abstract

6

Financial Toxicity Among Older Mexican Adults With Cancer and Their Families: A Mixed-Methods Study

Sofia Sánchez-Román, PhD¹; Yanin Chavarri-Guerra, MD, MSc²; Ingrid Vargas-Huicochea, MD, MSc, PhD³; Asunción Alvarez del Río, MA, PhD³; Pilar Bernal Pérez, PhD³; Andrea Morales Alfaro, MD⁴; Daniela Ramirez Maza, BA¹; Andrea de la O Murillo, MD²; Diana Flores-Estrada, MD⁵; Oscar Arrieta, MD, MSc⁵; and Enrique Soto-Perez-de-Celis, MD, MSc, PhD⁴

PURPOSE The financial toxicity (FT) of cancer is common among older adults in high-income countries, but little is known about the financial hardships faced by older patients with cancer living in developing countries. The aim of this study was to explore the financial burden of cancer among older Mexican adults and their relatives, as well as factors that might mitigate such burden.

METHODS This mixed-methods study included patients age 65 years and older with the 10 most common malignancies in Mexico and 3-24 months from diagnosis at two cancer centers in Mexico City and their relatives. For the quantitative component, patients and relatives answered the Spanish version of the Consumer Financial Protection Bureau Financial Well-Being Scale. Patients completed the Comprehensive Score for Financial Toxicity-Functional Assessment of Chronic Illness Therapy (COST-FACIT) scale and a 3-month, self-reported cost diary. For the qualitative component, focused interviews were used to explore the individual experiences of patients and their relatives.

RESULTS Ninety-six patients and their relatives were included, of whom 45% had stage IV disease. On the COST-FACIT scale, 9% reported no FT, 52% mild FT, 39% moderate FT, and 0% severe FT. The mean Consumer Financial Protection Bureau Financial Well-Being Scale score was 45.2, with 78% reporting poor financial well-being (score \leq 50). On cost diaries, most expenses were associated with purchasing medications, including chemotherapy. Focused interviews showed that most patients and relatives had to acquire debt to face costs of cancer care.

CONCLUSION A high proportion of Mexican older adults with cancer reported FT and poor financial well-being. Understanding experiences associated with FT and strategies to mitigate it represents an essential first step to design public policies aimed at protecting older adults with cancer and their families from catastrophic spending.

JCO Global Oncol 8:e2100324. © 2022 by American Society of Clinical Oncology

Creative Commons Attribution Non-Commercial No Derivatives 4.0 License @

INTRODUCTION

The financial toxicity (FT) of cancer care is a broad term which encompasses expenses incurred by patients after a cancer diagnosis and their impact on personal and family budget. FT represents a new type of adverse event in oncology because of its potential to impact physical, social, and emotional functioning, hamper treatment adherence, and cause impairments in the quality of life of both patients and their relatives.^{1,2}

Older adults with cancer have an increased risk of FT when compared with older adults diagnosed with other chronic diseases.² Studies conducted among older adults with cancer in the United States have found that approximately 20% of patients with advanced cancer age 70 years and older report FT³ and that financial problems are a risk factor for distress and poor self-perceived health.⁴ Importantly, these studies have

been conducted among patients with Medicare coverage in the United States, so they mainly reflect outof-pocket health-related expenses.

Although the financial burden of cancer represents a key cancer control problem in low- and middle-income countries (LMICs), few studies have explored this issue in developing regions of the world, such as Latin America, and none have explored it specifically in older adults. Approximately 50 million older adults live in Latin America, with some countries, such as Uruguay, Argentina, or Cuba, having a proportion of older adults of over 15%.⁵ In Mexico, the second most populous country in Latin America, the proportion of people age 65 years and older is currently 6.5% only. However, approximately half of all new cancer cases and deaths occur among this population, and this will increase to > 60% by 2035.⁶ Unfortunately, the limited health care coverage for older patients with

Author affiliations and support information (if applicable) appear at the end of this article.

Accepted on February 3, 2022 and published at ascopubs.org/journal/ go on March 14, 2022: D0I https://doi. org/10.1200/G0.21. 00324



CONTEXT

Key Objective

How do older adults with cancer from a low- and middle-income country and their families experience financial toxicity (FT)? **Generated Knowledge**

More than 90% of participants reported some form of FT. About 70% of patients had access to public health care, but most decided to take private consultations to avoid any delay in their medical care. Main causes for FT were pre-existing financial hardships, delayed diagnosis leading to multiple medical consultations and diagnostic studies, health care system–related barriers for accessing cancer care, and the high cost of medication. Potential solutions to mitigate FT include financial support programs for older individuals, and public policies addressed to support caregivers.

