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ORIGINAL RESEARCH

Cancer Patients' Behavior and Perception on the Use of Medical Foods and Dietary Supplements During Chemotherapy

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Purpose: The emerging clinical implications of medical foods and dietary supplements in cancer patients have been recognized. This study aimed to evaluate the perception and usage of these products in cancer patients undergoing chemotherapy.

Patients and Methods: Cross-sectional descriptive research was conducted by face-to-face interviews between October 2017 and February 2018. The participants provided written informed consent before data collection.

Results: This study included 201 patients (mean age 55.9 years) with gastrointestinal, breast, gynecological, and respiratory tract cancers, primarily receiving antimetabolite or platinum-based regimens. Awareness of medical foods and dietary supplements was high, at 97% and 98%, respectively. Most patients (91.5% for medical foods, 80.1% for dietary supplements) believed these products could be used safely without side effects, and over 70% thought they could be used concurrently with chemotherapy. More than half of the patients reported receiving supplement information from friends or relatives, while 65.2% stated that healthcare providers did not ask about their uses. Notably, 69.7% and 51.2% of patients reported current use of medical foods and dietary supplements, respectively, but 61.7% did not disclose this to their healthcare providers primarily since they were not asked.

Conclusion: These findings highlight the need for healthcare professionals to actively address the use of medical foods and dietary supplements with cancer patients. Enhanced communication and guidance could ensure safe and effective integration of these products into supportive cancer care.

Keywords: attitude, belief, knowledge, complementary therapy, nutritional support

Introduction

Cancer which is a leading cause of death often progresses significantly before symptoms are diagnosed.[1] The primary treatment of cancer can cause side effects such as nausea, vomiting, and loss of appetite, which not only impact clinical status but also decrease quality of life.[2–4] Malnutrition is a common issue among cancer patients, with prevalence ranging from 20% to 80%, depending on the type of tumor, the stage of the disease, individuals and the specific clinical conditions.[5–7] This contributes to worsening of symptoms while impairing treatment tolerance. Medical foods and dietary supplements are important in preventing and managing malnutrition, supporting nutritional needs, and improving the overall well-being of cancer patients.[8]

Proper nutrition profoundly affects health and well-being, and in cancer patients, it has been recognized to improve symptoms, enhance treatment outcomes, and support recovery.[9] Nutritional interventions, including oral supplements, enteral or parenteral support, and counseling, address the metabolic and dietary challenges faced by cancer patients.[10] These approaches emphasize the importance of medical foods and dietary supplements as essential components of supportive cancer therapy.

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Cancer patients nowadays seek help by using dietary supplements for their own point of views including physical improvements, prevention of malnutrition and boosting immune system.[11,12] The use of dietary supplements among cancer patients is reported to be as high as 80%.[12–14] It was reported that up to 68% of healthcare providers are unaware of their cancer patients' use of dietary supplements.[13] Recent findings indicate that breast cancer patients often lack adequate guidance from healthcare providers on the use of dietary supplements, highlighting a gap in patient-provider communication.[15] Previously, 60.9% of Thai cancer patients reported using complementary and alternative medicines (CAM).[16] Dietary and vitamin supplements were the most commonly used forms. Despite the benefits reported by some patients, many did not disclose their CAM use to their healthcare providers.

The cancer survivors search dietary information mostly from informal sources like the internet, media, or friends, leading to confusion regarding the characteristics of a balanced diet for cancer patients.[17] Information about the indications for medical foods and dietary supplements and their effects on cancer growth or response to chemotherapy is scattering, even mixed with facts and beliefs in different sources. From the perspective of healthcare providers, they frequently raise concerns about the efficacy and safety of dietary supplements with chemotherapy. Healthcare professionals may often not be active in decision-making about the product use to patients as the standardized guidelines on the proper use of medical foods and supplements in cancer treatment are yet to elucidate. It is important to understand cancer patients' views and behaviors toward using medical foods and dietary supplements during chemotherapy, to provide more reliable dietary guidance for these patients. Limited patient disclosure of CAM use to healthcare providers increases the risk of adverse interactions with conventional cancer treatments, highlighting the need for improved communication and provider education.[18]

Existing data on cancer patients' perceptions of medical foods and dietary supplement use in ASEAN countries, especially in Thailand remain scarce. This study specifically aims to evaluate the perceptions of medical foods and dietary supplements among cancer patients undergoing chemotherapy, to determine the patterns and prevalence of supplement use in this population.

