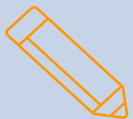


# Complementary and Alternative Medicine Use in Patients Before and After a Cancer Diagnosis



**By :**

**2nd year Pharm D students**

**Fatma Elrefaiy, Asma Ibrahim, Mahmoud khalid  
Sondos Mohammed, Hadil Nasralden, Ali Etarhoni**

## Complementary and alternative medicine use in patients before and after a cancer diagnosis

C.A. Buckner PhD,<sup>\*†</sup> R.M. Lafrenie PhD,<sup>\*†</sup> J.A. Dénoimée BA,<sup>†</sup> J.M. Caswell PhD,<sup>\*</sup> and D.A. Want MD<sup>‡</sup>

### ABSTRACT

**Background** Cancer patients are increasingly seeking out complementary and alternative medicine (CAM) and might be reluctant to disclose its use to their oncology treatment team. Often, CAM agents are not well studied, and little is known about their potential interactions with chemotherapy, radiation therapy, or biologic therapies, and their correlations with outcomes. In the present study, we set out to determine the rate of CAM use in patients receiving treatment at a Northern Ontario cancer centre.

**Methods** Patients reporting for treatment at the Northeast Cancer Centre (NECC) in Sudbury, Ontario, were asked to complete an anonymous questionnaire to assess CAM use. Changes in CAM use before, compared with after, diagnosis were also assessed.

**Results** Patients in Northern Ontario reported significant CAM use both before and after diagnosis. However, as a function of the CAM type, CAM use was greatly enhanced after cancer diagnosis. For example, the number of patients who reported use of biologic products increased to 51.8% after a cancer diagnosis from 15.6% before a cancer diagnosis. Patients reported much smaller changes in the use of alternative medical systems or spiritual therapy after diagnosis. Vitamin use was reported by 66% of respondents, and the number of different CAMs used correlated significantly with the reported number of vitamins used.

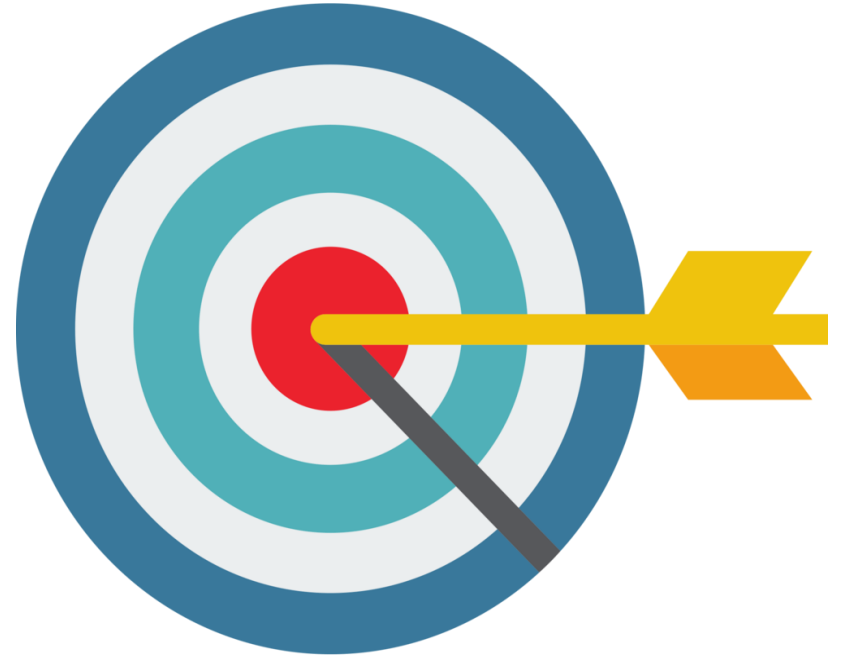
**Conclusions** Use of CAM, particularly biologic products, increased significantly after a cancer diagnosis. Further studies are required to examine the effect of CAM use on the efficacy and safety of cancer therapies.

**Key Words** Complementary and alternative medicine, natural products, questionnaires



# Aim

- **To determine the rate of CAM use in patients receiving treatment at a Northern Ontario cancer center.**





NORTHEASTERN ONTARIO REGIONAL CANCER CENTRE  
CENTRE RÉGIONAL DE CANCÉROLOGIE DU NORD-EST DE L'ONTARIO

NORTHEASTERN  
REGIONAL  
CANCER  
CENTRE  
OF ONTARIO

1

# Introduction

with Fatma Elrefaiy

- **Cancer patients are increasingly seeking out (CAM) and might be reluctant to disclose its use to their oncology treatment team.**
- **Patients were asked to complete an anonymous questionnaire to assess CAM use.**

- **Many cancer patients seek out CAMs in an attempt to moderate side effects of chemotherapy or radiation.**
- **Finally, certain religious and cultural factors affect choices, and CAMs are widely perceived to be “natural” , leading some patients to feel that CAM use aligns with their beliefs.**

**scientific evidence**

When it supports the efficacy of a CAM, it could be incorporated into the patient's treatment regime

**scientific evidence**

when a CAM promotes negative effects, it could be discouraged.