Relevance

Individual experiences associated with the FT of cancer among older adults living in low- and middle-income countries and their relatives may be different from those suffered in more economically developed countries. Their knowledge is important to design public policies aimed at protecting them.

cancer represents a critical problem in Mexico and in other LMICs.⁷ In contrast with most developed countries, many LMICs lack public insurance programs aimed at protecting older adults and their families from catastrophic expenses.^{7,8} In Mexico, 50% of the population lack public or private insurance (the former only covers 5% of Mexicans), and government-funded cancer coverage schemes provided to this sector of the population only include a limited set of tumors and interventions, leading to high outof-pocket spending and financial burden for many Mexicans facing a cancer diagnosis. Unfortunately, this situation is mirrored across Latin America and globally.^{7,9-11} Furthermore, because of a limited availability of pensions and social protection schemes, most older patients in LMICs are financially dependent on their family, which means that the FT of cancer generates an amplifying effect, in which the economic stability, productivity, and income of entire generations are affected.^{12,13}

Although research on the financial burden of cancer has become increasingly common in the United States, there is a lack of information about its impact on people living in LMICs.¹⁴ Additionally, available literature provides little guidance on how to address the financial burden of cancer in older adults, as well as the impact this might have on their families.^{14,15} The aim of this study was to explore and analyze the financial burden of cancer among older Mexican adults and their families and/or caregivers, as well as the factors which might mitigate that burden. Our hypothesis was that a diagnosis of cancer in older adults living in LMICs causes significant FT for patients and their relatives/caregivers, including loss of employment and decreased productivity.

METHODS

Study Design, Setting, Participants, and Procedure

We performed a mixed-methods, multicentric, crosssectional study with a nonprobabilistic sampling design. To make the sample for the quantitative component as

representative as possible, we aimed at including 96 outpatients age 65 years and older with a diagnosis of the 10 tumors with the higher incidence in Mexico among older adults (age 65 years and older) according to the 2018 GLOBOCAN database¹⁶ (Fig 1), and within 3-24 months from diagnosis at two public hospitals in Mexico City. Considering that approximately 72,792 patients age 65 years and older are diagnosed with cancer yearly in Mexico and assuming a 50% prevalence of FT, a sample size of 96 participants would estimate the true population proportion with a margin of error of 0.1 and a confidence level of 95%. Eligible patients needed to have at least one relative who acted as their main informal caregiver and who accepted to participate. Consecutive patients fulfilling inclusion criteria were approached by the research team until the quota for each of the tumors was completed. Patients and relatives answered a series of survey instruments measuring the FT of cancer (see below) using two modalities: (1) face-to-face or (2) remotely through videoconferencing (after COVID-19 pandemic restrictions were implemented).

For the qualitative component, interviews with 25 patients (selected from the 96 patients included for the quantitative component) and their relatives were conducted. Patient selection for the qualitative component followed the same proportion of tumor types included in the quantitative component. The methodological orientation and theory were based on a phenomenological approach to investigate and describe the individual experience of each patient and relative/caregiver.¹⁷ Interviews and analyses were conducted by psychologists with MS or PhD degrees, with previous training and experience on conducting qualitative research in mental health and chronic diseases, including focused and semistructured interviews. Interviews were conducted face-to-face in a room at the outpatient psychology clinics at our Institution or through videoconferencing (Zoom or WhatsApp video call). Interviews were audio recorded and transcribed for analysis.



FIG 1. Top 10 most common cancers among older adults age 65 years and older in Mexico according to GLOBOCAN 2018.

The investigation was carried out in accordance with the latest version of the Declaration of Helsinki, the project was approved by the local Institutional Review Board, and all participants provided informed consent.

Quantitative Measures

Comprehensive demographic information including age, sex, marital status, education, employment status, income, health, and health insurance coverage was collected using an electronic questionnaire. Medical records were reviewed to collect information regarding diagnosis and staging.

The quantitative aspect of FT was assessed using the Spanish version of the Comprehensive Score for Financial Toxicity-Functional Assessment of Chronic Illness Therapy (COST-FACIT) (Version 2), a 12-item, 5-category, Likert-type scale survey ranging from 0 to 44 points. This instrument includes objective and subjective questions about financial stress and work-related issues. Scores \geq 26 mean no impact on guality of life (grade 0), 14-25 mild impact (grade 1), 1-13 moderate impact (grade 2), and 0 high impact (grade 3).^{18,19} To assess the capability of undertaking unexpected expenses, the impact of financial constraints over daily activities and personal well-being, and future financial prospects from both patients and caregivers, the Spanish version of the Consumer Financial Protection Bureau (CFPB) Financial Well-Being Scale was used. This is a 10-item (range 0-100 points) instrument in which lower scores represent worse financial well-being.²⁰ Out-of-pocket spending for the previous 3 months was quantified using self-reported cost diaries completed by the patients and their relatives/caregivers with help from a research team member.

Qualitative Measures

A previously developed interview guide was used to perform the focused interview. This guide included questions on physical, cognitive, psychological, and economic aspects faced by patients and relatives/caregivers. The interview explored various categories related to the impact of the financial burden of cancer including (1) patient and familylevel variables, (2) social and cultural norms which might influence the patient and/or relatives/caregivers, and (3) societal and national factors related to available instruments for supporting the patient and the relatives/caregivers. Various financial and economic factors were assessed, including employment, existing debt, available assets, consequences of the disease on current/future employment opportunities, and availability of insurance and/or economic support from foundations and/or other institutions. Specific out-of-pocket expenses were also evaluated, as well as the effect of those expenses on the provision of basic needs, including supplies and services. Finally, we asked patients and relatives/caregivers to discuss strategies used to mitigate the financial burden of cancer, including the utilization of existing governmental or nongovernmental social programs, and potential solutions or interventions they may consider useful for decreasing such burden.