Materials and Methods

Study Design

The cross-sectional descriptive survey was performed by the individual face-to-face interviews during October 2017 to February 2018 at the Outpatient Chemotherapy Center, King Chulalongkorn Memorial Hospital, Bangkok, Thailand. The ethical approval of the study protocol was obtained from the Institutional Review Board (IRB) of the Faculty of Medicine, Chulalongkorn University (IRB no. 453/60), in accordance with the Declaration of Helsinki.

Selection Criteria

The study included (i) outpatients diagnosed with histologically and cytologically confirmed cancer, (ii) individuals currently receiving or scheduled to receive chemotherapy at least one cycle of chemotherapy, (iii) patients aged > 18 years of any gender, (iv) those able to communicate well and complete the study assessment, and (v) who provided written informed consent for participation. Patients with cognitive impairment or neurological disorders, severe physical limitations such as bedridden condition or poor performance status, and those enrolled in another interventional clinical trials were excluded.

Data Collection

All participants signed written informed consent prior to enrollment. Eligible patients were identified through the hospital's electronic medical records and were approached by research team on the day of their scheduled chemotherapy appointments in an outpatient setting. In a designated waiting room, they were provided with a clear explanation of the study objectives, procedures, and confidentiality assurances. The participation in our research was voluntary, and neither financial nor material incentives were offered. Data collection was conducted during the chemotherapy infusion period, which typically lasted 2–3 hours. The constructed questionnaire consisted of three main sections: (1) demographic data, including variables such as gender, age, and socioeconomic factors; (2) clinical data, such as cancer type, chemotherapy

regimens, and comorbidities; and (3) perceptions of medical foods and dietary supplements, covering knowledge, usage patterns, and sources of information. The chemotherapy regimens included platinum-based regimens (cisplatin alone, carboplatin alone or with paclitaxel, gemcitabine, pemetrexed, or etoposide), taxane-based regimens (paclitaxel alone or with trastuzumab, docetaxel alone or with trastuzumab or with cyclophosphamide), anthracycline-based regimens (doxorubicin with cyclophosphamide), anti-metabolite-based regimens (capecitabine with oxaliplatin or irinotecan, 5-fluorouracil with leucovorin or oxaliplatin, gemcitabine with cisplatin), and single targeted treatments (trastuzumab, bevacizumab, pembrolizumab, atezolizumab). The questionnaire was developed following a comprehensive literature review and expert input from a panel of three pharmacists. An Index of Item-Objective Congruence (IOC) was calculated by independent rating of each expert on the relevance of the item on a scale of −1 (not relevant) to +1 (relevant). The IOC value of each item was decided by averaging the ratings among all experts. If IOC value was 0.5 or more, the item was considered appropriate and valid. The demographic and clinical data were preliminary collected from the electronic medical records (EMR). The face-to-face interviews were conducted in a quiet section of the infusion room to gather the participants' perceptions on medical foods and dietary supplements. The average interview time was limited to 10–15 minutes to disturb the participants as little as necessary.

Statistical Analysis

All statistical analyses were conducted with SPSS 22.0. The normality of continuous variables was assessed using the Kolmogorov–Smirnov test and visual inspection of histograms. Normally distributed data were presented as means with standard deviations (SD). Non-normally distributed data were reported as medians with interquartile ranges (IQR). Categorical data were presented as frequency and percentage. Differences between groups were evaluated using the Chi-square test or Fisher's exact test for categorical variables, and the Mann–Whitney *U*-test or independent samples *t*-test for continuous variables, depending on the normality of the data. A p value of < 0.05 was considered statistically significant for all analyses.

Results

Characteristics of Participants

A total of 201 Thai outpatients with cancer were included in the study. The mean age was 55.99 ± 11.33 years, and 130 (64.7%) were female. The most common underlying conditions among patients were hypertension (33.8%), hyperlipidemia (16.9%), and diabetes mellitus (9%). The majority of patients had gastrointestinal cancer (30.3%) and breast cancer (30.3%), followed by gynecological, respiratory tract, and head and neck cancers. Among the participants, 84 (41.8%) had metastasis.

