

METHODOLOGY FOR ASSESSING VALUES AND PREFERENCES IN HEMODIALYSIS

MP766

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INTRODUCTION AND AIMS

The assessment of values and preferences of the stakeholders are essential to evaluate the outcomes of hemodialysis. Unfortunately, there is not a validated methodology to assess this elusive objective.

The aim of this study is to validate a methodology able to measure the values and preferences in hemodialysis.

METHODS

1. A literature search strategy was design to find relevant outcomes in hemodialysis. Using MeSH searcher, and addressing specifically GRADE Guidelines and the patient perspective.
2. An expert group composed of stakeholders (patients, clinicians, researches and managers) agreed on a set of outcome-variables based on a multi-criteria methodology using a *weight sum model* (presentation of information, discussion, scoring, discussion and last scoring).
3. After setting these variables, three different multi-criteria methods were used to measure the preferences of the same outcomes.
 - First, a **face-to-face** group composed each of them of stakeholders using a *weight sum model*;
 - Second, the **same face-to-face** group using an *analytic hierarchy process*;
 - Two weeks later a survey was send to all participants to investigate which model reflect better his preferences;
 - Third, an **internet survey (non-face-to-face)** using the model that better reflected his preferences.
4. For the statistical analysis an ANOVA test was used to compare the three methods.

RESULTS

Five criteria (outcome-variables) were identified:

- Evidence-based clinical performance measures;
- Yearly mortality;
- Yearly morbidity (hospitalization rate);
- Patient satisfaction (KBD questionnaire);
- Health-related quality of life (SF-12 questionnaire).

The evidence-based clinical performance measures included five sub-criteria:

- Dialysis adequacy;
- Hemoglobin concentration;
- Mineral and bone disorders;
- Type of vascular access; and
- Bacteriemia catheter-related rate.

After the survey (**face-to-face - *weight sum model*** vs. **face-to-face - *analytic hierarchy process***) the stakeholders expressed more agreement with the *weight sum model* results (71 vs 29%). Then, the internet survey used was the *weight sum model*.

The *analytic hierarchy process* has a wider range, variance and shows differences for the patient satisfaction, type of vascular access and hemoglobin concentration.

There were not statistical differences between both *weight sum models* (face-to-face and internet) measuring the value and preferences of the hemodialysis outcome-variables ($p > 0.05$)

Criteria	Face to face WSM N = 26	Internet WSM N = 59	Face to face AHP N =26	Sub-criteria (evidence-based clinical performance measures)	Face to face WSM N = 26	Internet WSM N = 59	Face to face AHP N =26
	Media \pm DS	Media \pm DS	Media \pm DS		Media \pm DS	Media \pm DS	Media \pm DS
Evidence-based clinical performance measures	25.8 \pm 9.2	24.2 \pm 9.4	24.6 \pm 18.0	Dialysis adequacy	22.9 \pm 6.4	23.3 \pm 6.9	19.9 \pm 10.8
Health-related quality of life (SF-12 questionnaire)	25.4 \pm 6.1	26.1 \pm 8.1	30.8 \pm 14.7	Hemoglobin concentration	16.7 \pm 3.7	15.5 \pm 4.0	11.7 \pm 6.8*
Yearly morbidity (hospitalization rate)	17.6 \pm 7.1	17.3 \pm 7.0	17.4 \pm 9.7	Mineral and bone disorders	12.7 \pm 6.7	12.1 \pm 5.6	9.1 \pm 10.0
Yearly mortality	16.9 \pm 8.3	15.0 \pm 6.8	18.2 \pm 17.9	Type of vascular access	26.9 \pm 6.2	29.0 \pm 8.6	38.3 \pm 12.2*
Patient satisfaction (KBD questionnaire)	14.3 \pm 5.1	17.2 \pm 7.4	9.0 \pm 7.6*	Bacteriemia catheter-related rate	20.8 \pm 7.6	20.0 \pm 6.7	21.0 \pm 14.3

WSM: Weight Sum Model
AHP: Analytic Hierarchy Process
 $p < 0.05$

CONCLUSIONS

The *weight sum model* multi-criteria methodology may be an appropriate instrument to assess the value and preferences of the stakeholders, either face-to-face or via internet. This approach can be used to assess hemodialysis centers, which may integrate divergent perceptions, create a context for improvement, and may have substantial implications in policy-making decisions.

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