Assessing the quality of methods used in standardized terminology studies

Second International Conference on Research Methods for Standard Terminologies

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DISCLOSURES

There are no conflicts of interest or relevant financial interests that have been disclosed by this presenter or the rest of the planners and presenters of this activity that apply to this learning session.
Objectives

At the end of this session, the learner will be better able to:

• discuss the importance of use of the critical appraisal tools in selecting studies for review.
• recognize the JBI tools for assessing methodological quality of the selected studies.
• get an overview of how these tools are used in a systematic review study based on Omaha System, one of the standardized terminology used in Turkey.
• identify what gaps there are about the current researches on Omaha System in Turkey and what future researches are needed in this area.
Standardized Terminologies...

- A structured language consisting of terms, definitions, and codes that clinicians use to guide and document practice (i.e. Omaha System)
- They are important for higher quality care, enhanced care coordination, improved documentation and patient outcomes, reduced costs.
- OS is widely applied across healthcare disciplines and settings in the USA and internationally.
- In Turkey, OS was incorporated in nursing education in 1998. Since then, my faculty has developed expertise in applying the system in settings ranging from schools to elder care.
Recent Decades: Health Care Literature

• Health care literature has increased dramatically over recent years.
• As a result of this development, we could not keep up all publications on our area of practice.
• We also often have to deal with contradictory research results.
• Systematic reviews have appeared to complete this need by providing comprehensive information about the researches on a topic.

AND

• The validity of the evidence ultimately depends on the scientific method of the studies and the reporting of data.

THUS

• Quality Assessment is important in Systematic Review studies.
Key elements of a systematic review

1. formulate a review objective and question
2. define inclusion and exclusion criteria
3. perform a comprehensive search of the literature
4. select studies for critical appraisal
5. Critical Appraisal of Selected Studies- assessment of the methodological quality of the selected studies
6. extract data according to a template
7. analyze, synthesize, and summarize data
8. write up findings and draw conclusions
• To describe and analyze recent literature about Omaha System in Turkey
• To identify the Omaha System study design, methodologies and areas for future research, in Turkey
(1) studies published between 2000 and 2012,
(2) studies published both in English and Turkish, (3) full text articles that were published in a peer-reviewed journal, thesis and dissertations, (4) conducted in Turkey,
• The electronic databases Ovid MEDLINE, PUB MED, Cochrane Register of Controlled Trials, CINAHL, PsycINFO, Web of Knowledge, Scopus, Google Scholar, ULAKBIM Turkish Medical Database and Council of Higher Education Thesis Center were searched. Additionally, the reference lists of included studies from the Turkish databases were hand searched.

• In the study, papers that met the inclusion criteria were considered to be applicable to the review topic and retrieved for further assessment of quality.
• The main object is to assess the methodological quality of a study and to determine the extent to which a study has addressed the possibility of bias in its design, conduct and analysis.

• By this, we will exclude studies that are of low quality. We will identify the strengths and limitations of the included studies.
Critical appraisal tools

• Many different quality assessment instruments have been published in the literature.

• JBI critical appraisal tools are examples of quality assessment instruments.

• In Turkey, there is lack of accepted standardized tools to evaluate the methodological quality of the studies. BUT there are tools (Turkish CONSORT statement and STROBE) for improving the reporting of the studies.
The Joanna Briggs Institute (JBI) Tools

- JBI have checklists for appraising internal and external validity of quantitative studies.
- In this study, two tools of JBI for *descriptive/case studies (9 items)* and for *randomized control/pseudo-randomized studies (10 items)* were used.
- Each item was answered dichotomously, where "yes" was allocated with one point and "no" and "unclear" with zero.
- The cut-off score for inclusion of studies after methodological appraisal was set at 4/10 (evaluating criteria)
JBI Critical Appraisal Checklist for Experimental Studies

Reviewer __________________ Date __________

Author _______________ Year ___________ Record Number _____

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Unclear</th>
<th>Not applicable</th>
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<tr>
<td>1. Was the assignment to treatment groups truly random?</td>
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<td>2. Were participants blinded to treatment allocation?</td>
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<td>3. Was allocation to treatment groups concealed from the allocator?</td>
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<td>4. Were the outcomes of people who withdrew described and included in the analysis?</td>
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<td>5. Were those assessing outcomes blind to the treatment allocation?</td>
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<td>6. Were the control and treatment groups comparable at entry?</td>
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<td>7. Were groups treated identically other than for the named interventions?</td>
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<td>8. Were outcomes measured in the same way for all groups?</td>
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<td>9. Were outcomes measured in a reliable way?</td>
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<td>10. Was appropriate statistical analysis used?</td>
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Comments ............................................................................................