Analyses

Descriptive statistics were used on the basis of the level of measurement of the variables, measures of central tendency, dispersion of continuous variables, and frequency and percentage of categorical variables. All statistical analyses were conducted using IBM SPSS Statistics for Windows, Version 20.0 (IBM Corp, Armonk, NY). For the qualitative component, we conducted a descriptiveanalytical procedure which included categorization and coding, ordering and classification, establishing relationships, establishing causal networks, and interpretive models.²¹

RESULTS

Between January 2020 and January 2021, a total of 96 patients fulfilled the preplanned inclusion criteria, and 96 relatives (one per patient) were recruited and completed at least the quantitative component. The median age was 72.1 years (standard deviation [SD] 6.1 years), and 40.6% (n = 39) were female. Almost two-thirds (63.5%, n = 61) had high school education or less, 29.2% (n = 28) were not partnered, and 30.2% (n = 29) had no type of public or private insurance coverage. The mean monthly income per patient was 122.6 US dollars (USD; SD 341.5), and the mean number of individuals contributing to that income was 1.7 (SD 1.5). Regarding tumor types, inclusion was as planned, with 33.3% (n = 32) of participants having prostate cancer, followed by colorectal (13.5%, n = 12), breast (12.5%, n = 12), lung (10.4%, n = 10), liver (8.3%, n = 8), gastric (7.3%, n = 7), pancreatic (5.2%, n = 5), endometrial/ovarian (5.2%, n = 5), lymphoma (3.1%, n = 3), and cervix uteri (1%, n = 1) cancers. For the reporting of the results, and for the selection of the qualitative component, we condensed patients with endometrial, ovarian, and cervical cancers into a single category. The mean time since diagnosis was 20 months (SD 27.7). Complete sociodemographic and clinical characteristics of study participants are shown in Table 1.

Quantitative Component

The mean COST-FACIT score was 16.4 (95% CI, 14.8 to 17.9). According to COST-FACIT scores, 9% of the patients had no FT (score \geq 26), 52% had mild FT (14-25), 39% had moderate FT (1-13), and none of the patients had severe FT (0). Among the patients, the mean CFPB Financial Well-Being Scale score was 45.2 (95% CI, 43.3 to 47.1), with 78% (n = 75) reporting poor financial well-being (score \leq 50). The mean CFPB Financial Well-Being Scale score for relatives was 46.8 (95% CI, 44.8 to 48.8), with 56% (n = 54) reporting poor financial well-being (score \leq 50).

Self-reported monthly income and expenses during the three months before inclusion in the study are shown in Table 2. The mean total 3-month spending was \$1,994.5 USD (SD \$3,056.8 USD). The main expenses were related to medical treatment, laboratory studies, imaging, and medical visits.

Qualitative Component

Twenty-five focused interviews were conducted by the research team either in person or through videoconferencing (Zoom). The tumor types of patients selected for the

interviews matched the distribution of the quantitative component: Eight had prostate cancer, four colorectal cancer, three breast cancer, three liver cancer, two lung cancer, two pancreatic cancer, one gastric cancer, one gynecological cancer, and one non-Hodgkin lymphoma.

Relatives were also interviewed. The relative's mean age was 55.9 years (SD = 12.9), and 88% (n = 22) were women. Almost half of them (48%) were the patients' daughters/sons, 44% were their partners, and 8% were their siblings. Regarding employment, 44% were homemakers, 28% had office occupations, 16% had service occupations, 12% had sales occupations, and 4% had production occupations.

During the interviews, the patients and their relatives mentioned factors preceding the diagnosis of cancer which were later related with FT, including comorbidities, income, ownership of assets or property, and debt (Table 3). Although most participants had no debt before cancer, a significant proportion of patients and their relatives (mainly their sons, daughters, or siblings) acquired multiple debts from banks or retail stores offering high-interest, subprime credits, and/or from other relatives to pay for cancer-related costs. A common theme related to FT was the long interval (up to 1 year) between first symptoms and diagnosis, during which they paid for several private consultations and diagnostic tests. Another recurrent theme was transportation. Most cancer centers in Mexico are in Mexico City, so in many cases patients had to travel up to 180 miles to find cancer care, with the associated travel expenses. Except for patients who had public or private insurance coverage, most patients had to pay for diagnostic tests and treatments out-of-pocket. Examples of the perceptions of patients and caregivers regarding factors associated with FT from cancer and its treatment are shown in Table 4.

The only financial support program that most patients mentioned as an income was the Mexican federal government's public program Pension for the Welfare of Older Adults, which provides a \$65 USD monthly allowance for older Mexicans. However, most participants were dependent on their younger relatives for financial support. Strategies implemented to manage cancer-associated expenses included using family savings and/or selling existing assets, such as real estate or vehicles. Regarding potential solutions and strategies for mitigating FT, participants expressed the need for government programs to support older adults, including a legislation to allow flexibility in their caregivers' jobs (especially when medical appointments or hospitalizations make it impossible for them to work). Barriers and facilitators for financial well-being identified by patients and caregivers are shown in Table 5.

