“When I found out I had cancer, at first I was scared. It ended up shocking me a lot, and I ran to my room and cried,” says James, 15, of Akron, Ohio. James was diagnosed with Ewing sarcoma when he was 13 years old. He says he cried for about five minutes before telling his parents to stay positive because he was going to get through this. He did not know at the time that Ewing sarcoma is an aggressive cancer, but he lives in a high-resource setting. The fact that he both said and felt he would survive, provides a stark contrast to how many people living in resource-poor settings might react to the news that they have cancer. In low-resource settings, many people do...
Above and Right: Ho Chi Minh City Oncology Hospital, Vietnam. Chemotherapy waiting area, Ho Chi Minh City Oncology Hospital, Vietnam. This hospital is one of the major oncology centers for the country with 1,500 beds and upwards of 3,500 patients in house at any time, meaning multiple patients share beds or sleep on the floor under the beds. There are only 4-6 chairs available in the chemo waiting area, so everyone piles onto the staircase where they patiently wait their turn.

Left: Ocean Road Cancer Institute, Dar es Salaam, Tanzania. This is the children’s unit at the Ocean Road Cancer Institute (ORCI) in Dar es Salaam, Tanzania. ORCI is the only specialized cancer facility for treatment in Tanzania. At the time this photo was taken in 2011, it was the only public hospital to provide chemotherapy and radiation for 49 million Tanzanians. The hospital had 100 beds, 2 cobalt radiation machines and there were only 4 oncologists to serve the entire country. They had no ultrasound equipment, no cat scan, or blood bank, no MRI, only x-rays to diagnose and treat.
When Rosemary Okeyo of Nairobi, Kenya, first learned she had breast cancer, she considered it a death sentence and refused all treatment. Though her sister-in-law convinced her to begin chemotherapy, Rosemary wasn’t sure she would continue with her treatment, because everyone she had ever known who has had cancer had died. She had never met a cancer survivor. She thought, “Why spend all this money on treatment when I am going to die anyway”?

Cancer is a leading cause of death worldwide. Based on the 2012 GLOBOCAN report, that year alone saw more than 14.1 million new cancer cases and 8.2 million cancer-related deaths globally. Low- and middle-income countries (LMICs) carry the weight of these cancer cases. Africa, Asia, Central America, and South America account for more than 60% of the world’s total cancer cases and more than 70% of the world’s cancer deaths. In many LMICs, the mortality rate for cancer is 70%-80%. Sadly, only about 5% of all resources devoted to cancer care globally find their way to these regions. As a result, in many of these countries, cancer treatment and prevention services are lacking, with some countries having no specialized cancer care at all. Additionally, many cancers go undiagnosed because there is little to no access to diagnostic care. Even if medical laboratories are within reach, they are often so understaffed that by the time the cancer has been diagnosed, it has already spread and cannot be treated. For example, 22 countries in Africa have no access to radiation therapy. When a patient in one of these countries is diagnosed with cancer and needs radiation, he or she must travel to another country to access treatment, something most people in these areas cannot afford to do.

Additional challenges exist related to the field of pathology and laboratory science in LMICs. Many medical laboratories are not fully or properly equipped, or do not have properly trained staff, and the general population may not be aware of the crucial role pathology and laboratory medicine play in patient care. In any setting, understanding and knowing pathology reports are key to empowering patients, caregivers, and advocates. In certain countries, even medical professionals may not fully understand or appreciate the importance of pathology and laboratory medicine. This is due to a lack of visibility of the field, and that lack of understanding may be influenced by cultural beliefs or customs. In these circumstances, doctors may diagnose patients without the use of the laboratory, with dire consequences. It is therefore essential to educate medical professionals about the crucial role pathology and laboratory medicine play in health care.

Furthermore, these countries may only have a handful of trained oncologists as well as overly burdened primary care physicians who are not necessarily well trained in cancer screening or treatment pathways. This can lead to delayed diagnosis and treatment. When a patient does choose to seek treatment, tremendous health literacy gaps often exist between patients and their healthcare providers.
providers. Differences in health literacy may contribute to health disparities and affect health outcomes and healthcare costs. Often, healthcare providers in LMICs are overburdened and have little time to educate patients about their disease, leaving them uniformed and frightened about their diagnosis, treatment, and future. Often no professional psychosocial support is available for the patient or caregivers, leaving a huge void in support and access to information about treatment concerns. This lack of awareness and education, combined with local myths and stigma, also contributes to delays in diagnosis and lack of adherence to treatment. Another major factor in seeking care and adhering to treatment plans in low-resource settings is the financial burden a diagnosis of cancer generally brings with it. Many people in these settings do not have health insurance, so they only access health care when absolutely necessary, another aspect leading to the high rate of late-stage diagnosis. Extremely high costs associated with cancer treatment can cause financial catastrophe for a patient and his or her family, and prove to be a yet another major barrier to early cancer diagnosis and treatment. However, enormous economic burdens are also associated with a death in the family, whether related to cancer or not. LMICs often suffer from limited access to medications for life-saving treatment and pain management, as their governments cannot effectively and affordably purchase these medications. Palliative care services are also lacking, both in terms of access to palliative specialists and medication for pain relief. All of these factors combine to create enormous barriers to timely and effective treatment that might lead to a positive outcome for a patient. One could argue that a person’s prospects for surviving cancer are directly related to the prosperity of the country he or she lives in, and that country’s investment in its healthcare system.

An effective way to deliver information about pathology, and cancer in general, to the public is through educational videos. It is important when creating these videos to take into consideration local languages, customs, and cultures. Another way is through patient advocacy, in which advocates support patients by helping them understand their laboratory results and treatment options. Patient outreach is another valuable tool to provide patients and caregivers with a wide range of information, education, and local resources. The most effective patient outreach includes information about pathology and laboratory medicine in order to provide a more holistic understanding of patient care. In any setting, patient outreach should revolve around multiple forms of media, such as pamphlets and videos, to deliver information that accommodates all levels of literacy. Educational centers not only provide a resource for those who have questions about their own care or the care of their loved ones, but may also provide emotional support and networking opportunities. Such centers, if available, can create the space for support groups and a starting point for those who want to get involved in creating high-quality care worldwide.

Rosemary had decided to stop her treatment, until she happened to meet an American cancer survivor who shared her cancer story with her. Meeting a cancer survivor for the first time motivated Rosemary to continue with her treatment, as now she knew survival was indeed possible.

In all resource settings, it is vital to provide appropriate cancer education, awareness, and support materials to patients, caregivers, and clinicians in order to empower them to make the critical decisions necessary to improve patient diagnostics and outcomes.

References


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