

Psychometric Validation of the Integrated Palliative Care Outcome Scale in Greek: Pilot Study

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Background: The Integrated Palliative Outcome Scale (IPOS) is a well accepted valid and reliable instrument worldwide.

Methods: Data was collected in the palliative care unit GALILEE (home care and hospice) during September 2017 to June 2018. Inclusion criteria: cancer diagnosis with unstable, deteriorating or terminal disease phase, >18 years old, able to communicate and consented to participate. The 29 participants (response rate 61.7%) completed the Integrated Palliative Care Outcome Scale (IPOS), the Greek validated European Oncology Research and Treatment of Cancer-Palliative (EORTC-PAL) and Functional Assessment of Cancer Therapy-General (FACT-G), at admission (T₀) and one week later (T₁). A health care professional (HCP) completed separately a proxy version of the above scales at T₁. Demographic and clinical characteristics were also collected. The statistical significance level was set at 0.05.

Results:

15 HCPs completed the scales on the same day with patients. There was almost no missing data for IPOS assessments for both patients and HCPs.

Internal consistency assessed with Cronbach's alpha varied from .698 (T₀) to .702 (T₁) (patient's version) and .699 (HCP's version).

Overall IPOS patients' score was medium to strong correlated with Fatigue, Pain, and Appetite loss EORTC - PAL subscales and Physical and Emotional FACT-G subscales except Social Family Well Being (p<.050) at both measurements. Overall IPOS HCPs' score was medium to strong correlated with all Total/ subscales FACT-G and EORTC - PAL subscales scores (p<.050) except Insomnia and Constipation.

Most IPOS items (Pain, Shorten of Breath, Weakness-Lack of energy, Nausea, Vomiting, Poor appetite, Constipation, Poor mobility, Anxiety, Depression, Feeling at peace, and Share feelings) were medium to strongly correlated with similar EORTC-PAL (rho patient T₀ .37-.88, T₁ .37-.84, HCP .37-.91) and FACT-G (rho patient T₀ -.39 to -.72, T₁ -.37 to -.71, HCP -.34 to -.81) subscales (p<.050) except of Sore or Dry Mouth, Family Anxiety, Information and Practical Problems for both patients and HCPs.

Patients' demographic and clinical characteristics

| | N (29) (%) |
|--|-------------------|
| Sex | |
| Female | 18 (62.1) |
| Male | 11 (37.9) |
| Age (mean±SD) (range) years old | 65.5±13.9 (30-93) |
| Marital status | |
| Married | 17 (58.6) |
| Divorced | 6 (20.7) |
| Single | 3 (10.3) |
| Widow | 3 (10.3) |
| Education | |
| Basic | 8 (27.6) |
| University/ Technological | 4 (13.8) |
| No education | 2 (6.9) |
| Secondary education/ Highschool | 2 (6.9) |
| Other | 13 (44.8) |
| Cancer diagnosis | |
| Breast cancer | 6 (20.7) |
| Lung cancer | 6 (20.7) |
| Colon cancer | 5 (17.2) |
| Hematological cancer | 3 (10.3) |
| Urological cancer | 3 (10.3) |
| Gynaecological cancer | 2 (6.9) |
| Other | 4 (13.8) |
| Care setting | |
| Home Care | 20 (69.0) |
| Hospice | 9 (31.0) |
| Disease phase (T₀) | |
| Unstable | 27 (93.1) |
| Deteriorating | 2 (6.9) |
| Terminal | 0 (0.0) |
| Disease phase (T₁) | |
| Stable | 19 (65.5) |
| Unstable | 8 (27.6) |
| Deteriorating | 2 (6.9) |
| Terminal | 0 (0.0) |
| ECOG Performance status (T₀) | 2.5±1.1 (1-4) |
| (Mean ± SD (range)) | |
| Restricted (1) | 8 (27.6) |
| Ambulatory (2) | 3 (13.8) |
| Limited self-care (3) | 11 (37.9) |
| Completely disabled(4) | 6 (20.7) |
| ECOG Performance status (T₁) | 2.4±1.1 (1-4) |
| (Mean ± SD (range)) | |
| Restricted (1) | 8 (27.6) |
| Ambulatory (2) | 5 (17.2) |
| Limited self-care (3) | 11 (37.9) |
| Completely disabled (4) | 5 (17.2) |
| Days between measurements | 6.9±1.3 (5 - 9) |
| (Mean ± SD (range)) | |

SD Standard Deviation

Conclusions

This pilot study showed overall acceptable internal consistency, interrater and criterion validity for the IPOS Greek version but with limitations to address.