DISCUSSION

A significant proportion of Mexican older adults with the 10 most common types of cancers in the country and their relatives reported FT associated with cancer care. FT was

TABLE 1. Demographic and Clinical Characteristics of Included Patients

Variable		n = 96	
	No. (%)	Mean (SD)	
Age, years		72.1 (6.1)	
Sex (female)	39 (40.6)		
Educational level			
None	7 (7.3)		
Elementary school education	26 (27.1)		
Middle school education	16 (16.7)		
High school education	12 (12.5)		
College education or higher	35 (36.4)		
Marital status			
Single or divorced	15 (15.7)		
Married or domestic partnership	68 (70.8)		
Widow/er	13 (13.5)		
Distance between patient home and hospital, miles		80.8 (152.8	
Health coverage			
Catastrophic expense fund (previously, Seguro Popular)	28 (29.2)		
Social insurance programs	37 (38.5)		
None	29 (30.2)		
Private insurance	2 (2.1)		
Employment status			
Employed	6 (6.3)		
Unemployed	23 (24)		
Retired	18 (18.8)		
Disabled	1 (1)		
Homemaker	22 (22.9)		
Self-employment	26 (27.1)		
Siblings, mean (SD)	20 (27.1)	3.3 (1.8)	
No. of persons per household, mean (SD)		3.2 (1.8)	
No. of persons contributing to family income, mean (SD)		1.7 (1.5)	
Monthly family income, USD Tumor type		122.0 (341.3	
		20 (22 2)	
Prostate		32 (33.3)	
Colon		13 (13.5)	
Breast		12 (12.5)	
Lung		10 (10.4)	
Liver		8 (8.3)	
Gastric		7 (7.3)	
Pancreatic		5 (5.2)	
Endometrium/ovary		5 (5.2)	
Lymphoma		3 (3.1)	
Cervix uteri		1 (1%)	
Tumor stage			
1	17 (17.7)		
	16 (16.7)		
III	19 (19.8)		
IV	44 (45.8)		
Time since diagnosis, months		20.5 (27.7)	

Abbreviations: SD, standard deviation; USD, US dollars.

TABLE 2. Self-Reported Monthly Income and Expenses (in US dollars)

Description of Income or Expense	Mean	SD	Minimum-Maximum
Monthly patient's income	178.1	401.6	0-2,000
Monthly household income	661.8	731.3	20-3,500
Three month self-reported cost diaries (type of expenditure)			
Transportation	267.4	400.3	0-2,640
Accommodation	55.1	173.7	0-1,200
Medical consultation	348.7	1,338.7	0-1,250
Medical treatment (including chemotherapy)	587.3	861.6	0-4,475
Laboratory studies and imaging	367.5	1,332.2	0-1,250
House cleaning and baby-sitting services	99.8	237.4	0-1,200
Alternative medicine/vitamins/supplements	101.6	353.2	0-3,250
Equipment and medical supplies (including catheters, mattresses, and medical devices)	167.9	715.9	0-6,750
Total expenses	1,994.5	3,056.8	7.5-18,600

Abbreviation: SD, standard deviation.

demonstrated using both validated quantitative tools and focused interviews, with > 90% of participants reporting some form of FT or poor financial well-being. The main causes of FT identified by patients were pre-existing financial hardships, delayed diagnosis leading to multiple medical consultations and diagnostic studies, health care system–related barriers for accessing cancer care, and the high cost of medications. Participants also identified several potential solutions, including financial support programs for older individuals and policies aimed at supporting caregivers.

As far as we know, this is the first mixed-methods study of FT in older adults with cancer conducted in a LMIC. In our study, we showed that 91% of participants reported some degree of FT according to the COST-FACIT questionnaire, which is a large proportion compared with the 18.3%

prevalence of FT reported in a study of 536 older patients with advanced cancer in the United States.³ Similarly, over half of our participants reported a poor financial well-being according to the CFPB Financial Well-Being Scale, in contrast with the 24% of older adults reported by the US Census Bureau.²² Financial well-being has been defined as the state in which an individual has a sense of (1) having control over day-by-day and month-by-month finances, (2) having capacity to absorb a financial shock, (3) being on track to meet financial goals, and (4) being able to make financial choices to enjoy life.²³ Low scores in CFPB identify individuals who experience the most severe financial and material hardships, including housing and food insecurity.²⁴ A study of the financial well-being of Hispanic population age 18 years and older in the United States in

Major Categories	Subcategories and Description	Example Quotes
Health status before cancer	Most testimonials mention precancer chronic conditions, such as diabetes, hypertension, and heart problems. For some patients, these medical problems were controlled, but for others, they were added to complications from cancer.	"She is diabetic and hypertensive, although she is under control. Also, she had issues with her eyes and had a surgery called vitrectomy. She has intraocular lenses now, in both eyes, and that diminished her independence." (liver cancer).
Financial situation before cancer	Most patients report a low socioeconomic status, with low and irregular incomes.	"Not that good, but we managed to cover our expenses. Thank God we always had something to eat, but, you know, it did not matter. Well, because mmm, you know sometimes in the countryside it gets difficult, here in the countryside and, well thank God we managed." (pancreatic cancer)
Assets	A low proportion of patients or relatives own a house or a piece of land. One patient reported owning a pair of cows.	"Do I rent or own the place where we live? My daughter owns it." (Breast cancer). "We own it. That is what worries us the most, keeping the house, the mortgage, without anything" (prostate cancer)
Debt	Most participants expressed not having any debt before the diagnosis of cancer but mentioned they had limited incomes.	"No doctor, those of us who come from the provinces do not like having debts. No, it is better to live in peace, even if we can only eat beans, like one of my village's sayings goes, but live quietly. We have no debts." (breast cancer).

