



## Clinical Research in Nursing: Design Analysis

Salma A. Bashar

Clinical Department, Faculty of Science, Sohag University, Egypt

[Bashar\\_82!@gmail.com](mailto:Bashar_82!@gmail.com)

**Abstract:** Critique is very important in analyzing research constructs, to width the understanding of research process, and to enhance knowledge among scholars.

[Bashar, S. A. (2016). Clinical Research in Nursing: Design Analysis. *J. Middle East North Afr. sci*, 2(1), 4-5]. (p-ISSN 2412- 9763) - (e-ISSN 2412-8937). <http://www.jomenas.org>. 2

**Keywords:** Clinical Research in Nursing–Design Critique- Nursing Critique.

### 1. Introduction

This paper aims to analyze the design that is used in a study of " Change in patient concerns following total knee arthroplasty described with the International Classification of Functioning, Disability and Health: a repeated measures design"

### 2. Analysis of Design

A repeated measures design and face to face cross sectional interview were used in the study. There is one group in the study that is used to investigate how patient concerns change during the first six weeks following total knee arthroplasty. Neither blinding, masking nor placebo was used in the study.

The purpose of the study was stated clearly which was set to quantify the level of importance for each of 32 previously identified concerns pre-operatively, and across the first six weeks following primary total knee arthroplasty and to convey this change in importance post-operatively using the components of the International Classification of Functioning, Disability and Health.

In addition, the null hypothesis was stated clearly that there would be no difference in the mean rank of importance across time

Despite a repeated measures design was appropriate to quantify how patient concerns change during the first six weeks following total knee arthroplasty, no information was given to use alternative designs such as crossover and factorial designs.

Convenience Sampling was used from the waiting lists of orthopaedic surgeons working in a large tertiary care hospital. 57 patients were enrolled in the study, one person withdrew from the study without any explanation and two people did not return phone calls to set up an appointment to

become the study sample 54 participants. Randomization was not applied.

The inclusion criteria were stated clearly which were English-speaking ambulatory patients with knee osteoporosis who were waiting for a primary total knee arthroplasty.

Researchers described data collection where evaluation conducted in four sessions: pre-operatively and at two, four and six weeks after surgery. Evaluation session was described adequately.

The endpoint of the study was clearly stated. This study showed that the importance of some concerns change over time while others do not.

Ethical considerations included consent from participant to take a part in the study. Approval from the Institutional review board and the hospital was not mentioned.

The study had limitations: All participants in the study were recruited from a single tertiary care hospital. This may be viewed as decreasing the generalizability of this study to other settings and may not be applicable to all total knee arthroplasty populations. As there was no test-retest component in this study, the reliability of the importance ratings at each time point of data collection could not be confirmed.

Another limitation of this study was the inability to include non-English speaking individuals. Therefore, the results are not applicable to non-English speaking recipients of total knee arthroplasty surgery.

Finally, sample size for this study was based on sample size calculations of a concurrent unpublished study of responsiveness of the WOMAC. This seemed acceptable because there is no previous importance ratings on which to base sample size calculations. Where no significant



differences were found, it may be possible the study was underpowered.

**Corresponding Author:**

Salma A. Bashar  
Clinical Department, Faculty of Science, Sohag  
University, Egypt  
E-mail: [Bashar\\_82!@gmail.com](mailto:Bashar_82!@gmail.com)

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Received December 10, 2015; revised December 15, 2015; accepted December 25, 2015; published online January 2, 2016.