The chemotherapy regimens were predominantly antimetabolite-based (32.3%), platinum-based (29.3%), and taxane-based regimen (20.9%). There were 140 (69.7%) participants who reported currently using medical foods, and 103 (51.2%) participants who reported currently using dietary supplements. Among the total 201 participants, 72 patients used both supplements, 68 used only medical foods, and 31 used only dietary supplements while 30 patients did not use any. The demographic and clinical characteristics of the cancer patients, stratified by the use of medical foods and dietary supplements, are described in Table 1.

Among medical foods, complete formulas were the most frequently used, particularly by patients with gastrointestinal cancer (33.9%) and breast cancer (29.8%), followed by high-protein, immunonutrient-containing formulas. Of the medical food users, women represented a significantly higher proportion, with 90 women (64.3%) compared to 50 men (35.7%) reporting usage. Regarding dietary supplements, herbal products (30.8%) and vitamins (20.4%) were the most commonly consumed. Among user, dietary supplement use was more prevalent among women, with 68 women (66%) using them compared to 35 men (34%). Of note, breast cancer patients were observed to use these products more often than those with other cancer types. The median reported expenses for medical foods and dietary supplements were 257.83 (IQR 115–510) Thai Baht per week and 125 (0–500) Thai Baht per week, respectively. A few participants reported receiving the supplements for free from acquaintances.

Table 1 Demographic and Clinical Characteristics of Participants

Characteristics	Total (n = 201)	Medical Food User (n = 140)	Non-User (n = 61)	p-value	Dietary Supplement User (n = 103)	Non-User (n = 98)	p-value
Age (years), mean ± SD	55.99 ± 11.33	56.84 ± 11.57	54.05 ± 10.57	0.108	56.43 ± 11.41	55.54 ± 11.28	0.581
Body mass index (kg/m^2), median (IQR)	22.72 (20.70–25.03)	22.20 (20.42–23.79)	24.97 (21.51–27.03)	< 0.001	22.41 (20.83–24.61)	22.79 (20.57–25.14)	0.924
Gender				0.861			0.683
Male	71 (35.3)	50 (70.4)	21 (29.6)		35 (49.3)	36 (50.7)	
Female	130 (64.7)	90 (69.2)	40 (30.8)		68 (52.3)	62 (47.7)	
Education				0.208			0.138
Not enrolled in education	4 (2)	3 (75)	1 (25)		1 (25)	3 (75)	
Primary school	50 (24.9)	32 (64)	18 (36)		20 (40)	30 (60)	
Secondary school	21 (10.4)	18 (85.7)	3 (14.3)		10 (47.6)	11 (52.4)	
High school/ vocational	31 (15.4)	17 (54.8)	14 (45.2)		13 (41.9)	18 (58.1)	
Bachelor's degree	64 (31.8)	46 (71.9)	18 (28.1)		41 (64.1)	23 (35.9)	
Higher than bachelor's degree	28 (14.0)	21 (75)	7 (25)		16 (57.1)	12 (42.9)	
Not specified	3 (1.5)	3 (100)	0 (0)		2 (66.7)	1 (33.3)	
Occupation				0.274			0.453
Student	1 (0.5)	0 (0)	1 (100)		0 (0)	1 (100)	
Government employee	27 (13.4)	21 (77.8)	6 (22.2)		13 (48.1)	14 (51.9)	
Company employee	29 (14.4)	19 (65.5)	10 (34.5)		19 (65.5)	10 (34.5)	
Business owner	32 (15.9)	21 (65.6)	11 (34.4)		14 (43.8)	18 (56.2)	
Retired/ unemployed	100 (49.8)	73 (73)	27 (27)		52 (52)	48 (48)	
Others	12 (6)	6 (50)	6 (50)		5 (41.7)	7 (58.3)	
Income per month (Thai Baht)				0.234			0.130
Less than 10,000	108 (53.7)	79 (73.1)	29 (26.9)		53 (49.1)	55 (50.9)	
10,000–30,000	39 (19.4)	22 (56.4)	17 (43.6)		15 (38.5)	24 (61.5)	
30,001–50,000	21 (10.4)	15 (71.4)	6 (28.6)		14 (66.7)	7 (33.3)	
More than 50,000	24 (12.0)	16 (66.7)	8 (33.3)		16 (66.7)	8 (33.3)	
Not specified	9 (4.5)	8 (88.9)	1 (11.1)		5 (55.6)	4 (44.4)	
Residence				0.434			0.577
Living with family	189 (94)	133 (70.4)	56 (29.6)		97 (51.3)	92 (48.7)	
Alone	11 (5.5)	6 (54.5)	5 (45.5)		6 (54.5)	5 (45.5)	
Not specified	1 (0.5)	1 (100)	0 (0)		0 (0)	1 (100)	
Cancer types				0.509			0.467
Gastrointestinal tract cancer	61 (30.3)	47 (77)	14 (23)		30 (49.2)	31 (50.8)	
Gynecological tract cancer	33 (16.4)	21 (63.6)	12 (36.4)		20 (60.6)	13 (39.4)	
Head and neck cancer	10 (5.0)	7 (70)	3 (30)		3 (30)	7 (70)	
Respiratory tract cancer	26 (13.0)	19 (73.1)	7 (26.9)		13 (50)	13 (50)	

