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Untreated breast masses: A cross sectional countrywide survey of Nepal

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Adequate access to healthcare is crucial to deliver a comprehensive, systematic diagnostic evaluation of a breast mass. Though the etiology of breast masses is vast, including both benign and malignant causes, a missed diagnosis of breast cancer should never occur in any part of the world. Globally, breast cancer is the most frequently diagnosed malignancy, accounting for about 10% of all malignancies detected in both men and women; 45% of the more than 1 million incident cases of breast cancer annually and 55% of breast-cancer related deaths occur in low and middle-income countries (LMICs).¹² Case fatality rates from breast

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cancer are higher in LMICs than in high-income countries, perhaps from scarcity of preventive care facilities and lack of awareness.³

The prevalence of breast cancer in developing countries, however, is not known. To address this, a recent study reported population-based data using the Surgeons OverSeas Assessment of Surgical Need (SOSAS) survey tool showing a prevalence of breast masses in women in Rwanda and Sierra Leone of 4.4% and 3.3% respectively.⁴ However, similar data is lacking outside of sub-Saharan Africa. Our objective is to report the prevalence of undiagnosed breast masses in the women of Nepal, a low-income country in South Asia.

A countrywide survey was administered in Nepal using SOSAS, a validated population based survey of surgical needs, from May 25th to June 12th, 2014. Two-stage sampling was performed. Fifteen of the 75 districts of Nepal were randomly chosen proportional to population. In each district, three clusters, after stratification for rural and urban, were randomly selected. In total, 1,350 households and 2,695 individuals were interviewed. As part of the survey, responses were noted to the presence and duration of a breast mass, health-seeking behavior and access to surgical care for this problem; women older than 18 were included in this study.

A total of 2,695 individuals were surveyed with a response rate of 97%. Of the 955 women over age 18 surveyed, 15 reported a breast mass (1.6%, 95% CI 1.0% to 2.6%). The youngest was age 22, the eldest age 75; mean age was 39.7 (SD 12.7). Demographic data of respondents with breast masses is reported in Table 1. Eight had a mass for over one year, 3 for one year or less and 4 for less than one month. Eight had sought healthcare and for these, 3 had a minor procedure performed. The remaining 5 did not receive surgical care due to no need (n=1), fear/no trust (n=3) and no money (n=1). Of the 7 who did not seek healthcare, reasons included: no need (2) and fear/no trust (5). Excluding those who did not perceive a need for healthcare, a total of 9 women had an unmet surgical need for a breast mass, with fear/no trust noted as the main barrier to care (n=8). Using the most recent population estimates for 2014, extrapolations show that potentially 69,900 women aged 25 and above in Nepal may have undiagnosed breast masses that require at least a surgical consultation.⁵

Untreated breast masses affect a significant number of women in Nepal and the true prevalence likely exceeds our estimates, which are based on self-reported data. Urbanization, improving life expectancy and better lifestyle are increasing breast cancer incidence in developing countries.¹² Particularly in Nepal, in addition to the increasing prevalence, a predominance of early-onset, premenopausal, aggressive, estrogen-receptor-negative disease, in concert with a commonly late stage at diagnosis, can potentially increase the years of life lost in Nepal.^{6,7,8}

A study assessing breast cancer knowledge and practices amongst Nepali women suggests that overall, Nepali women have many misconceptions regarding breast masses. More than half of the study participants were unaware of the non-lump symptoms and painless nature of breast cancer and further, a third of the study participants were uncertain or actually believed that one can be immune to breast cancer or that traditional health care can cure breast cancer.⁸ These findings parallel the results from Rwanda and Sierra Leone, which

reveal that most respondents with a breast mass did not seek medical attention given that the breast mass caused no disability and overall 36.8% of women who reported masses consulted traditional healers only.⁴

While not all breast masses are malignant, efforts to improve confidence in the Nepali health system are needed so that women will seek out medical care and benefit from increased awareness, screening, diagnosis and treatment of breast diseases. Carefully designed breast cancer programs, integrated with pre-existing women's healthcare programs, may help improve screening practices in Nepal. As more countries modernize, the risk factors and incidence of breast cancer will follow suit; health systems in low-resource countries such as Nepal should promote increased education and screening, as early detection of breast masses should be a primary goal worldwide.

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Table 1

Demographics of women with breast masses

Demographic	N (%)
Mean age	39.67 years (95% CI 32.6 to 46.7)
Age categories (n=15)	
0–19	0 (0.0%)
20–29	2 (13.33%)
30–39	4 (26.67%)
40–49	4 (26.67%)
50–59	1 (6.67%)
60–69	0 (0.0%)
70–79	1 (6.67%)
	15 (100%)
Education (n=15)	
None	7 (46.67%)
Primary school	4 (26.67%)
Secondary school	3 (20.0%)
Tertiary school	1 (6.67%)
Graduate school	0
	15 (100%)
Literacy (n=15)	
Literate	8 (53.33%)
Illiterate	7 (46.67%)
	15 (100%)
Occupation (n=15)	
None	1 (6.67%)
Homemaker	9 (60.0%)
Domestic helper	0 (0.0%)
Farmer	1 (6.67%)
Government employee	0 (0.0%)
Non-government employee	1 (6.67%)
Self employed	3 (20.0%)
	15 (100%)
Breastfeeding (n=14)	
Yes	1 (7.14%)
No	13 (92.86%)
	14 (100%)
Menstrual cycle last year (n=15)	
Yes	12 (80.0%)
No	3 (20.0%)

Demographic	N (%)
	15 (100%)
Timing of breast mass	
< 1 month	4 (26.67%)
1–12 months	3 (20.0%)
> 12 months	8 (53.33%)
	15 (100%)
Mass currently present	
Yes	12 (80.0%)
No	3 (20.0%)
	15 (100%)