JBI-SUMARI package validity checklist
Checklist for Assessing the Validity of Descriptive/Correlational Studies

Reviewer: ______________ Date: ____________

Author: ______________ Year: ___________ Record No: ____________

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<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<tr>
<td>Is the study based on a random or pseudo random sample?</td>
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<td>Is the sample of adequate size and representative of the population?</td>
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<td>Are the criteria for inclusion in the sample clearly defined?</td>
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<td>Were hypotheses linked to explicit theoretical framework?</td>
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<td>Did measures have acceptable reliability and validity?</td>
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<td>If comparisons are being made, was there sufficient description of groups?</td>
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<td>Was an appropriate statistical analysis used?</td>
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<td>Were the findings statistically or clinically significant?</td>
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<td>Were findings linked to theoretical framework?</td>
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<td>TOTAL</td>
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Reviewer's Comments: ..........................................................................................................................
Turkish JBI Critical Appraisal Tools

• Cohen’s kappa: .74 (experimental studies)  
  .67 (descriptive studies)
• Test-retest reliability: .87 (experimental studies)  
  .91 (descriptive studies)
• Kuder richardson: .68 (experimental studies)  
  .64 (descriptive studies)
• Content validity index: .90 (experimental studies)  
  .87 (descriptive studies)
## Deneysel ve Yarı Deneysel Araştırmalar İçin 
### MASTARI Kritik Değerlendirme Formu

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<tr>
<th>Değerlendiren:</th>
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<th>Daha fazla bilgi araştır</th>
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### Açıklama (Kabul etmeme nedenleri):

**Değerlendirme Hakem:**

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<th>Daha fazla bilgi araştır</th>
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### Açıklama (Kabul etmeme nedenleri):

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**Değerlendirme:** Kabul et ( )  Kabul etme ( )  Daha fazla bilgi araştır ( )

**Açıklama (Kabul etmeme nedenleri):**
Methodological Quality of the Included Omaha System Studies

17 papers that met the criteria for inclusion in the review were critically appraised for the methodological quality by JBI tools.

5 studies used quasi-experimental design (mostly non-randomized one-group pre-test and post-test). The appraisal scores of five studies were six (6/10 points).

12 studies used descriptive design. The appraisal scores of five studies were mostly 6 (6/9 points), two studies were 7 (12%) (7/9 points), and one study was 5 (6%) (5/9 points).
Methodological Quality of Studies Related with Quasi-experimental Studies

The most common issues:

• participants were not blinded to treatment allocation,
• allocation to treatment groups was not concealed from the allocator,
• the outcomes of people who withdrew were not described and included in the analysis,
• those assessing outcomes were not blind to the treatment allocation in the studies (items 2,3,4 and 5 in the original tool).

Methodological Quality of Studies Related with Descriptive Studies

The most common issues:

• confounding factors were not identified and strategies to deal with them were not stated,
• there was not sufficient descriptions of the groups,
• the outcomes of people who withdrew were not described and included in the analysis in the studies (items 3,5 and 7 in the original tool).
6. Extract data according to a template

- Data was extracted from the studies regarding study reference, sample, setting, purpose, design and findings.
The total number of publications included in this review is 17.

All studies were completed between 2000 and 2014.

The reviewed studies had a wide range of study samples ranging from 30 to 598.

The settings of the studies vary, including primary school, workplace, home care centers, hospitals, nursing homes, and health centers.

Only 5 studies reported that they used OS coded data from EHRs.
In all the studies, the reliable and valid OS tools were used for data collection.

In 4 studies, nursing students were instructed and guided by the researchers about OS for data collection.

All articles were authored by nurses (first author), and only 1 study included interdisciplinary co-authors.

5 citations of thesis and doctoral dissertations were used OS.
Categories of the included Omaha System studies

- Analyze clinical process (N=5)
- Analyze client problems (N=3)
- Analyze client outcomes (N=3)
- Reports on unpublished master’s and doctoral dissertations (N=5)
- Advanced classification research (N=1)
Areas for future research

1. With the increase in automation and EHR’s, future research should include larger samples that will increase the statistical power.

2. The majority of studies focused on adults, with few studying the needs of and outcomes of infants, children, adolescents.

3. The most common research design was descriptive and few were quasi-experimental design using one group pre-post test measurements. No studies were randomized controlled experimental design.

8. Write up findings and draw conclusions
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Areas for future research-cont.

(4) EHR’s are promoting, so studies are needed on the benefits of OS and its effects on nursing practice and client outcomes.

(5) There are not studies that measure the documentation time and quality.

(6) In Turkey, OS is not using in real settings. It is only used in some of the nursing faculties to document public health student nursing data. It is needed to understand factors affecting successful implementation of the OS in real settings.
References


Thank you for your time.

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