(*Continued*)

Table 1 (Continued).

Characteristics	Total (n = 201)	Medical Food User (n = 140)	Non-User (n = 61)	p-value	Dietary Supplement User (n = 103)	Non-User (n = 98)	p-value
Breast cancer	61 (30.3)	41 (67.2)	20 (32.8)		30 (49.2)	31 (50.8)	
Others	10 (5.0)	5 (50)	5 (50)		7 (70)	3 (30)	
Metastasis	84 (41.8)	61 (72.6)	23 (27.4)	0.438	45 (53.6)	39 (46.4)	0.576
Treatment regimens				0.105			0.897
Platinum-based	59 (29.3)	37 (62.7)	22 (37.3)		30 (50.8)	29 (49.2)	
Taxane-based	42 (20.9)	31 (73.8)	11 (26.2)		21 (50)	21 (50)	
Anthracycline-based	14 (7)	8 (57.1)	6 (42.9)		8 (57.1)	6 (42.9)	
Antimetabolite-based	65 (32.3)	49 (75.4)	16 (24.6)		31 (47.7)	34 (52.3)	
Single targeted therapy	19 (9.5)	15 (78.9)	4 (21.1)		12 (63.2)	7 (36.8)	
Others	2 (1)	0 (0)	2 (100)		1 (50)	1 (50)	
No. of comorbidities, median (IQR)	1.00 (0.00–1.00)	1.00 (0.00–2.00)	1.00 (0.00–1.00)	0.947	1.00 (0.00–2.00)	1.00 (0.00–1.00)	0.887
Types of comorbidities							
Hypertension	68 (33.8)	46 (67.6)	22 (32.4)	0.658	35 (51.5)	33 (48.5)	0.963
Diabetes mellitus	18 (9)	12 (66.7)	6 (33.3)	0.791	12 (66.7)	6 (33.3)	0.219
Hyperlipidemia	34 (16.9)	26 (76.5)	8 (23.5)	0.416	18 (52.9)	16 (47.1)	0.828
Others	61 (30.3)	41 (67.2)	20 (32.8)	0.620	28 (45.9)	33 (54.1)	0.317

Notes: Values are presented as mean ± standard deviation (SD) or median (interquartile range (IQR)) for continuous variables, and frequency (%) for categorical variables. Chi-square test or Fisher's exact test was used for categorical comparisons; Mann–Whitney *U*-test or Independent samples *t*-test was used for continuous comparisons.

We also collected data on patients who reported adverse events such as nausea and vomiting (39.3%), constipation (35.3%), anorexia (34.8%), and diarrhea (14.4%). Current medical food users experienced nausea and vomiting, and anorexia than non-users (79.7% vs 20.3%, p = 0.012 and 81.4% vs 18.6%, p = 0.008, respectively). Patients using complete formula reported nausea and vomiting more frequently (70.9%), and anorexia (70%) than non-user (p = 0.013 and p = 0.038, respectively). In contrast, among dietary supplement users, diarrhea was significantly more common (69%) compared to non-users (31%), with a p value of 0.045. No significant differences were found for other reported adverse events, including dizziness, fatigue, mucositis, constipation, numbness, and rash among users of different types of medical food and dietary supplements.

