

# Validation and Evaluation of Memorial Symptom Assessment Scale Short-Form (MSAS-SF) in a Romanian Cohort of Hemodialysis Patients

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## OBJECTIVES

1. Validation of the Memorial Symptom Assessment Scale (MSAS-SF) (1) in a Romanian hemodialysis (HD) population
2. To assess the prevalence and severity of physical and psychological symptoms of hemodialysis patients using the MSAS-SF
3. To determine the quality of life of HD patients, including two summary scores: physical component (PCS) and psychological component (MCS).

## METHODS

- ◆ **Seventy** hemodialysis patients were recruited for assessing the internal reliability of MSAS-SF.
- ◆ A different group of **102** stable patients (41 males, 61 females, mean age 52.51 ± 12.02), who were treated with hemodialysis three times weekly completed questionnaires on prevalence and severity of symptoms and quality of life.
- ◆ To determine symptoms prevalence and severity for HD patients MSAS-SF was used, while for determining the quality of life, patients completed the **Short Form Health Survey Questionnaire (SF-36)** (2).
- ◆ Cronbach's alpha reliability test was performed to assess internal consistency of the MSAS-SF.

## RESULTS

**Table 1: Ranking and frequencies of hemodialysis-related symptoms by MSAS-SF (n=102)**

Symptoms	Rank Ordering	Yes n (%)	No n (%)
Lack of energy	1	71 (69.6)	31 (30.4)
Pain	2	70 (68.6)	32 (31.4)
Worrying	3	67 (65.7)	35 (34.3)
Numbness/tingling in hands/feet	4	66 (64.7)	36 (35.3)
Difficulty sleeping	5	65 (63.7)	37(36.3)
Dry mouth	6	63 (61.8)	39 (38.2)
Feeling sad	7	61 (59.8)	41 (40.2)
Dizziness	8	60 (58.8)	42 (41.2)
Problems with sexual interest or activity	9	53 (52)	49 (48)
Feeling nervous	10	51 (50)	51 (50)
"I don't look like myself"	11	49 (48)	53 (52)
Difficulty concentrating	12	46 (45.1)	56 (54.9)
Sweats	13	45 (44.1)	57 (55.9)
Itching	14	43 (42.2)	59 (57.8)
Lack of appetite	15	42 (41.2)	60 (58.8)
Feeling irritable	16,5	41 (40.2)	61 (59.8)
Cough	16,5	41 (40.2)	61 (59.8)
Constipation	17	39 (38.2)	63 (61.8)
Hair loss	18	36 (35.3)	66 (64.7)
Swelling arms or legs	19	35 (34.3)	67 (65.7)
Feeling bloated	20	31 (30.4)	71 (69.6)
Shortness of breath	21	29 (28.4)	73 (71.6)
Feeling drowsy	22	26 (25.5)	76 (74.5)
Change in the way food tastes	23,5	25 (24.5)	77 (75.5)
Changes in skin	23,5	25 (24.5)	77 (75.5)
Nausea	24	24 (23.5)	78 (76.5)
Vomiting	25	22 (21.6)	80 (78.4)
Weight loss	26	19 (18.6)	83 (81.4)
Difficulty swallowing	27	12 (11.8)	90 (88.2)
Diarrhea	28	9 (8.8)	93 (91.2)
Mouth sores	29	7 (6.9)	95 (93.1)

**Table 3: The most frequent psychological symptoms**

Symptoms	Symptom is not present N (%)	Symptom is present but rarely occurs N(%)	Symptom is present and occurs occasionally N(%)	Symptom is present and occurs frequently N(%)	Symptom is present and occurs almost constantly N(%)
Worrying	35 (34.3)	23 (22.5)	20 (19.6)	19 (18.6)	5 (4.9)
Feeling sad	41 (40.2)	25 (24.5)	17 (16.7)	11 (10.8)	8 (7.8)
Feeling nervous	51 (50)	29 (28.4)	14 (13.7)	8 (7.8)	0
Feeling irritable	61 (59.8)	11 (10.8)	15 (14.7)	11 (10.8)	4 (3.9)

- ◆ The Cronbach's alpha reliability score for the total number of items of the MSAS-SF was **0.838**, while for the subscales of MSAS-SF the reliability scores ranged from 0.648 to 0.749. This means that subscales ranged from acceptable to very good.
- ◆ The top three memorial symptoms experienced by hemodialysis patients were **lack of energy** (69.6%), **pain** (68.6%), **numbness/tingling in hands/feet** (64.7%), **difficulty sleeping** (63.7%), **dry mouth** (61.8%), **dizziness** (58.8%), **problems with sexual interest or activity** (52%) (Table 2).
- ◆ The most frequent psychological symptoms included **worrying** (65.7%), **feeling sad** (59.8%), **feeling nervous** (50%), **feeling irritable** (40.2%) (Table 3). The mean physical component summary (PCS - Quality of Life) score was **51.78 ± 19.21**, and the mean mental component summary (MCS - Quality of Life) score was **61.38 ± 16.71**. No statistical relationship between biochemical parameters and MSAS-SF and QoL scores was found.