**Some patients disclose CAM use to their oncology treatment team and other health care professionals, others have multiple reasons for not informing their health care teams about their CAM use.**

# 2

# Methods

with Asma Ibrahim

- **Patients who receive treatment at the NECC in Sudbury were asked to complete an anonymous questionnaire to assess the use of CAMs.**
- **The NECC handles approximately 38,000 radiation treatment visits and 15,000 chemotherapy visits per year.**

**The most commonly treated cancers were:**

**Breast cancer (28%)**

**Hematologic cancers (16.9%)**

**Lung cancer (14.3%)**

**Genitourinary cancers (13.6%)**

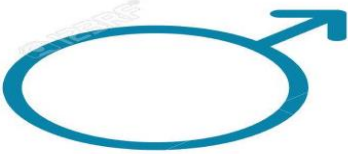
**Gastrointestinal cancers (12.7%)**

# The patient population was

55.3% female



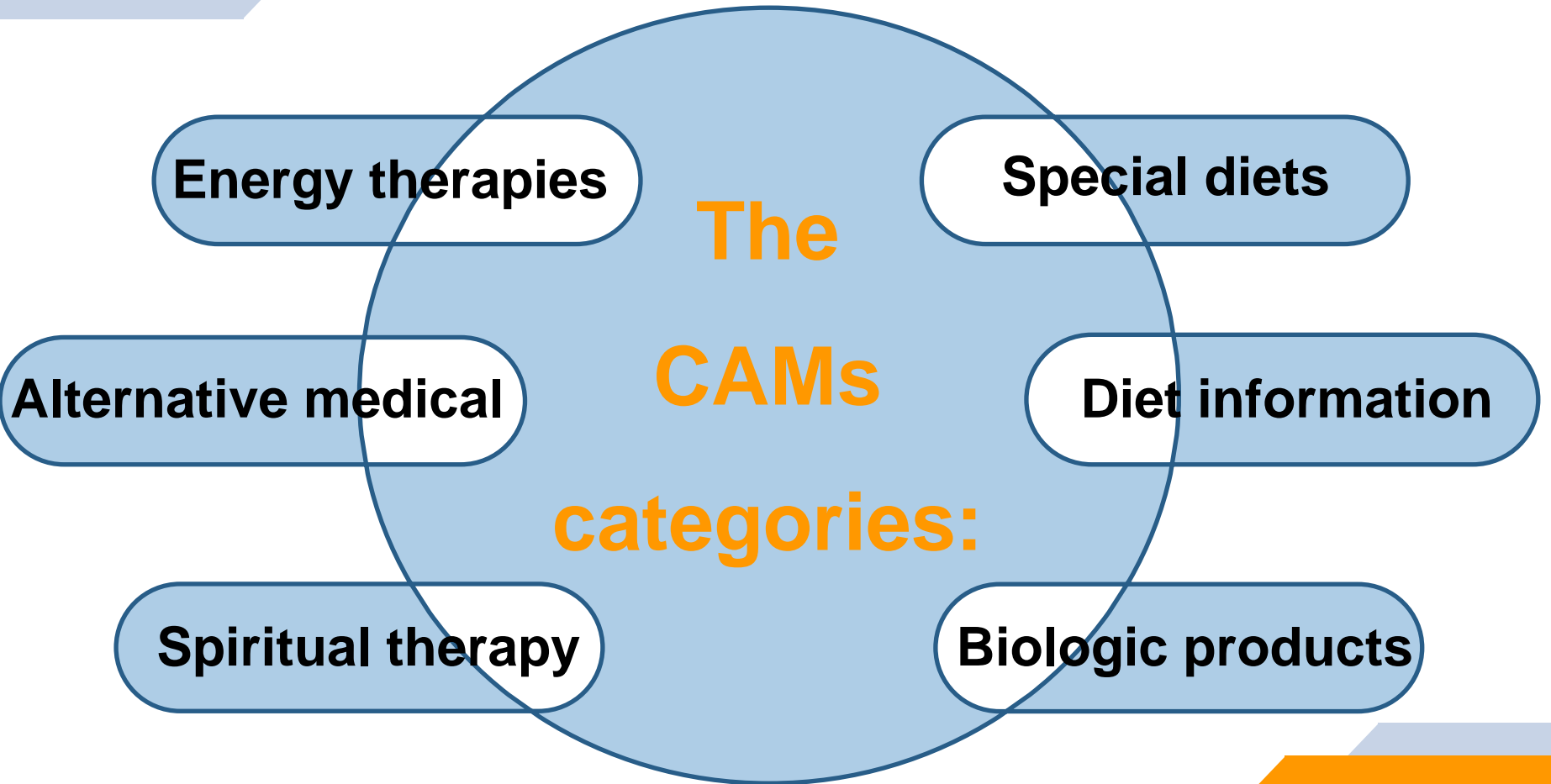
44.7% male.



