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Patient and Physician Perceptions Toward CAM Integration in Oncology Care: A Cross-Sectional Study Among Breast Cancer Patients Receiving Cisplatin-Based Chemotherapy

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Abstract

Complementary and alternative medicine (CAM) use is becoming increasingly prevalent among cancer patients, yet there are gaps in communication between patients and healthcare providers . This cross-sectional study examined perceptions of patient and physician toward CAM integration in oncology care among breast cancer patients receiving cisplatin-based chemotherapy. A total of 100 breast cancer patients undergoing cisplatin therapy in Gujarat, India, were enrolled with 25 oncology healthcare professionals. Structured questionnaires were used for assessing CAM awareness, usage patterns, communication behaviors, and attitudes toward integration. Results revealed that 76% of patients used at least one CAM modality, with yoga (54%), dietary supplements (48%), and Ayurvedic medicines (42%) being most common. However, only 38% disclosed CAM use to their oncologists. Barriers to disclosure included fear of disapproval (48%), perception that physicians were uninterested (35%), and lack of physician inquiry (52%). Healthcare professionals demonstrated mixed attitudes, with 64% acknowledging potential benefits for symptom management but 72% expressing concerns about herb-drug interactions and lack of evidence. There were significant gaps between patient expectations and physician knowledge regarding CAM therapies. Both groups agreed that better integration frameworks, evidence-based guidelines, and improved communication protocols are essential. The study concludes that bridging the perception gap through enhanced education, structured communication strategies, and integrative care models can optimize cancer care outcomes while respecting patient autonomy and holistic treatment preferences.

Keywords: Complementary and Alternative Medicine, Oncology Care, Patient-Physician Communication, Breast Cancer, Cisplatin Chemotherapy, CAM Integration, Healthcare Attitudes

Introduction

Cancer diagnosis and treatment represent significant physical, psychological, and emotional challenges for patients. Breast cancer remains the most prevalent cancer among women worldwide, with chemotherapy forming a cornerstone of treatment protocols[1]. Cisplatin, a platinum-based chemotherapy agent, is widely used in breast cancer management despite its association with considerable adverse effects including nausea, neuropathy, nephrotoxicity, and fatigue[2]. The burden of these side effects often drives patients to seek additional support through complementary and alternative medicine (CAM) therapies.

CAM encompasses diverse healing practices and products not traditionally considered part of conventional medicine, including herbal medicines, dietary supplements, mind-body practices like yoga and meditation, traditional healing systems such as Ayurveda, and manipulative therapies[3]. Global epidemiological studies indicate that CAM use among cancer patients ranges from 40% to 80%, with particularly high prevalence in Asian populations where traditional medicine systems remain culturally embedded[4][5].

Despite widespread CAM adoption, substantial communication gaps persist between cancer patients and their healthcare providers. Research indicates that up to 70% of cancer patients do not disclose their CAM use to oncologists, creating potential risks for herb-drug interactions, treatment delays, and compromised therapeutic outcomes[6][7]. These nondisclosure patterns stem from multiple factors including patient beliefs that physicians lack interest or knowledge about CAM, fear of disapproval, and physician failure to inquire about CAM use during clinical encounters[8].

The integration of CAM into conventional oncology care presents both opportunities and challenges. Proponents argue that evidence-based CAM therapies can enhance quality of life, manage treatment-related symptoms, and support patient-centered holistic care[9]. However, concerns persist regarding insufficient scientific validation, safety risks, potential interactions with chemotherapy agents, and lack of standardized protocols[10][11]. Healthcare professionals express varied attitudes ranging from openness to integration to skepticism regarding efficacy and safety.

In the Indian context, CAM use is particularly prevalent due to the coexistence of multiple traditional medicine systems including Ayurveda, Yoga, Unani, Siddha, and Homeopathy alongside allopathic medicine. Studies conducted in North India demonstrate that Ayurvedic treatments are among the most commonly used CAM modalities in cancer care, with usage rates exceeding 60% in some populations[12][13]. However, systematic research examining patient and physician perceptions toward CAM integration specifically among breast cancer patients receiving cisplatin-based chemotherapy remains limited, particularly in the Gujarat region.