Authors have no potential conflict of interest to report

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Comparison of Patients' IPOS scores between first (T₀) and second measurement (T₁)

| IPOS | N | Time point T ₀ Mean (SD) | Time point T ₁ Mean (SD) | Difference Mean (SD) (95% CI) | p (paired) |
|--------------------------|----|--|--|-------------------------------|------------|
| IPOS Overall | 29 | 27.8 (8.9) | 23.3 (8.2) | -4.5 (8.5) -7.7 to -1.3 | .012 |
| Pain | 29 | 2.2 (1.3) | 1.9 (1.2) | -.30 (1.5) -.88 to .26 | .248 |
| Shorten of Breath | 29 | 1.0 (1.1) | .3 (.7) | -.70 (1.0) -1.1 to -.29 | .004 |
| Weakness- lack of energy | 29 | 2.3 (.9) | 2.1 (.9) | -.2 (1.3) -.74 to .25 | .311 |
| Nausea | 29 | .9 (1.3) | .7 (1.0) | -.20 (1.0) -.67 to .12 | .198 |
| Vomiting | 29 | .6 (1.2) | .3 (.7) | -.30 (.70) -.58 to -.04 | .030 |
| Poor appetite | 29 | 1.6 (1.2) | 1.3 (1.3) | -.30 (1.2) -.73 to .18 | .276 |
| Constipation | 27 | 1.6 (1.3) | 1.3 (1.3) | -.30 (1.2) -.70 to .26 | .319 |
| Sore or dry mouth | 29 | 1.4 (1.1) | 1.3 (1.1) | -.01 (1.3) -.58 to .44 | .772 |
| Drowsiness | 29 | 1.2 (1.2) | 1.4 (1.3) | .20 (1.3) -.25 to .73 | .475 |
| Poor mobility | 28 | 2.2 (1.3) | 1.9 (1.2) | -.30 (1.4) -.88 to 2.4 | .285 |
| Anxiety | 29 | 1.7 (1.3) | 1.8 (1.3) | .10 (1.4) -.43 to .64 | .646 |
| Family anxiety | 29 | 2.7 (1.3) | 2.0 (1.3) | -.70 (1.7) -1.4 to -.13 | .028 |
| Depression | 29 | 1.6 (1.2) | 1.4 (1.2) | -.20 (1.1) -.58 to .24 | .314 |
| Feeling at peace | 29 | 1.9 (1.3) | 1.7 (1.1) | -.20 (1.3) -.71 to .30 | .398 |
| Share feelings | 29 | 1.6 (1.3) | 1.6 (1.3) | 0.0 (1.8) -.67 to .67 | .951 |
| Information | 29 | 1.6 (1.5) | .9 (1.1) | -.70 (1.7) -1.4 to -.07 | .033 |
| Practical problems | 29 | 1.9 (1.5) | 1.7 (1.4) | -.20 (1.8) -.91 to .43 | .465 |

Agreement between patients' and health care professionals' IPOS category responses (0, 1-2, 3-4) at T₁

| | Patient No. | Patient Mean (SD) | Health care professional Mean (SD) | Agreement | | | rho* |
|--------------------------|----------------|----------------------|--|---------------|--------------------------------|--------------------------|------|
| | | | | Agreement (%) | Agreement within one score (%) | Weighted kappa (95%CI)** | |
| IPOS Overall | 29 | 23.3 (8.2) | 23.5 (7.4) | | | .89 (.77-.95)** | .72 |
| Pain | 29 | 1.9 (1.2) | 1.7 (1.1) | 75.8 | 86.7 | .58 (.26 - .90) | .75 |
| Shorten of Breath | 29 | .3 (.7) | .48 (.8) | 93.0 | 100.0 | .85 (.61- 1.0) | .83 |
| Weakness- lack of energy | 29 | 2.1 (.9) | 2.0 (1.0) | 75.8 | 84.2 | .54 (.20 - .89) | .73 |
| Nausea | 29 | .7 (1.0) | 0.6 (1.0) | 79.2 | 100.0 | .58 (0.27- .90) | .70 |
| Vomiting | 29 | .31 (.71) | .31 (.76) | | | - | .81 |
| Poor appetite | 29 | 1.3 (1.3) | 1.3 (1.4) | 67.8 | 72.7 | .47 (.14 - .80) | .74 |
| Constipation | 27 | 1.3 (1.3) | 1.1 (1.1) | 77.7 | 90.9 | .66 (.40 - .93) | .91 |
| Sore or dry mouth | 29 | 1.3 (1.1) | 1.1 (.97) | 72.4 | 87.5 | .51 (.18 - .83) | .64 |
| Drowsiness | 29 | 1.4 (1.3) | 1.1 (1.1) | 79.3 | 90.9 | .68 (.04 - .94) | .78 |
| Poor mobility | 28 | 1.9 (1.2) | 1.7 (1.2) | 64.3 | 80.0 | .44 (.10 - .78) | .59 |
| Anxiety | 29 | 1.8 (1.3) | 1.5 (1.0) | 68.9 | 100.0 | .42 (.10 - .74) | .59 |
| Family anxiety | 29 | 2.0 (1.3) | 2.4 (1.0) | | | - | .52 |
| Depression | 29 | 1.4 (1.2) | 1.9 (1.1) | 65.4 | 86.7 | .39 (.07 - .71) | .73 |
| Feeling at peace | 29 | 1.7 (1.1) | 1.8 (1.0) | 62.0 | 75.0 | .32 (.00 - .67) | .55 |
| Share feelings | 29 | 1.6 (1.3) | 1.8 (.93) | 55.1 | 71.4 | .24 (-.01- .58) | .45 |
| Information | 29 | .9 (1.1) | 1.3 (1.2) | 55.2 | 72.7 | .29 (-.003-.62) | .17 |
| Practical problems | 29 | 1.7 (1.4) | 1.5 (.99) | 62.0 | 88.2 | .23 (-.11-.57) | .41 |

SD Standard deviation, CI Confidence Intervals

*Statistical significant correlations (p<0.026) are highlighted



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