**The goal was to determine patient interest and willingness to participate, and we therefore did not include questions about demographics .**

**The questionnaire was available in both the radiation oncology and chemotherapy treatment suites, and was offered to patients scheduled to receive treatment during the period December 2016 to April 2017.**

**Cancer center staff provided the questionnaire package to 300 patients, and 141 completed questionnaires were returned.**





**Data were summarized as frequencies and descriptive analyses. Comparisons of nominal variables.**

**All statistical analyses were conducted in the IBM SPSS Statistics software application to correct type 1 errors that found by a Bonferroni correction.**

# 3

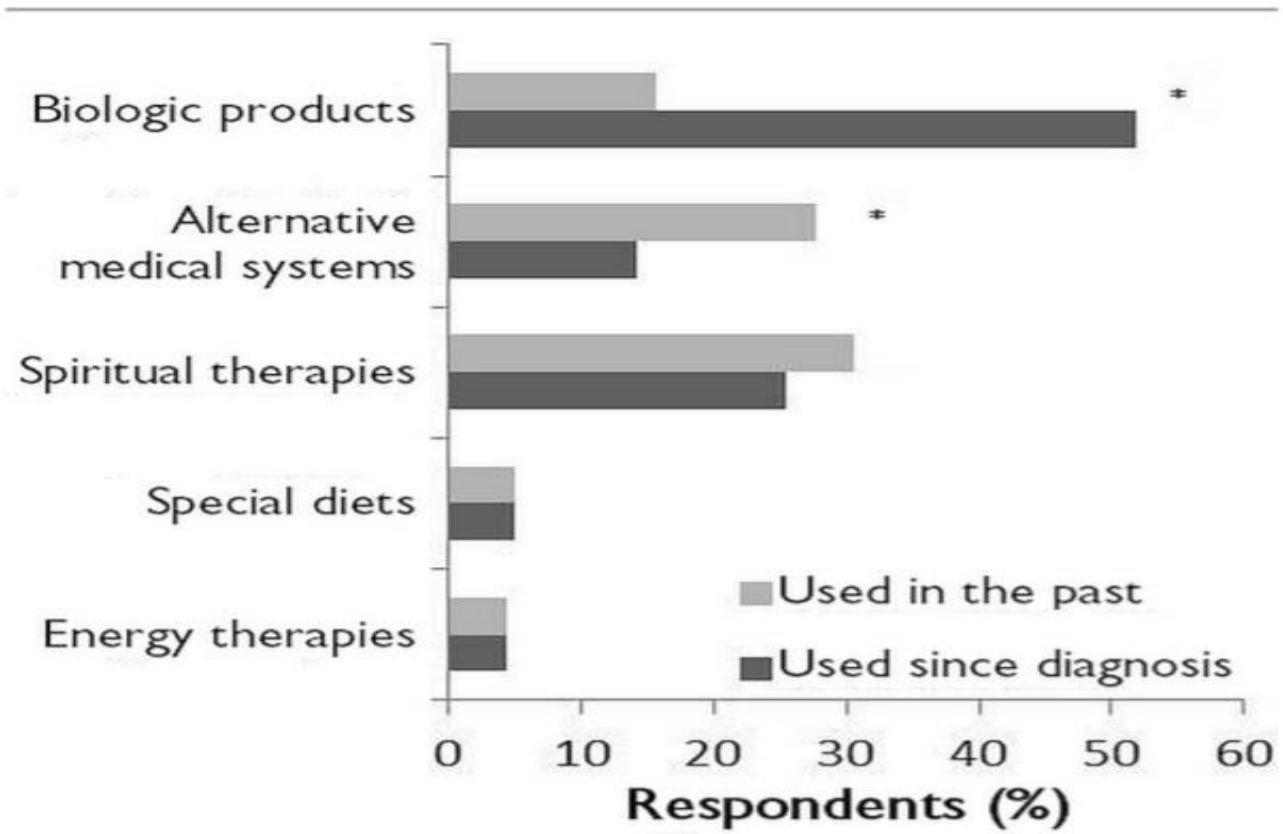
## Results

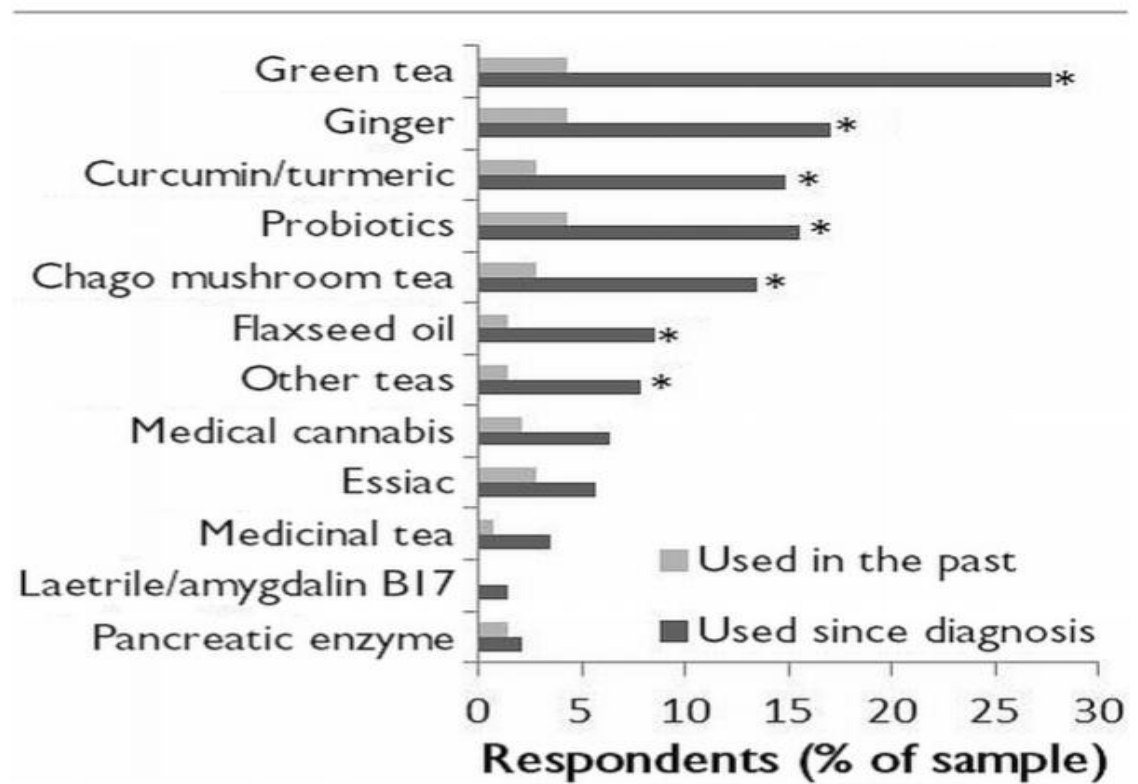
with Mahmood Khalid