Patients' Opinions on Medical Foods and Dietary Supplements

Figure 1 summarizes the perceptions of 201 cancer patients regarding the use of medical foods and dietary supplements. Among the statements about medical foods, the majority of patients (90.1%) agreed or strongly agreed that "Cancer patients can use medical foods". Similarly, 91.5% agreed or strongly agreed that "Medical foods can be used safely without side effects", while a smaller proportion (35.8%) agreed with the statement, "If you don't eat enough, you will choose medical foods". Additionally, 65.7% disagreed with the statement, "Medical foods can treat cancer", and 54.7% disagreed that "Expensive medical foods are always better than cheaper ones". We observed that patients with higher education (bachelor's degree or higher) were more likely to disagree with these two statements compared to those with lower levels of education (p = 0.007 and p = 0.027, respectively).

For dietary supplements, 80.1% of patients agreed or strongly agreed that "Dietary supplements can be used safely without side effects", and 74.6% believed that "Cancer patients can use dietary supplements". However, a considerable proportion (61.2%) disagreed with the statement, "Dietary supplements can treat cancer". Regarding affordability, 49.3%

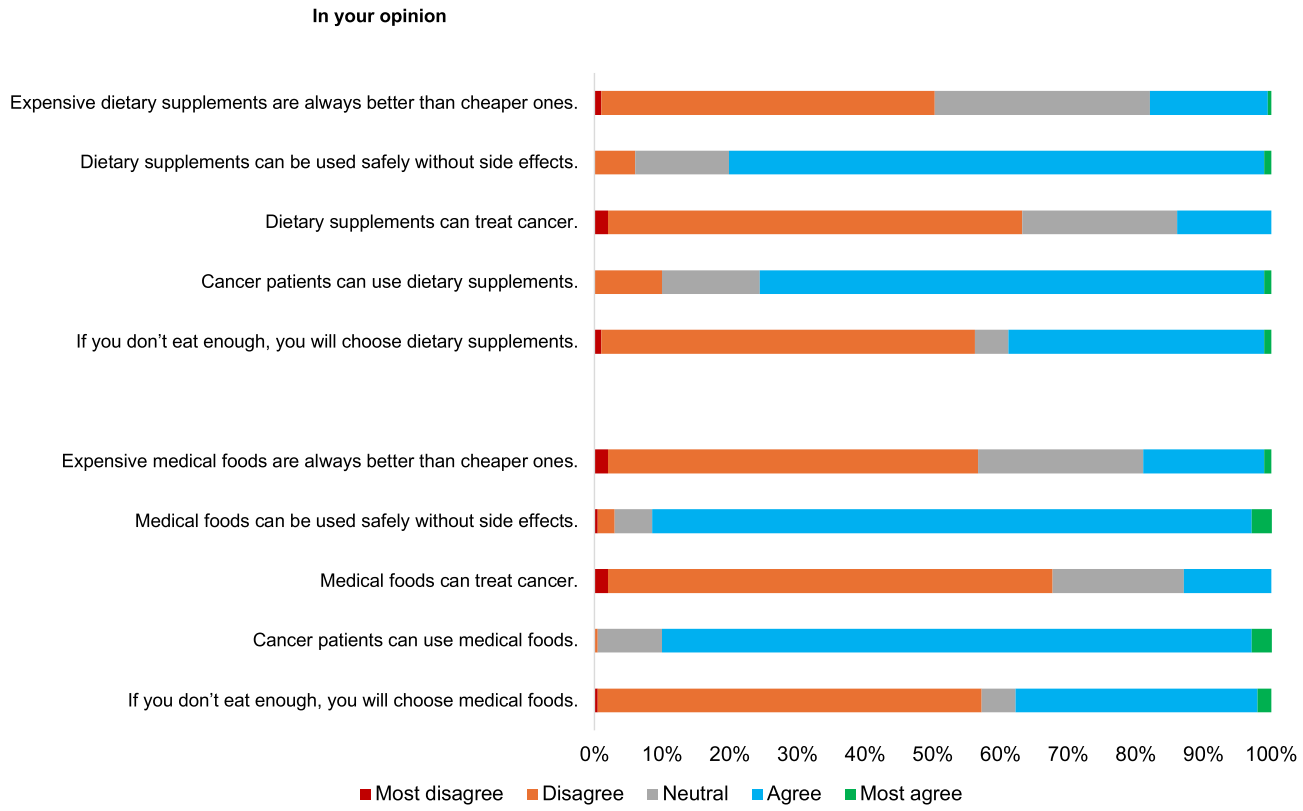

Figure 1 Patients' opinions on medical foods and dietary supplements.

