A Choice-Based Conjoint Analysis Assessing Patient Preferences for Selected Features of Erythropoietic Agents: Results in an Elderly Population

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ABSTRACT

Background: A recent study has demonstrated that patients with solid tumors view effectiveness as a more important attribute of anemia treatment than convenience.1 As older Americans become a greater proportion of the population and as cancer predominantly affects older individuals, it is important to understand the priorities of Medicare-eligible patients concerning treatment attributes.

Methods: A cross-sectional study of adults (age ≥18) with solid tumors and anemia was conducted in patients recruited through 50 oncologists’ practices. A choice-based conjoint (CBC) section of a self-administered questionnaire assessed 2 attributes of anemia medications: effectiveness, defined as time to a noticeable relief of fatigue in 4, 6, or 8 weeks, and convenience, defined as 4, 6, or 8 provider visits during an 8-week period. Within each attribute, utilities were calculated using multi-nomial logit estimation and ranged from -1 to +1. This analysis describes results of the elderly subset (age ≥65).

Results: Of the total sample of 438 patients completing the CBC section of the questionnaire, 207 (47%) were ≥65 years (mean age 73.6 ± 5.9), with 56% women and 94% Caucasian. There was a statistically significant pattern of preference for 4-week over 6-week effectiveness (mean utility value of 0.53 vs 0.08, P<.001) and 6-week over 8-week effectiveness (0.08 vs -0.61, P<.001). In terms of visits, the mean utility value was found to be higher for 8 versus 6 visits (0.27 vs 0.06, P=.0563) and 6 versus 4 visits (0.06 vs -0.33, P<.001). Overall, time to effectiveness accounted for approximately two thirds of the total attribute importance, whereas the number of visits accounted for the remaining one third, making time to effectiveness twice as important in the patients’ choice as the number of visits over time.

Conclusions: Consistent with previously reported results for all ages, this subset of elderly cancer patients views effectiveness as a more important attribute of CIA treatment than convenience. In regard to visits, these patients prefer to be seen by clinicians more frequently rather than less.
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ABSTRACT

Background: A recent study has demonstrated that patients with solid tumors view effectiveness as a more important attribute of anemia treatment than convenience. As older Americans become a greater proportion of the population and as cancer predominately affects older individuals, it is important to understand the priorities of Medicare beneficiaries concerning treatment attributes.

Methods: A conjoint analysis study of adults (age ≥ 65) with solid tumors and anemia was conducted in patients recruited through 55 oncologists’ practices. A choice-based conjoint (CBC) section of an electronic questionnaire assessed 2 attributes of anemia medication: effectiveness, defined as the time in a 8-week period in which relief of fatigue occurred and convenience, defined as the number of provider visits over time. Within each attribute, utilities were calculated using multivariate logistic regression analysis with the relative importance of each attribute ranked.

Results: Of the total sample of 438 patients completing the CBC section of the questionnaire, 202 (46%) were aged ≥ 65 years (mean age: 73 ± 9 years), with 55% white and 34% Hispanic. There was a statistically significant pattern of preference for 4-week over 6-week effectiveness (mean utility value of 0.53 vs 0.08, P < .001) and 6-week over 8-week effectiveness (0.08 vs -0.61, P < .001). In terms of visits, the mean utility value was found to be higher for 4 versus 6 visits (0.27 vs 0.06, P < .001) and 4 versus 8 visits (0.06 vs -0.33, P < .001).

Conclusions: As older Americans become a greater proportion of the population and as cancer predominately affects older individuals, it is important to understand their priorities in CIA treatment attributes for the treatment of chemotherapy-induced anemia (CIA) in patients with cancer. Of the total sample of 438 patients completing the CBC section of the questionnaire, 202 (46%) were aged ≥ 65 years (mean age: 73 ± 9 years), with 55% white and 34% Hispanic. There was a statistically significant pattern of preference for 4-week over 6-week effectiveness (mean utility value of 0.53 vs 0.08, P < .001) and 6-week over 8-week effectiveness (0.08 vs -0.61, P < .001), and 8-week versus 4 visits (0.06 vs -0.33, P < .001).

OVERALL STUDY DESIGN

1) CIA Adults, age ≥ 65 years with solid tumors and anemia were recruited through 55 oncologists’ practices throughout the USA.

A choice-based conjoint (CBC) section, completed by 438 (98%) responders, of a self-administered questionnaire assessed 2 attributes of anemia medication:

1. Effectiveness: defined as – Noticeable relief of fatigue occurs within 4 weeks of starting treatment – Noticeable relief of fatigue occurs within 6 weeks of starting treatment – Noticeable relief of fatigue occurs within 8 weeks of starting treatment

2. Convenience: defined as – Requires 4 doctor visits over an 8-week period – Requires 6 doctor visits over an 8-week period – Requires 8 doctor visits over an 8-week period

DESIGN OF CURRENT SUBSET ANALYSIS

5) Respondents were included in the current analysis if they answered 8 of the 9 items (less than 9 to take into account for the proportion of respondents that did not answer all items)

6) The mean utility value was found to be higher for 4 versus 6 visits (0.27 vs 0.06, P < .001) and 8 versus 4 visits (0.06 vs -0.33, P < .001).

Overall, effectiveness accounted for approximately two-thirds (67%) of total attribute importance, whereas convenience accounted for the remaining one third (33%).

TABLE 1. Subsetting Population Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total Sample (N=438)</th>
<th>Age ≥ 65 Years (N=202)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (%)</td>
<td>55% white, 45% Hispanic</td>
<td>55% white, 45% Hispanic</td>
</tr>
<tr>
<td>Age (years)</td>
<td>73 ± 9</td>
<td>73 ± 9</td>
</tr>
<tr>
<td>Race (%)</td>
<td>187 (42%)</td>
<td>187 (42%)</td>
</tr>
</tbody>
</table>

TABLE 2. Average Utilities: Patient Preferences

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Mean Utility Value</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Week Effectiveness</td>
<td>0.53</td>
<td>0.32</td>
</tr>
<tr>
<td>6-Week Effectiveness</td>
<td>0.08</td>
<td>0.62</td>
</tr>
<tr>
<td>8-Week Effectiveness</td>
<td>-0.61</td>
<td>1.35</td>
</tr>
<tr>
<td>Convenience</td>
<td>0.27</td>
<td>1.30</td>
</tr>
<tr>
<td>Overall effect of 4-week over 6-week effectiveness (P &lt; .001) and 6-week over 8-week effectiveness (P &lt; .001)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data are from a large, prospective study of adults (age ≥ 65) with solid tumors and anemia recruited through 55 oncologists’ practices throughout the USA.

METHODS

1) A choice-based conjoint (CBC) section, completed by 438 (98%) responders, of a self-administered questionnaire assessed 2 attributes of anemia medication for the treatment of chemotherapy-induced anemia (CIA) in patients with cancer.

2) Within each attribute, utilities were calculated using multivariate logistic regression analysis with the relative importance of each attribute ranked.

3) Respondents were included in the current analysis if they answered 8 of the 9 items (less than 9 to take into account for the proportion of respondents that did not answer all items).

4) The mean utility value was found to be higher for 4 versus 6 visits (0.27 vs 0.06, P < .001) and 8 versus 4 visits (0.06 vs -0.33, P < .001).

Overall, effectiveness accounted for approximately two-thirds (67%) of total attribute importance, whereas convenience accounted for the remaining one third (33%).

REFERENCES