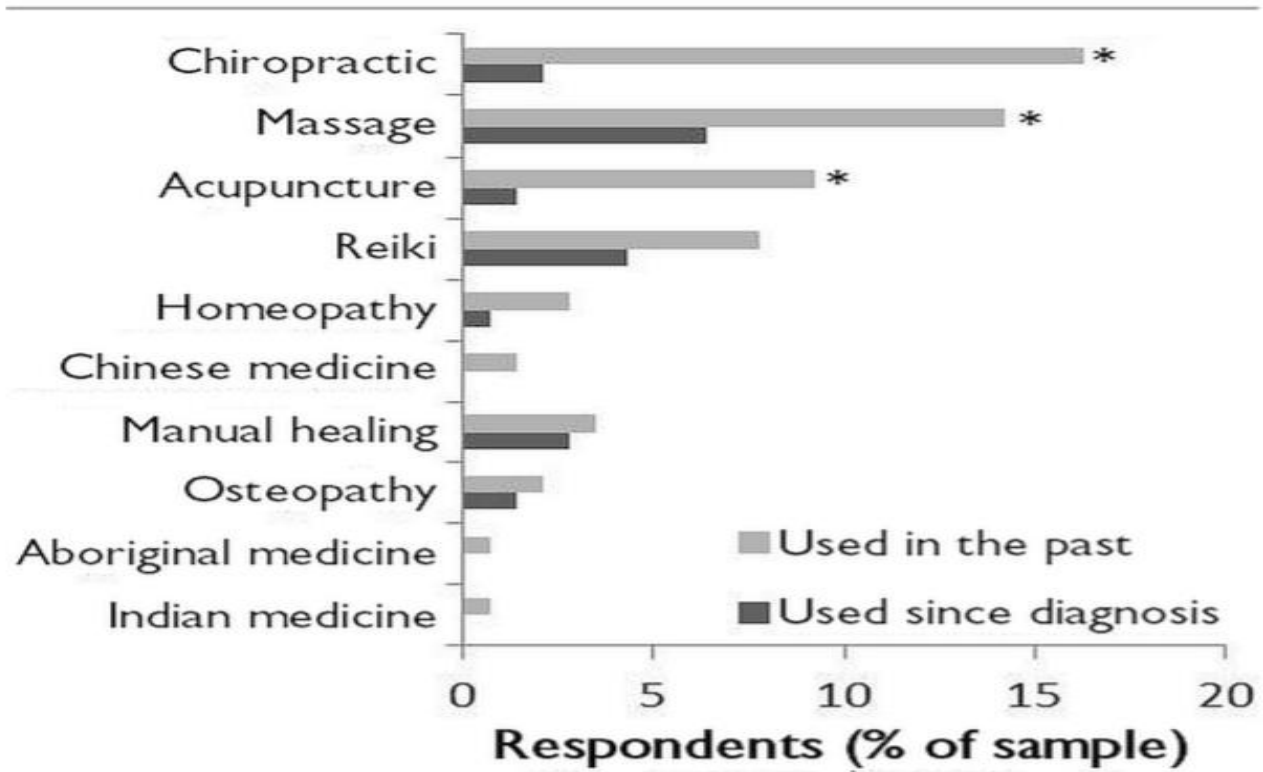
**The CAM use was greatly enhanced after cancer diagnosis. For example, the number of patients who reported use of biologic products increased to 51.8% after a cancer diagnosis from 15.6% before a cancer diagnosis.**

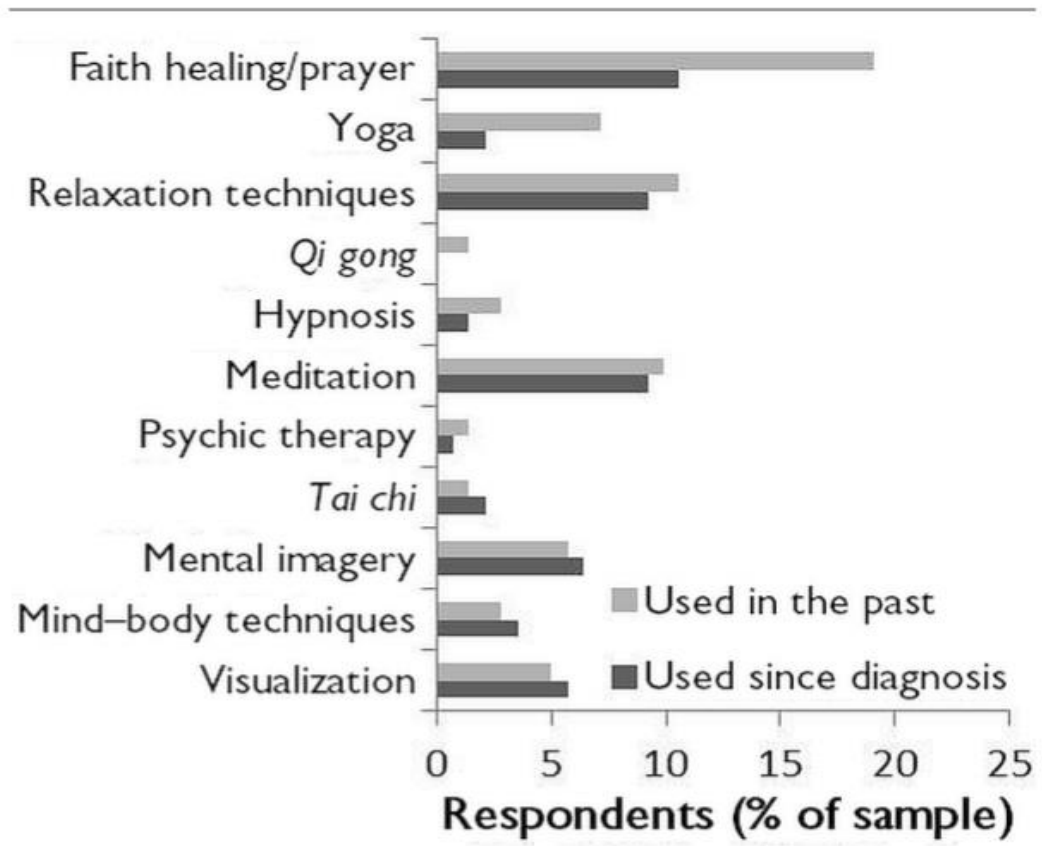
**Patients reported much smaller changes in the use of alternative medical systems or spiritual therapy after diagnosis.**