disagreed that "Expensive dietary supplements are always better than cheaper ones". Notably, patients with higher education were more likely to disagree with this statement compared to those with lower levels of education (p = 0.007).

Cancer Patients' Perception on the Use of Medical Foods and Dietary Supplements During Chemotherapy

As shown in Table 2, the majority of cancer patients demonstrated a high awareness of both medical foods (97%) and dietary supplements (98%), highlighting their familiarity with these options during chemotherapy. Patients frequently

Table 2 Cancer Patients' Perception on the Use of Medical Foods and Dietary Supplements During Chemotherapy

Statements	Total (n = 201)
Medical foods	
Patients know medical foods.	195 (97)
Patients' opinion on the function of medical foods	
- Supplemented to main meals	176 (87.5)
- Substituted to main meals	20 (10)
- Used as a snack	2 (1)
- Others	3 (1.5)

(*Continued*)

Table 2 (Continued).

Statements	Total (n = 201)
Patients think that medical foods can be used concurrently with chemotherapy.	189 (94)
Patients have ever been informed about the efficacy and safety of medical foods.	194 (96.5)
Patients have ever used medical foods.	157 (78.1)
- Complete formula	121 (60.2)
- High protein and immunonutrient-containing formula	36 (17.9)
- Diabetes-specific formula	6 (3)
Dietary supplements	
Patients know dietary supplements.	197 (98)
Patients' opinion on the function of dietary supplements.	
- Nourished the body	110 (54.7)
- Substituted to main meals	5 (2.5)
- For beauty	1 (0.5)
- Supplement the nutrients of the body	64 (31.8)
- Others	21 (10.5)
Patients think that dietary supplements can be used concurrently with chemotherapy.	159 (79.1)
Patients have ever been informed about the efficacy and safety of dietary supplements.	194 (96.5)
Patients have ever used dietary supplements.	121 (60.2)
- Vitamins	41 (20.4)
- Minerals	28 (13.9)
- Herbs and herbal extracts	62 (30.8)
- Animal extracts	22 (10.9)

Note: Data are presented as frequency (%).

identified medical foods as supplements to main meals (87.5%) and noted their compatibility with concurrent chemotherapy (94%). Many patients (78.1%) reported having previously used medical foods.

Similarly, dietary supplements were recognized for their role in nourishing the body and enhancing nutrient intake, with over half (54.7%) and 31.8%, respectively. Despite this, the use of dietary supplements was less common (60.2%) compared to medical foods. Patients widely acknowledged receiving information on the efficacy and safety of both medical foods and dietary supplements (96.5%).

The patients viewed dietary supplements with various purposes, including body nourishment. Herbs and herbal extracts emerged as the most commonly used ingredient category (30.8%), followed by vitamins and minerals. Animal-based and other extracts were less frequently used.

Information Sources of Medical Foods and Dietary Supplements

Patients received advice from different sources when deciding to use medical foods or dietary supplements during chemotherapy as demonstrated in Figure 2. Most often, they asked friends or family (62.7%). During the period of receiving chemotherapy at the Outpatient Chemotherapy Center, participants also exchanged information about the use of

