FAST FACTS AND CONCEPTS #444
PALLIATIVE PROGNOSTIC INDEX
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Background: Prognosis has long been recognized as one of three pillar tasks in clinical medicine along with diagnosis and treatment (1). It is essential for appropriate clinical decision-making, anticipatory guidance, resource utilization, symptom management, and goals of care for many progressive illnesses, including cancer (2,3). *Fast Facts* #124 and 125 review two prognostic tools for clinicians: the Palliative Prognostic Score (PaP) and Palliative Performance Scale (PPS) respectively. This *Fast Fact* will review the Palliative Prognostic Index (PPI), which combines elements of the PaP and PPS to offer validated prognostic information to clinicians specific for patients with advanced cancer.

Components of the PPI: The PPI utilizes the PPS along with 4 additional data points based on easily observable clinical information. Scores range from 0-15 and are a simple summation of the five criteria in the table below. Three statistically relevant scoring categories have emerged to divide patients into prognostic groups: a) a PPI score of <4 correlates with a likely survival of more than 6 weeks; b) 3-5: likely survival shorter than 6 weeks; c) ≥ 6: likely survival less than 3 weeks (4-6).

Criterion	Assessment	Partial Score
Palliative Performance Scale (PPS)	10-20: bedbound, total care, drowsy	4
	30-50: mainly in bed, considerable assistance, may be confused	2.5
	≥60: ambulating, able to care for self, awake and alert	0
Oral intake	Severely reduced (< mouthfuls/day)	2.5
	Moderately reduced (> mouthfuls/day)	1
	Normal	0
Edema	Present	1
	Absent	0
Dyspnea on exertion	Present	3.5
	Absent	0
Delirium	Present	1
	Absent	0

Validation, limitations, and the published evidence: In head-to-head comparison studies involving patients with advanced cancers (both solid and hematologic), the PPI has been shown to be more accurate at predicting 30-day mortality than clinician gestalt alone in a variety of care settings (e.g., home hospice, hospice or palliative care units, acute care settings) (4-9). *Most patients in these studies were not candidates for further systemic cancer treatments* (9). In one comparison study, the PPI performed comparably and yet was more feasible for clinicians to complete than the PaP and the delirium-specific-PaP, since it did not require serum or radiologic diagnostic information (10). It appears to be most accurate at predicting a short-term prognosis of either <3 weeks (score ≥6) or <6 weeks (score ≥4) (4-6). It likely is not better than clinician gestalt alone in determining chances of 100-day survival (6). It has not been studied in patients with non-cancer illness and it does not specifically account for the impact of comorbidities on prognosis. Calculating the PPI score over multiple days likely leads to more accurate prognostic information than a single calculation performed on the day of initial evaluation (11).

Interpreting PPI Scores: In the original study, PPI scores greater than 6.0 correlated with a survival of 3 weeks or less with a sensitivity of 80% and a specificity of 85% in terminally ill cancer patients admitted to a palliative care unit (4). Scores greater than 4.0 correlated with a survival of 6 weeks or less with a sensitivity of 80% and a specificity of 77% (4). Median survival was 155 days for scores ≤ 2; 89 days for scores >2 but ≤ 4; 18-21 days for scores > 4 but ≤ 6; and 5 days for scores > 6 (4,7). Online PPI calculating tools are available (https://www.mdapp.co/palliative-prognostic-index-ppi-calculator-402/). See *Fast Fact* #125 on how to determine the PPS since it is necessary to complete the PPI.

Summary regarding clinical utility of the PPI: PPI is an accurate prognostic tool for patients with advanced cancer who likely have a prognosis of few weeks. The strengths of the PPI include its ease of use and its inclusivity of the presence of delirium and edema. Current research limits its applicability to terminally ill patients with cancer.

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