**Vitamin use by 66% of respondents, and the number of different cams used correlated significantly with the reported number of vitamins used.**











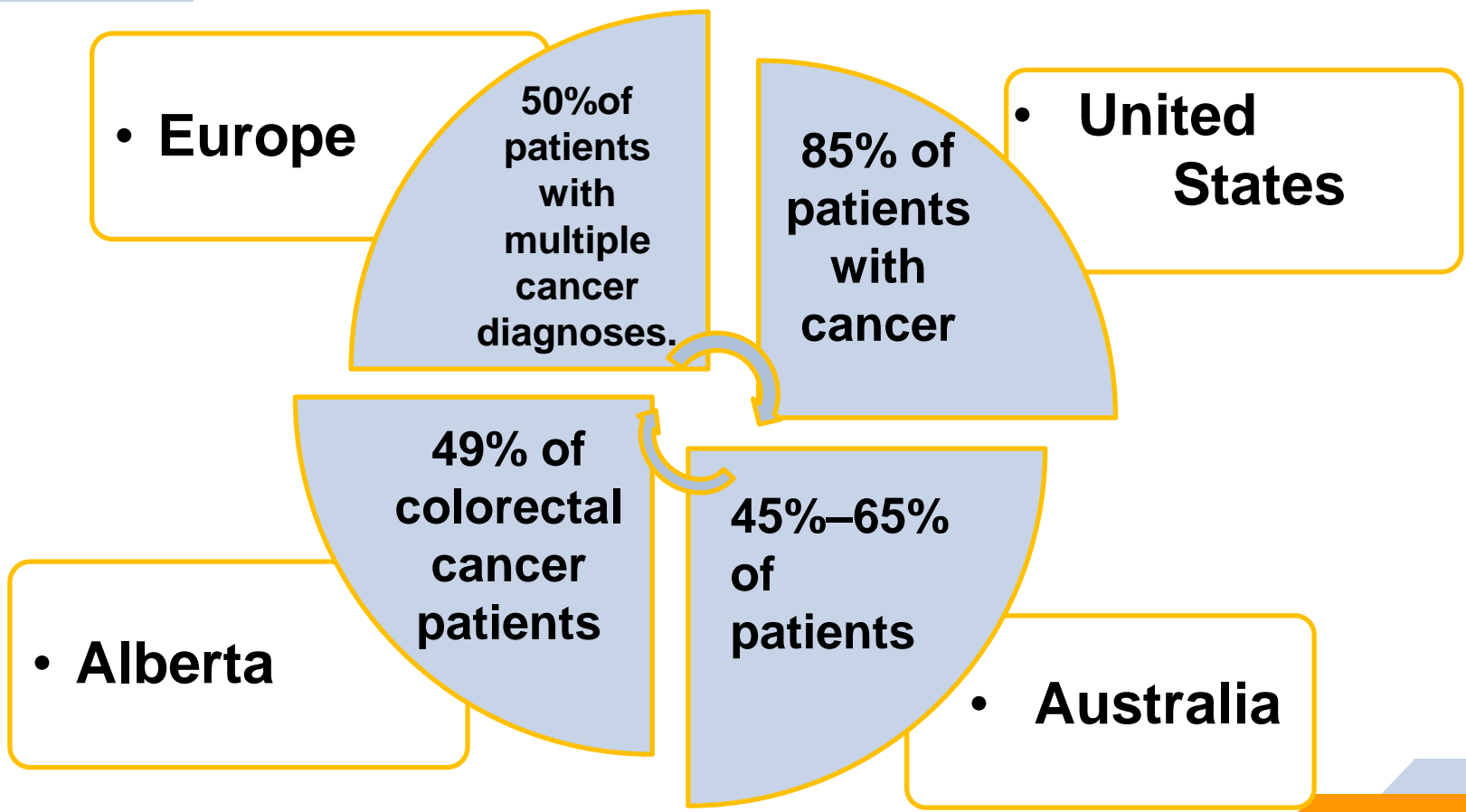
# 4

## Discussion

**with** Sondos Mohammed &  
Hadil Nasser.

**Findings from the present study show that CAM use is prevalent among patients, with 60% of patients trying at least 1 form of CAM after a diagnosis of cancer.**