 TABLE 3. Factors Preceding the Diagnosis of Cancer Associated With Financial Toxicity (focused interviews to patients and relatives)

 Major Categories
 Subcategories and Description
 Example Quotes

TABLE 4. Factors Associated With Financial Toxicity From Cancer and Its Treatment (focused interviews to patients and relatives)Major CategoriesSubcategories and DescriptionExample Quotes

Major Categories	Subcategories and Description	Example Quotes
History of seeking for treatment	Time between first symptoms and diagnosis was very variable (from weeks to more than 1 year)	"We went to a private hospital for a stomach issue there they performed a tomography and they saw there was something in the liver they suggested performing a liver CT and again we went to a private hospital with a liver specialist, who indicated an MRI. It was then when they confirmed it was a tumor until we got to the Institute they realized it was a hepatocellular carcinoma." (liver cancer).
	When symptoms of cancer appeared, patients initially sought care with physicians in private practices. Consultation costs ranged between \$15 and \$75 USD	"Before, before treatment here treatment was provided in private healthcare service 2 months of a lot of analysis, a lot of doctors, until we got here." (prostate cancer).
Factors that influenced treatment delays	Costs or bureaucracy related to diagnostic tests required	"Cirrhosis started in 2017 there was a surgery scheduled but there were more studies previous to the surgery appointments were delayed, administrative procedures, administrative procedures, administrative procedures, until we reached early January. In January, they gave me a document saying that the second level hospital could no longer provide the attention because of all the complications she had." (liver cancer).
	Inefficient medical care	"She had her mammograms done every 2 years and she said to the doctors 'doctor, I feel a bump, here, I feel something' but they answered [the doctors] that it was nothing. They said: 'no that is nothing,' and according to them, her mammograms were always OK." (breast cancer).
	Public health services saturation	"First, private doctors we went to a public hospital and were told that they had no room there, that we should look for another option. So, we have a life-long doctor, and she said no, that she could not treat her." (colorectal cancer).
Out-of-pocket expenses	Costs of studies and treatment: most of them are paid for by the patient and/or their relatives	"Oh, my God! It was a lot. They ordered a tomography. They spent almost \$17,000 Pesos. We bought devices externally and later they ordered other kind of studies, which names I do not remember, also ordered by them. One cost almost \$4,000 and the other nearly \$7,000 Pesos. Only for the studies We also paid for consultation and for the chemo received there, \$15,000 Pesos, a little more than that" (colorectal cancer)
	Transportation and travel expenses are frequent. In many cases patients had to travel up to 180 miles to find cancer care.	"I had to pay for transportation, lunch, and other meals." (gastric cancer).
Impact of illness in patient's productivity	Frequently patients quit their jobs because of illness-related disability. In some cases, they had to move to Mexico City to receive treatment.	"No more, I no longer work. My children told me that no more work." (liver cancer).
Impact of illness on family productivity	Although there are repercussions of illness on informal caregivers and relatives, they do not perceive the economic costs as a burden.	"We talked: 'We can support you this way Here we are, we are working hard, do not worry, we will manage,' and I tried to keep him strong" (prostate cancer).
	Illness has changed their routines, expenses, and the order of their own personal needs.	"Oh, not that they discount the day, they discount the day, you know, they do not pay me that day I mean, I have the permission, but the day is zero already." (breast cancer).
Expenses related to comorbidities	Most frequent diseases reported were type 2 diabetes and hypertension	"Well, all for her hypertension and all the medication she needs to take. An aspirin for the heart, several medications, like five, more or less They add up to about 600 pesos a month." (gynecologic cancer).

Abbreviations: CT, computed tomography; MRI, magnetic resonance imaging; USD, US dollars.

 TABLE 5. Barriers and Facilitators for Financial Well-Being (focused interviews to patients and relatives)