**Table 2: Reported physical symptoms**

Symptoms	Symptom is not present N (%)	Symptom is present but causes no distress N(%)	Causes a little bit of distress N(%)	Causes somewhat of distress N(%)	Causes quite a bit of distress N(%)	Causes very much of distress N(%)
Lack of energy	31 (30.4)	15 (14.7)	18 (17.6)	18 (17.6)	15 (14.7)	5 (4.9)
Pain	32 (31.4)	7 (6.9)	10 (9.8)	28 (27.5)	18 (17.6)	7 (6.9)
Numbness/tingling in hands/feet	36 (35.3)	4 (3.9)	11 (10.8)	18 (17.6)	21 (20.6)	12 (11.8)
Difficulty sleeping	37(36.3)	12 (11.8)	4 (3.9)	7 (6.9)	16 (15.7)	26 (25.5)
Dry mouth	39 (38.2)	11 (10.8)	17 (16.7)	17 (16.7)	10 (9.8)	8 (7.8)
Dizziness	42 (41.2)	9 (8.8)	23 (22.5)	8 (7.8)	11 (10.8)	9 (8.8)
Problems with sexual interest or activity	49 (48)	26 (25.5)	11 (10.8)	2 (2)	11 (10.8)	3 (2.9)
"I don't look like myself"	53 (52)	21 (20.6)	11 (10.8)	4 (3.9)	5 (4.9)	8 (7.8)
Difficulty concentrating	56 (54.9)	12 (11.8)	17 (16.7)	12 (11.8)	2 (2)	3 (2.9)
Sweats	57 (55.9)	6 (5.9)	14 (13.7)	9 (8.8)	10 (9.8)	6 (5.9)
Itching	59 (57.8)	4 (3.9)	15 (14.7)	10 (9.8)	3 (2.9)	11 (10.8)
Lack of appetite	60 (58.8)	18 (17.6)	10 (9.8)	9 (8.8)	2 (2)	3 (2.9)
Cough	61 (59.8)	12 (11.8)	14 (13.7)	7 (6.9)	4 (3.9)	4 (3.9)
Constipation	63 (61.8)	10 (9.8)	6 (5.9)	4 (3.9)	7 (6.9)	12 (11.8)
Hair loss	66 (64.7)	10 (9.8)	6 (5.9)	2 (2)	10 (9.8)	8 (7.8)
Swelling arms or legs	67 (65.7)	7 (6.9)	15 (14.7)	9 (8.8)	2 (2)	2(2)
Feeling bloated	71 (69.6)	9 (8.8)	7 (6.9)	3 (2.9)	7 (6.9)	5 (4.9)
Shortness of breath	73 (71.6)	4 (3.9)	7 (6.9)	11 (10.8)	1 (1)	6 (5.9)
Feeling drowsy	76 (74.5)	6 (5.9)	9 (8.8)	4 (3.9)	5 (4.9)	2 (2)
Change in the way food tastes	77 (75.5)	3 (2.9)	6 (5.9)	6 (5.9)	6 (5.9)	4 (3.9)
Changes in skin	77 (75.5)	11 (10.8)	4 (3.9)	2 (2)	6 (5.9)	2 (2)
Nausea	78 (76.5)	11 (10.8)	2 (2)	4 (3.9)	6 (5.9)	1 (1)
Vomiting	80 (78.4)	7 (6.9)	7 (6.9)	3 (2.9)	3 (2.9)	2 (2)
Weight loss	83 (81.4)	14 (13.7)	1 (1)	3 (2.9)	1 (1)	0
Difficulty swallowing	90 (88.2)	4 (3.9)	4 (3.9)	0	2 (2)	2 (2)
Diarrhea	93 (91.2)	2 (2)	1 (1)	2 (2)	1(1)	3 (2.9)
Mouth sores	95 (93.1)	4 (3.9)	15 (14.7)	10 (9.8)	3 (2.9)	11 (10.8)

## Conclusion

- MSAS-SF - a valid tool in the assessment of patients undergoing hemodialysis.
- The major concerns in HD patients were the **lack of energy**, **pain caused by symptoms** and **keep worrying** about everything in their life.
- HD patients have a **impairment** in their quality of life, especially in their **physical component**.

## References

1. Chang VT et al. The memorial symptom assessment scale short form (MSAS-SF) *Cancer* 2000 Sep 1;89(5):1162-71.
2. Ware JE Jr, Sherbourne CD. The MOS 36-item short-form health survey (SF-36). I. Conceptual framework and item selection *MedCare* 1992 Jun;30(6):473-83.