**CAM use has been reported by 40%–85% of patients.**



**The most significant changes were seen in the use of biologic products such as green tea, ginger, curcumin, chaga mushrooms, and flaxseed oil.**

**With 52% of patients reporting use of a biologic product after a diagnosis of cancer compared with 15% of patients reporting such use before a diagnosis. Some biologic products can interfere with prescribed treatments.**

**The most popular biologic product reported by cancer patients at our institution was green tea, whose use increased to 28% after diagnosis from 4% before diagnosis.**



**Green tea has ability to synergistically enhance the anticancer.**

**Green tea poly phenols might interfere with drug-metabolizing enzymes and drug transporters.**



**The second and third most commonly used biologic products were ginger and curcumin (turmeric), which are both known to have anti-inflammatory properties.**



**Lu and colleagues found that treatment with curcumin significantly increased the sensitivity of paclitaxel-resistant non-small-cell lung cancer cells to paclitaxel.**





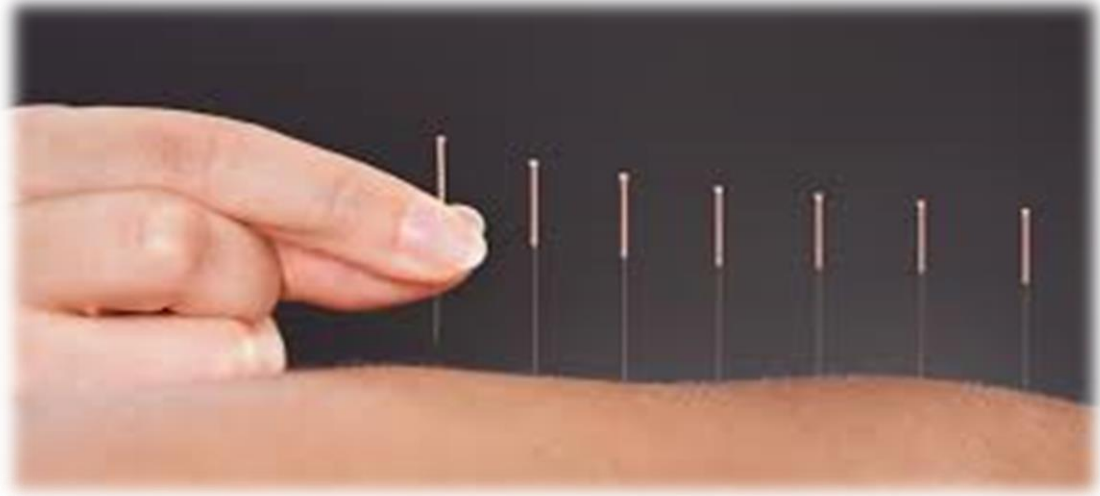
**Many natural products are being consumed with unknown effects.**

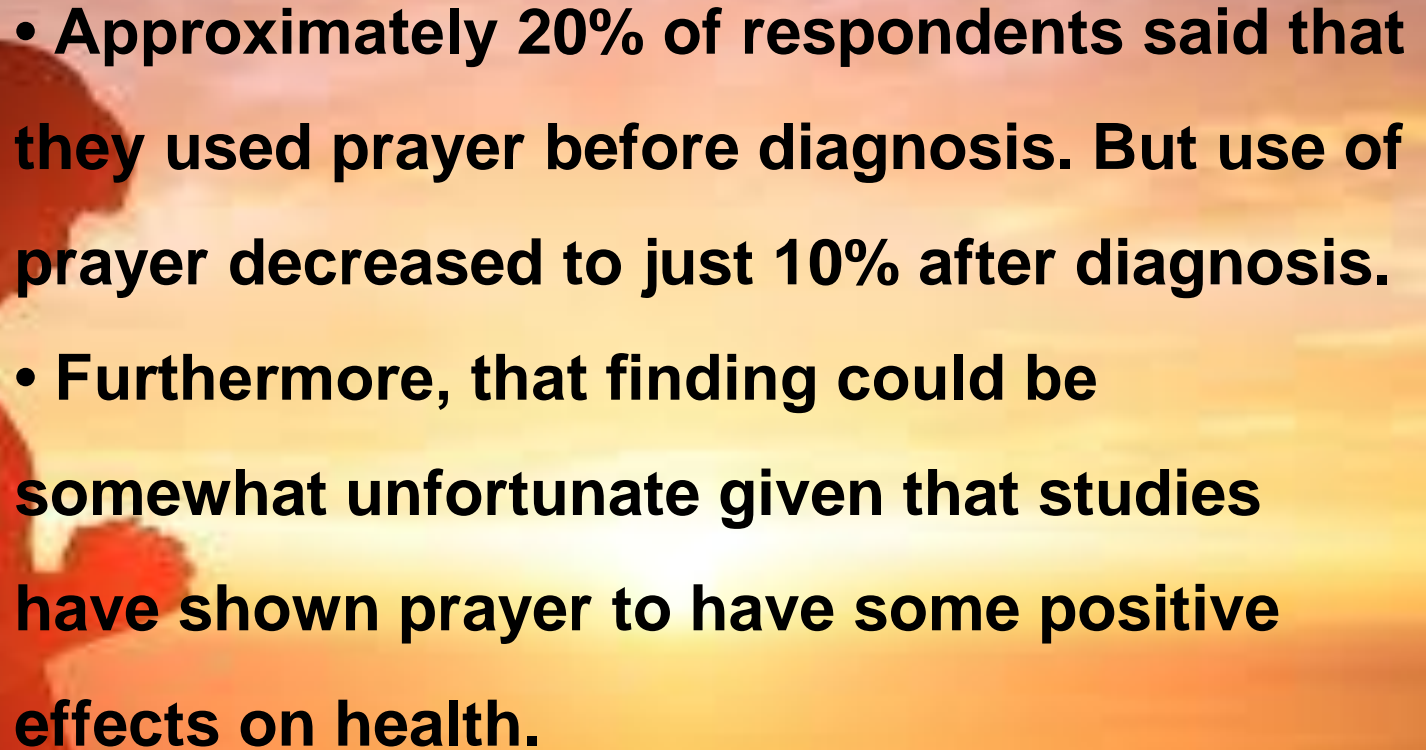
**More research is therefore required to identify potential contraindications with those products.**