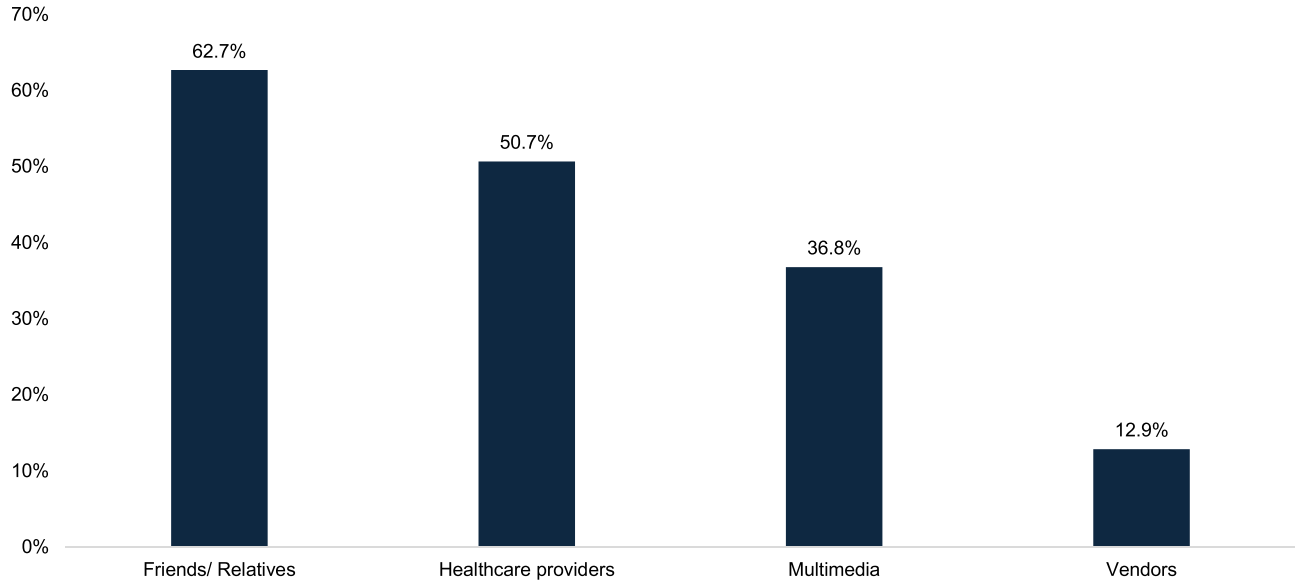

Figure 2 Information sources of medical foods and dietary supplements.

medical foods and dietary supplements among themselves. Healthcare professionals were the second most common source (50.7%). Online media and advertisements were also common, while vendors were the least used source.

Even though many patients used these products, they did not always talk to their healthcare providers about them. Only 34.8% said their providers asked about their use of medical foods or dietary supplements. Additionally, only 38.3% of patients told their providers about using them, while 61.7% did not. Most patients who informed their providers were encouraged to continue (84.4%), and only a few were told to stop (3.9%). The main reason for not sharing this information was that healthcare providers did not ask about it (79.7%). A few participants concerned that healthcare providers would be dissatisfied with their use of additional supplements other than the chemotherapy treatment plan.

Discussion

Our study provides important perspectives on the use of medical foods and dietary supplements among cancer patients receiving chemotherapy. It is noteworthy that 69.7% of patients reported using medical foods, and 51.2% used dietary supplements. The results can be comparable with the dietary supplement usage pattern in cancer patients among other studies.[19–21] In our population, women used dietary supplements more than men. This finding was in line with the previous studies showing higher usage in women with cancer.[21–23] In this study, breast cancer patients exhibited higher use of both medical foods and dietary supplements compared to other cancer types, that was consistent with the previous reports.[12,13]

The most commonly used medical foods were complete formulas and immunonutrient-containing formulas, with a significant portion of patients using them as meal supplements. Additionally, herbal products and vitamins were the most commonly used dietary supplements, with herbal products being particularly popular (30% of our patients), a prevalence comparable to the 28% reported among cancer patients in Asian regions in previous studies.[24] This preference may reflect the growing belief in the benefits of natural and plant-based supplements among cancer patients.[25,26] Although patients had high awareness of medical foods and dietary supplements, their perceptions regarding their effectiveness varied, with many patients acknowledging their potential benefits for nourishment rather than cancer treatment. Our patients often use medical foods and dietary supplements based on advice from close family and friends who understand their conditions. Most patients applied medical foods to complement their main meals and dietary supplements to support overall health. Patients may recognize the necessity of maintaining their physical health to endure the chemotherapy, prompting those who experienced adverse events to seek alternatives. This aligns with the study by

Bours et al,[27] which reported that colorectal cancer survivors commonly used dietary supplements with the primary goal of improving bodily nourishment.