 Maior Categories

 Subcategories and Description

Major Categories	Subcategories and Description	Example Quotes
Current financial situation		
Personal and family finances	In general, the patient's cancer diagnosis impacted the entire family's economy, so they had to reduce spending	"Before, their son's breakfast had juice and a sandwich or so. Now, all they send is the sandwich or if there is no money for the sandwich, just a taco or a quesadilla with beans and that is it, until he comes back home to eat." (colorectal cancer)
Sources of income	They vary from one family to another (formal and informal jobs). As patients are older adults, it is less common for them to have a formal job.	"With an engineer, I help him preparing budgets Also, sometimes I sell beauty products, to help with the expenses a little more." (breast cancer).
	Financial support program offered by the Mexican federal government directed to older adults: Pension for the Welfare of Older Adults.	"Well, right now I have a little help from the Government, 2000 2500 every 2 months." (liver cancer)
	Retirement pension	"She used to work, now she has a pension." (colorecta cancer).
Current debts	A significant proportion of patients and their relatives (mainly their sons, daughters, or siblings) acquired multiple debts from banks, retail stores offering high- interest subprime credits, and/or other relatives to pay for cancer-related costs.	"Well, we did, we did get some debts, and, well, my sisters and I paid a little for that expense. We asked for loans, we used the cards and, well, my husband helped me with a loan from his work, and another loan from my sister, and from a friend, and so on." (breast cancer).
Economic dependency on their sons/daughters	It is frequent for the patient's relatives to be economically responsible for them and for at least one more member of the family.	"They depend on me, you know One of my children kind of does, and my nephew and, and now, my husband." (colorectal cancer)
Expense management strategies	Use savings	"Very stressed for that Cause, go figure, my savings are running out and, what will I need to do? I already sold my car My car! I no longer go to the grocery store, a do not buy many things, everything, but more or less selected" (lung cancer)
	Sell assets	"I sold a piece of land and that is what I am using. How much did you get for the sale of that piece of land, Mi Jose? About 60,000. How much did you get for your car? 20, 000 Pesos." (prostate cancer)
Possible solutions seen by patients and their families which could mitigate financial impact	Having free access to medical treatments or adjustment of costs according to socioeconomic status	"That would be great! That we could get the medication and pay for it according to our income, that would be awesome. Yes, with medication that would be great. That would impact a lot yes." (lung cancer)
	Payments through nonprofit organizations	"In Mexico, the most widely seen resource is resorting to the society, right? Or to private investment To cover issues that, well, maybe at an institutional or government level cannot be covered and, and well, appealing to the people's generosity, right? Actually, that there would be more awareness of, as a society." (prostate cancer)
Gc	Improvement in the organization of services and appointments, especially for those living far away from cancer centers	" that they would give us appointments, if not on the same day, at least the next day, right? We had to stay there for 8 days We now must pay for lodging, food and so on, right? Adjusting the appointments a little more." (colorectal cancer)
	Government investment in medical infrastructure	"There should be more hospitals, don't you think? A public policy with an emphasis on older adults' health, not just physical health, but also emotional health, as a good portion of them live in abandonment, even when they live with their family" (prostate cancer)
	Government programs for older adults, including a legislation that provides flexibility in caregivers' jobs	"There should be special programs for older adults. Also, there should be a legislation allowing sons and daughters to support their parents when they are vulnerable." (prostate cancer)

2018, as measured by the CFPB, found no differences in the experience of low financial well-being between Hispanic population and the general population, possibly because of the safety net provided by government programs, community organizations, and family.²⁴

Most qualitative studies on the FT of cancer have been performed among patients living in high-income countries, such as the United States, Canada, Australia, and Ireland. Results from a metasynthesis of qualitative studies about cancer survivors' experiences with FT²⁵ show that patients with cancer incur a wide range of cancer-related medical and nonmedical expenditures, including hospital bills, consultant fees, primary care physician fees, diagnostic costs, travel and transportation, overnight accommodations, and eating out. Patients usually face FT making financial adjustments, including economizing, cashing in, borrowing money, and cutting expenses, and financial support is usually obtained from loans or friends. An important difference between older adults living in Western Europe and the United States and those from Latin America is that among the former the providers of money and support for older patients tend to be their sons, daughters, or siblings, particularly for those who need more assistance.²⁶ The qualitative results of our study show that older adults with cancer in Mexico have strong family support and that family members do not perceive the costs of cancer as a burden. However, FT clearly has a negative impact on the economic stability, productivity, and income not only of the patient but also of their relatives. All of them perceive the need of more government financial support programs, directed toward older adults with cancer. The public social insurance subsystem in Mexico is dominated by various federal and state-level institutions that provide health care for salaried employees in the formal sector. However, these social insurance institutions lack the capacity to provide a full range of cancer treatments services to all their enrollees, mostly because of resource shortages and overcrowding, so a significant proportion of affiliates seek care outside social insurance institutions to get around access barriers or to access higher quality services.²⁷ Also, there is a great heterogeneity in health care spending. availability of physicians and other health care personnel, and outpatient units between different regions in the country, with a crucial gap between demand and supply of care in most of the territory that needs to be closed.²⁸ Carrera¹⁴ proposes a Flowchart of Economic Consequences of Cancer Treatment on the Patient and Patient Coping. According to it, after signs and symptoms of

AFFILIATIONS

¹Departamento de Neurología y Psiquiatría, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico City, Mexico ²Departamento de Hemato-Oncología, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico City, Mexico disease, the decision to seek medical treatment is influenced by an individual's health insurance coverage. Those who have insufficient financial protection from medical expenditures face barriers in access to timely and comprehensive cancer care, so they wait to seek care until they deem it unavoidable. Among 252 patients with colorectal cancer in the United States,²⁹ there was often a period of delay before seeking medical care in an attempt to save money. Although a significant proportion of our patients had access to public health care, some assumed that seeking medical attention in public institutions would imply a lower quality service or a delay in their medical care, so they decided to incur in out-of-pocket expenses related with direct and indirect costs within the private health care sector until they found appropriate public health care. In contrast with patients in the United States, our participants did not delay care. On the contrary, family members preferred to pay for examinations and private consultations to prevent that delay, although it could imply reducing spending or selling assets.