**Our study showed significant decreases in the use of chiropractic, massage, and acupuncture therapies after diagnosis. The use of chiropractic medicine in cancer patients remains understudied; evidence to determine whether chiropractic treatment should be recommended or avoided is insufficient.**

- **The use of chiropractic medicine in cancer patients remains understudied.**

- **the Canadian Cancer Society's Web site states that "chiropractic therapy may weaken bones or cause severe osteoporosis."**



- 
- **Approximately 20% of respondents said that they used prayer before diagnosis. But use of prayer decreased to just 10% after diagnosis.**
  - **Furthermore, that finding could be somewhat unfortunate given that studies have shown prayer to have some positive effects on health.**

Question	Choices	Response (%)
A. What were your reasons for deciding to use CAM?		
	You are just trying to do everything that can help	51.61
	Other	17.74
	Conventional treatment is too toxic	8.07
	CAM is more true to your beliefs and inner self	8.07
	You want to take control of your treatment	8.07
	Conventional treatment is too mechanistic/technological and lacks human touch	4.84
	Disappointed in efficacy of conventional medicine	1.61

### B. What benefits were you hoping to get from the CAM you used in this cancer?

Stimulate your body's ability to fight the cancer	18.23
Help relax/sleep	16.58
Doing everything possible to fight the cancer	15.47
Improve psychological/emotional well-being	13.81
Improve physical well-being	12.71
Relieve side effects of cancer treatments	11.05
Relieve symptoms of cancer	4.42
It will treat/cure your cancer	3.32
Clean up wound	2.76
Other	1.66

### C. How did you come to know of the CAM you were using?

From friend	16.96
From family members	16.96
Internet	15.18
From health personnel in the hospital	10.71
From other patients	8.93
From health care professional outside of hospital setting	8.04
From CAM practitioner	5.36
From mass media (television, newspaper, radio, magazines)	5.36
From church/religious group	4.46
Recommendation from staff at health food store	4.46
Other	3.57

- **We chose to conduct an anonymous study to avoid patient concerns that their CAM use might be viewed with disapproval by their treatment team or might affect their treatment program. To avoid the potential for identification, we did not collect demographic or diagnostic information - both of which could affect the way patients use CAM.**



5

# Conclusion

with Ali Altarhoni.

**Given the rising cost of health care, the aging population, and increased interest in nonconventional treatments, more people are turning to CAMs and particularly biologic products after a cancer diagnosis.**

**Further studies are required to examine the effect of CAM use on the efficacy and safety of cancer therapies.**

**Our patients also reported a decrease in the use of alternative medical systems such as chiropractic and massage treatments.**

# References

- Buckner, C.A., Lafrenie, R.M., Caswell, J.M. & Want, D.A. (2018). Complementary and alternative medicine use in patients before and after a cancer diagnosis. *Cur. Oncol.* 25(4), 275-281.



RAMADAN  
Kareem



**THANK YOU  
FOR YOUR  
ATTENTION !**