Half of our participants (50.7%) reported that they received supplement source of information from the pharmacist or other healthcare professionals. The finding could be comparable with previous report demonstrating patients' physicians or healthcare providers were the common source of information (47.3% and 52.7%) among cancer patients.[11,14] One significant observation was that a considerable proportion of patients did not communicate their supplement use with healthcare providers. Approximately 61.7% of patients did not disclose their use of medical foods or dietary supplements. This aligns with previous findings where 31–68% of cancer patients and survivors did not share such information.[28] These results emphasize the need for better patient-provider communication to reduce the underreporting of supplement use among cancer patients. The lack of provider inquiry on this matter may contribute to this communication gap. Encouraging healthcare professionals to discuss supplement use more actively with patients could help improve patient-provider communication and ensure the safe and informed use of these products.

The high expectations for medical foods and dietary supplements reflect a desire for benefits, although a substantial proportion of patients reported that these products did not always meet their expectations. These findings underscore the need for clearer guidelines on the use and effectiveness of medical foods and supplements in cancer care. Patients often have mixed perceptions of supplement effectiveness, highlighting the complexity of managing cancer treatment and nutritional support.[29] Despite these positive perceptions, patients' understanding of the role of supplements in cancer treatment remains limited.

Many patients mistakenly believed that medical foods and dietary supplements could treat cancer, although majority also recognized that these products are not a substitute for cancer treatment. Previously, Conway et al[23] reported the belief of cancer survivors in terms of dietary supplement usage. Individuals (16.4%) perceived that supplements such as vitamins were important for preventing cancer recurrence. These misconceptions highlight the importance of providing comprehensive educational resources to cancer patients regarding the role of nutrition and supplements during treatment.

One limitation of this study is that the participants' self-reporting may introduce recall bias or social desirability bias. Recall bias may also hinder the ability of the participants to accurately report their supplement use, while social desirability bias may make participants over-report or under-report regarding their perceptions. Future studies should consider using objective assessments to validate self-reported data and minimize these biases. Moreover, the study was conducted in a single tertiary-care hospital, which may limit the generalizability of the findings to broader populations. We did not collect data about comprehensive nutritional assessment since the time taken for interview was limited. However, the face-to-face interview structure allowed for a more accurate collection of data and greater engagement with participants, which is a strength of the study. Furthermore, the study's focus on cancer patients undergoing chemotherapy provides valuable insights into the specific challenges this population faces with regard to nutrition and supplement use.

Research have indicated that cancer patients commonly use supplements, yet disclosure of their usage patterns to healthcare providers remains low, leading to potential risks in their treatments.[18] Although many patients communicate these practices with their providers, the role of healthcare professionals in initiating such actions is limited, highlighting the need for improved communication.[14] Therefore, future research is warranted to identify cultural, economic, and healthcare factors which may provide deeper understanding of clinical implications of supplements in cancer care. The findings from our study emphasize the need for healthcare professionals to be more proactive in discussing the use of medical foods and dietary supplements with cancer patients. Given the high usage of these products, healthcare providers should be trained to inquire about their patients' supplement use regularly to ensure the safe integration of these products into the patient's individual treatment plan. Moreover, providing clear and evidence-based guidance regarding the efficacy of these products could help patients make more informed decisions. Given the potential for interactions with chemotherapy or other treatments, it is critical that medical professionals guide patients in choosing appropriate supplements and nutritional products.

Conclusion

In summary, the use of medical foods and dietary supplements was prevalent among cancer patients. Although patients are generally aware of these products and their potential benefits, there is a clear need for more effective communication

between patients and healthcare providers. Healthcare providers should inquire about supplement use during consultations and considering educational supplies. As oncology nutrition progresses, giving clearer education and guidance on the role of supplements, particularly in relation to cancer treatment, can help optimize patient care and support informed decision-making. Further research is needed to explore the long-term effects of supplement use and the role of healthcare providers in managing these practices.

Data Sharing Statement

The data that support the results of this study are available from the corresponding author upon reasonable request.

Ethics Approval and Informed Consent

The study was reviewed and approved by the Institutional Review Board (IRB) of the Faculty of Medicine, Chulalongkorn University (IRB no. 453/60).

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors report no conflicts of interest in this work.

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