2008). It appears to this author that one of the variables that needed to be recognized would be that people that do not have insurance will have a very different symptom profile regarding quality of life issues. In the final analysis Bender et al.

(2008) pointed out some of the faults of the study along with some of the trends that the authors recognized. They concluded that since the " findings did not point to clear differences in the symptom clusters between the two groups suggests that the symptom clusters experiences may be more related to the primary chronic health problems and other comorbid conditions in the subject. " (Bender et al. , p. E6) The authors recognized that possible confounding variables such as divergent timing of symptom assessment, commonly occurring symptoms in the elderly, age of

participants with regard to expectancy of disease, limited cancer information, and the education of the individuals did exist.

In conclusion, Bender et al. 2008) suggested that additional prospective studies are needed to further the health community's understanding of symptom clusters of cancer patients in relation to other chronic health problems. This author agrees that additional studies are relevant but the focus should be in a much different direction than this irrelevant study. For example, a relevant focus might be whether a diagnosis of breast cancer with chemotherapy treatment will predict whether a certain patient with a predisposition for RA is more likely to develop RA and will it be more aggressive than a non-breast cancer patient that develops RA? This particular study would have been better served if a prospective study had been designed that could have looked at relevant questions rather than to try to extrapolate inferences from data that was skewed from the very outset. References Bender, Catherine M.

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