This study has limitations. Its cross-sectional design does not allow dissecting the specific factors associated with FT, and patients may have trouble remembering expenses retrospectively. However, the use of a mixed-methods approach allowed for the inclusion of a comprehensive view of financial problems, which could have been limited if only objective and quantitative FT measures were used. Included patients were being treated at two large public academic cancer centers at Mexico City and may not reflect patients seen in smaller hospitals or in other regions of the country. However, we believe that the included population reflects the reality of a significant proportion of patients with cancer in LMICs: the need to travel across their countries to get specialized medical care and all the forms of financial burden related to that situation. Finally, this study does not allow making assumptions regarding the FT associated with specific tumor types but rather provides an overview of FT among a heterogeneous sample of patients.

In conclusion, our study reports a remarkably high prevalence of FT and poor financial well-being among Mexican older adults with cancer and their relatives. The understanding of individual experiences associated with the FT of cancer among patients and their relatives and identifying patient-centered strategies to potentially mitigate this issue are an essential first step to design public policies aimed at protecting older adults with cancer living in LMICs, and their families, from catastrophic spending and bankruptcy.

³Departamento de Psiquiatría y Salud Mental, Universidad Nacional Autónoma de México, Mexico City, Mexico

⁴Departamento de Geriatría, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico City, Mexico ⁵Instituto Nacional de Cancerologia (INCan), Mexico City, Mexico

CORRESPONDING AUTHOR

Sofia Sánchez-Román, PhD, Departamento de Neurología y Psiquiatría, Vasco de Quiroga 15, Tlalpan, Sección XVI, 14000 Mexico City, Mexico; e-mail: sofiasan@yahoo.com.

PRIOR PRESENTATION

Presented in part as abstract form at 2021 ASCO annual meeting, virtual, June 4 - 8, 2021.

SUPPORT

Supported by a grant from Conquer Cancer Foundation of ASCO 2020 International Innovation Grant No. (2020 IIG, EGID: 16592).

AUTHOR CONTRIBUTIONS

Financial support: Sofia Sánchez-Román

Administrative support: Daniela Ramirez Maza, Diana Flores-Estrada Provision of study material or patients: Ingrid Vargas-Huicochea, Diana Flores-Estrada, Oscar Arrieta, Enrique Soto-Perez-de-Celis

Collection and assembly of data: Andrea Morales Alfaro, Daniela Ramirez Maza, Andrea de la O Murillo

Data analysis and interpretation: Sofia Sánchez-Román, Yanin Chavarri-Guerra, Ingrid Vargas-Huicochea, Asunción Alvarez del Río, Pilar Bernal Pérez, Diana Flores-Estrada, Oscar Arrieta, Enrique Soto-Perez-de-Celis **Manuscript writing:** All authors

Final approval of manuscript: All authors

Accountable for all aspects of the work: All authors

AUTHORS' DISCLOSURES OF POTENTIAL CONFLICTS OF INTEREST

The following represents disclosure information provided by authors of this manuscript. All relationships are considered compensated unless otherwise noted. Relationships are self-held unless noted. I = Immediate Family Member, Inst = My Institution. Relationships may not relate to the subject matter of this manuscript. For more information about ASCO's conflict of interest policy, please refer to www.asco.org/rwc or ascopubs. org/go/authors/author-center.

Open Payments is a public database containing information reported by companies about payments made to US-licensed physicians (Open Payments).

Yanin Chavarri Guerra

Speakers' Bureau: InVitae Research Funding: Roche Travel, Accommodations, Expenses: Pfizer, Roche, Asofarma

Ingrid Vargas-Huicochea

Speakers' Bureau: Eli Lilly de México, Sanfer de México, Psicofarma

Oscar Arrieta

Honoraria: Pfizer, AstraZeneca, Boehringer Ingelheim, Roche Consulting or Advisory Role: AstraZeneca, Roche, Lilly, Merck, Bristol Myers Squibb Decesser Europier: Decho (Inst) BMS (Inst) March (Inst) AstraZeneca

Research Funding: Roche (Inst), BMS (Inst), Merck (Inst), AstraZeneca (Inst)

Travel, Accommodations, Expenses: Lilly

Enrique Soto-Perez-de-Celis

This author is a member of the *JCO Global Oncology* Editorial Board. Journal policy recused the author from having any role in the peer review of this manuscript.

Research Funding: Roche (I)

No other potential conflicts of interest were reported.

