

LETTER TO THE EDITOR

Information Needs and Internet Use of Breast Cancer Survivors in Mexico

To the Editor:

Information seeking is critical for the decision making of cancer survivors. Although health information obtained from physicians is still the preferred and most trusted source (1), up to two-thirds of cancer survivors obtain health information from online resources (1,2). Data from developed countries show that up to 50% of breast cancer (BC) survivors use the Internet as a source of information and that it is more frequently used by young women with higher educational levels (3). However, data regarding the uptake of online information in low- and middle-income countries (LMICs) are scarce. In contrast with the USA, where 87.4% of the population has access to the Internet (4), in Mexico this figure is only 49% (5). Knowing which resources have the best availability and preferred by survivors in different settings is important for creating successful culture-specific information resources.

To understand the demographic factors affecting the information-seeking practices of BC survivors in Mexico, we conducted a cross-sectional study using a self-administered survey among women with a BC diagnosis undergoing treatment or follow-up at the Breast Cancer Clinic of the National Cancer Institute (INCAN) in Mexico City. IRB approval for the study was obtained. A 10-item survey was designed (Data S1) and validated by an expert panel, and administered at the time of patients' appointments at INCAN's BC Clinic. The survey included demographic variables such as age, occupation and level of education. Data regarding Internet use and access (e-mail, social networks, tablet, and/or smartphone use) and need for information sources (printed and online materials) were also obtained. Women were asked which aspects of BC they would like to see highlighted

in online educational resources using a single open question, and answers were then categorized. Survivors were divided into three age groups: ≤40 years old, 41–64 years old and ≥65 years old. We used chi-squared test or Fisher's Exact Test to compare the groups and Student's *t*-test to detect differences in information needs, with a two-sided *p* < 0.05 considered as statistically significant. XLSTAT 2015.1 (Addinsoft, New York, NY) statistical software was used for analysis.

A total of 325 women were invited to participate, and 310 completed the survey. Median age at the time of the survey was 47 years (range 19–87 years). 52.6% of respondents (*n* = 163) had Internet access. Characteristics by age group are summarized in Table 1. Women ≤40 years old were more likely to have Internet access (*p* < 0.0001), an e-mail account (*p* < 0.0001), a social network profile (*p* < 0.0001) and tablets and/or smartphones (*p* < 0.0001). Although most participants said they would like to have additional information on BC, this was lower for those ≥65 years of age. When survivors were asked about their preferred information format, 94.5% (*n* = 241) believed printed materials should be available, while 93.2% (*n* = 287) thought online resources would be useful. Women ≥65 years of age were significantly less likely to believe online resources would be useful (*p* = 0.01) and less interested in having a forum to contact other survivors (*p* < 0.01) (Table 1). The most important specific information survivors would like to see addressed in an online resource was diet and exercise, followed by issues related to survivorship, treatment, prognosis, risk factors, and symptoms. Women ≤40 years of age were more interested in learning about the adverse effects of treatment (12.4 versus 3%, *p* < 0.001), but there was no difference between age groups regarding other aspects of perceived information needs.

Although printed materials are still the preferred information source, most of the surveyed women, despite having a low educational background and poor access to the Internet, expressed interest in

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DOI: 10.1111/tbj.12747

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The Breast Journal, 2016 1–3

Table 1. Characteristics According to Age Group

Characteristic	Age group			p
	≤40 (n = 113)	41–64 (n = 135)	≥65 (n = 62)	
Unemployed	63%	70%	87%	<0.001
Less than middle school education	9%	32%	68%	<0.001
Has Internet access	75%	50%	18%	<0.001
Has an email account	67%	40%	15%	<0.001
Owns a tablet or smartphone	80%	55%	21%	<0.001
Has a social network profile	73%	34%	8%	<0.001
Would like to have additional information on breast cancer	97%	95%	87%	0.012
Would find printed materials useful	96%	96%	90%	0.20
Would find online materials useful	97%	94%	84%	0.001
Would like to be in touch with other survivors online	88%	85%	45%	<0.001

Values in bold are statistically significant.

obtaining BC information online. Older women were less likely to prefer online resources over printed materials, and young women placed more value on interaction with other survivors. In general, perceived information needs did not differ greatly between age groups and most of the women surveyed felt they needed additional information. This is relevant because lack of information has been identified as one of the main barriers for adequate access to appropriate medical attention in Mexico (6). The proportion of women with Internet access in our sample was remarkably close to that reported for Mexico (5). This is lower than in high-income nations and should definitely be taken into account when designing information strategies in LMICs. Interestingly, although half of the surveyed women lacked Internet access, most expressed interest in obtaining online information. This was particularly notable for older survivors, who despite having an Internet access rate of 18%, were highly interested in online information. Our results show that BC survivors are more interested in obtaining information on issues related to survivorship and lifestyle, such as diet, exercise, prognosis, and quality of life, than in those related to cancer treatment. Previously published studies have also found this phenomenon and have attributed it to a paternalistic patient–physician relationship, in which the physician's decisions regarding treatment are seldom questioned (3). Younger women showed more concern toward adverse effects of treatment, which could suggest a more active involvement in their care. It is important to emphasize that although online

information may improve disease management (7), this largely depends on the quality of the information obtained, which is highly variable. Unfortunately, the quality of BC websites in Spanish has not been evaluated, and thus we ignore the quality of the information obtained by BC survivors in Latin America.

Providing survivors with resources addressing their information needs is essential and we should strive to accomplish this goal. In developing countries with low Internet access, emphasis should still be placed on patient–physician communication and printed materials. Nonetheless, the large interest in online information found in this study stresses the need to create online resources containing high quality information successfully targeting the needs of survivors across all age groups.

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SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article:

Data S1 Information-seeking practices survey.

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