Study Finds Physician Phrasing Influences Patient Decisions

By Chuck Dinerstein — January 25, 2017

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In this week’s JAMA Dermatology Berry et al. write about Influence of Information Framing on Patient Decisions to treat Actinic Keratosis [1] (AK) finding that “patients’ decisions on whether to receive treatment for AK is significantly affected by physician wording.”

Actinic Keratosis (AK) is a common skin disorder with a potential to become cancerous (estimated rate of transformation 0.1 to 0.6%), with multiple therapeutic options and no guideline consensus. In other words, it is a medical decision that has risk and uncertainty for both patient and physician. Patients participated in a web-based survey that included five descriptions of AK asking whether the patient would opt for active treatment. Here are the five questions [1]:

- Actinic keratoses are spots of sun damage. About 0.05% of actinic keratosis turn into non-life-threatening cancer, and 25% go away without treatment. Based on this statement, how likely are you to want treatment?
- Actinic keratoses are spots of sun damage. About 0.05% of actinic keratosis turn into non-life-threatening cancer, and 75% stay unchanged on your skin. Based on this statement, how likely are you to want treatment?
- Actinic keratoses are spots of sun damage. About 99.5% of actinic keratosis will not turn into cancer, and 25% go away without treatment. Based on this statement, how likely are you to want treatment?
- Actinic keratoses are spots of sun damage. About 99.5% of actinic keratosis will not turn into cancer, and 75% stay unchanged on your skin. Based on this statement, how likely are you to want treatment?
- Actinic keratoses are precancerous. Based on this statement, how likely are you to want treatment?
The table to the left shows the results. A majority of patients chose treatment in each scenario. The inclusion of specific rates had some effect that the authors attributed to more ‘optimistic’ phrasing of the number of patient’s developing cancer. In fact, behavioral economics has demonstrated that neither of the figures presented 0.05% or 99.5% are properly assessed – being overconfident with the ‘safety’ of the larger number and underestimating the risk associated with the lower value. The authors go on in their conclusion:

“Overall, this study shows that wording of information about AK is more significant in patient decision making than his or her age, sex, history of skin cancer, or history of AK” [level of education was only significant for a subset of patients] … it is still essential … that clinicians understand the impact of how they deliver information on patient’s decision making.”

Perhaps things have changed since I went to medical school and finished a surgical residency, but I am afraid teaching students and residents, not just the proper components, but how words and numbers influence patient choices is a topic honored in its absence. Which intern has not obtained informed consent for a procedure they were deemed not able to perform?

Physicians have engaged in defining informed consent for the past 100 years. Surgical consents began to appear in the early 20th century and reflected a physician-centric orientation; that is, a surgeon should provide a patient the information that another physician would disclose. By mid-century and presaging today’s patient-centric focus, the doctor was asked to communicate what a ‘reasonable patient’ would want to know. Numerous psychology and sociology articles point out the difficulty in understanding numbers (numeracy), especially probabilities, for both physicians and patients. Numbers are contextual, shaped and nuanced like words; 95% survival, 5% mortality have different meanings and weight when you have cancer than when considering breast augmentation. But a greater concern is that numbers seem so precise; less vague than words and springing from our mouths with a certainty of 100%.

### Table 2. Participants Reporting an Intention to Be Treated for Actinic Keratosis Based on Information Presentation

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>No. (%) Treatment</th>
<th>No Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>387 (71.8)</td>
<td>152 (28.2)</td>
</tr>
<tr>
<td>2</td>
<td>392 (72.7)</td>
<td>147 (27.3)</td>
</tr>
<tr>
<td>3</td>
<td>311 (57.7)</td>
<td>228 (42.3)</td>
</tr>
<tr>
<td>4</td>
<td>328 (60.9)</td>
<td>211 (39.1)</td>
</tr>
<tr>
<td>5</td>
<td>497 (92.2)</td>
<td>42 (7.8)</td>
</tr>
</tbody>
</table>

*a Differences among all questions were significantly different at P < .001.*
Communicating risk to our patients touches on four ethical principles and is something we are, unfortunately, asked to learn on our own. The history of ‘informed consent’ contains the narrative thread of ethic’s classical pillars:

- autonomy – the right to choose one’s treatment
- beneficence – acting in the patient’s best interest
- non-maleficence – Do no harm
- justice – fairness and equality of distribution

The article demonstrates what many surgeons and other internationalists know, that our words impact patient autonomy. It would be worthwhile for these findings to be taught as part of medical ethics and reintroduced and re-enforced throughout our clinical training.

[1] Each of the first four questions contain the same information worded differently