REFERENCES

- 1. Nogueira LA, Lenhani BE, Tomim DH, et al: Financial toxicity. Asian Pac J Cancer Prev 21:289-293, 2020
- 2. Smith GL, Lopez-Olivo MA, Advani PG, et al: Financial burdens of cancer treatment: A systematic review of risk factors and outcomes. J Natl Compr Canc Netw 17:1184-1192, 2019
- 3. Arastu A, Patel A, Mohile SG, et al: Assessment of financial toxicity among older adults with advanced cancer. JAMA Netw Open 3:e2025810, 2020
- 4. Jones SMW, Nguyen T, Chennupati S: Association of financial burden with self-rated and mental health in older adults with cancer. J Aging Health 32:394-400, 2020
- 5. Soto-Perez-de-Celis E, Cordoba R, Gironés R, et al: Cancer and aging in Ibero-America. Clin Transl Oncol 20:1117-1126, 2018
- 6. Cancer Incidence and Mortality Worldwide: IARC CancerBase International Agency for Research on Cancer. 2012. GLOBOCAN 2012 v1.1. http://globocan. iarc.fr
- 7. Strasser-Weippl K, Chavarri-Guerra Y, Villarreal-Garza C, et al: Progress and remaining challenges for cancer control in Latin America and the Caribbean. Lancet Oncol 16:1405-1438, 2015
- 8. Goss PE, Strasser-Weippl K, Lee-Bychkovsky BL, et al: Challenges to effective cancer control in China, India, and Russia. Lancet Oncol 15:489-538, 2014
- Chavarri-Guerra Y, St Louis J, Liedke PER, et al: Access to care issues adversely affect breast cancer patients in Mexico: Oncologists' perspective. BMC Cancer 14:658, 2014
- 10. Goss PE, Lee BL, Badovinac-Crnjevic T, et al: Planning cancer control in Latin America and the Caribbean. Lancet Oncol 14:391-436, 2013
- 11. Reynoso-Noverón N, Villarreal-Garza C, Soto-Perez-de-Celis E, et al: Clinical and epidemiological profile of breast cancer in Mexico: Results of the Seguro Popular. J Glob Oncol 3:757-764, 2017
- 12. Wong R, Degraff DS: Old-age wealth in Mexico: The role of reproductive, human capital, and employment decisions. Res Aging 31:413-439, 2009
- 13. Parker SW, Wong R: Household income and health care expenditures in Mexico. Health Policy 40:237-255, 1997
- 14. Carrera PM, Kantarjian HM, Blinder VS: The financial burden and distress of patients with cancer: Understanding and stepping-up action on the financial toxicity of cancer treatment. CA Cancer J Clin 68:153-165, 2018
- 15. Pisu M, Martin MY, Shewchuk R, et al: Dealing with the financial burden of cancer: Perspectives of older breast cancer survivors. Support Care Cancer 22:3045-3052, 2014
- Bray F, Ferlay J, Soerjomataram I, et al: Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin 68:394-424, 2018
- Errasti-Ibarrondo B, Jordán JA, Díez-Del-Corral MP, et al: Conducting phenomenological research: Rationalizing the methods and rigour of the phenomenology of practice. J Adv Nurs 74:1723-1734, 2018
- de Souza JA, Yap BJ, Wroblewski K, et al: Measuring financial toxicity as a clinically relevant patient-reported outcome: The validation of the COmprehensive Score for financial Toxicity (COST). Cancer 123:476-484, 2017

- Honda K, Gyawali B, Ando M, et al: A prospective survey of comprehensive score for financial toxicity in Japanese cancer patients: Report on a pilot study. Ecancermedicalscience 12:847, 2018
- 20. Consumer Financial Protection Bureau: CFPB Financial Well-Being Scale: Scale Development Technical Report. Washington, DC, Consumer Financial Protection Bureau, 2017
- 21. Bonilla-Castro E, Sehk PR: Más Allá Del Dilema de Los Métodos: La Investigación En Ciencias Sociales. Editorial Norma, Bogotá, 2005
- 22. Fox L: The Supplemental Poverty Measure: 2016. US Census Bureau, 2017. https://www.census.gov/content/dam/Census/library/publications/2017/demo/ p60-261.pdf
- 23. Financial Well-Being: The Goal of Financial Education. Consumer Financial Protection Bureau. https://files.consumerfinance.gov/f/201501_cfpb_report_ financial-well-being.pdf
- 24. Measuring the Financial Well-Being of Hispanics 2018 Financial Well-Being Score Benchmarks. Consumer Financial Protection Bureau, 2021. https://files. consumerfinance.gov/f/documents/cfpb_measuring-the-financial-well-being-of-hispanics_2018-benchmarks_2021-04.pdf
- Zhu Z, Xing W, Zhang X, et al: Cancer survivors' experiences with financial toxicity: A systematic review and meta-synthesis of qualitative studies. Psychooncology 29:945-959, 2020
- 26. Trujillo AJ, Mroz TA, Angeles G: Living arrangements and the role of caregivers among the elderly in Latin America. World Health Popul 9:114-131, 2007
- 27. González Block MAG, Morales HR; Hurtado LC, et al: Mexico: Health System Review. 2020. https://apps.who.int/iris/handle/10665/334334
- 28. Brechas En La Disponibilidad de Recursos Humanos Para La Salud En El Primer Nivel de Atención. 2015. http://www.cifrhs.salud.gob.mx/site1/residencias/ brechas_informe.pdf
- 29. Thomson MD, Siminoff LA: Finding medical care for colorectal cancer symptoms: Experiences among those facing financial barriers. Health Educ Behav 42:46-54, 2015