Understanding the perspectives of both patients and healthcare providers is essential for developing effective integrative oncology frameworks. This study aims to examine patient and physician perceptions toward CAM integration in oncology care among breast cancer patients receiving cisplatin-based chemotherapy. Specific objectives include assessing CAM awareness and usage patterns, identifying communication barriers, evaluating attitudes toward integration, and exploring factors influencing CAM decision-making among both patient and provider populations.

Materials and Methods

Study Design and Setting

This cross-sectional observational study was conducted at a tertiary care cancer center in Gujarat, India, between January 2024 and June 2024. The study received ethical approval from the Institutional Ethics Committee and adhered to Declaration of Helsinki principles. All participants provided written informed consent before enrollment.

Study Population

Patient Population

The patient population comprised 100 breast cancer patients meeting the following inclusion criteria: confirmed diagnosis of breast cancer (any stage), currently receiving or having completed at least two cycles of cisplatin-based chemotherapy regimen, age 18 years or above, ability to communicate in Hindi or Gujarati, and willingness to participate. Exclusion criteria included cognitive impairment preventing informed consent, presence of psychiatric disorders, and concurrent participation in other research studies that might influence CAM use patterns.

Healthcare Professional Population

Twenty-five healthcare professionals involved in breast cancer care were recruited, including medical oncologists (n equals 12), oncology nurses (n equals 8), and clinical pharmacists (n equals 5). Inclusion criteria comprised minimum two years of experience in oncology care and direct involvement in breast cancer patient management.

Data Collection Instruments

Patient Questionnaire

A structured questionnaire was developed following extensive literature review and expert consultation. The instrument comprised five sections: sociodemographic characteristics (age, education, occupation, income, residence), cancer and treatment details (stage, duration of diagnosis, chemotherapy cycles completed), CAM awareness and usage patterns (types of CAM used, frequency, reasons for use, sources of information), communication behaviors (disclosure to healthcare providers, barriers to communication, information sources), and attitudes toward CAM integration (perceived benefits, safety concerns, preferences for integration models).

Healthcare Professional Questionnaire

The healthcare professional questionnaire assessed professional demographics (designation, years of experience, specialty), knowledge about CAM modalities commonly used by cancer patients, attitudes toward CAM integration (perceived benefits, concerns, willingness to recommend), communication practices (frequency of inquiry, discussion approaches, barriers encountered), and perceived educational needs regarding CAM in oncology.

Both questionnaires utilized five-point Likert scales for attitude assessment (ranging from strongly disagree to strongly agree) and included both closed-ended and open-ended questions. Questionnaires were pilot-tested with 10 patients and 3 healthcare professionals, with modifications made based on feedback to enhance clarity and cultural appropriateness.

Data Collection Procedure

Patient participants were recruited consecutively during their scheduled chemotherapy visits or follow-up appointments. Face-to-face interviews were conducted in private consultation rooms by trained research assistants proficient in local languages. Each interview lasted approximately 30 to 40 minutes. Healthcare professionals were approached during their clinical duties, and questionnaires were administered through both face-to-face interviews and self-administered formats based on convenience, ensuring minimal disruption to clinical workflow.

Statistical Analysis

Data were entered into Microsoft Excel and analyzed using Statistical Package for Social Sciences (SPSS) version 28.0. Descriptive statistics including frequencies, percentages, means, and standard deviations were calculated for all variables. Chi-square tests were employed to examine associations between categorical variables, while independent t-tests compared continuous variables between groups. Logistic regression analysis identified predictors of CAM disclosure to healthcare providers. Statistical significance was set at p less than 0.05. Qualitative responses from open-ended questions were analyzed using thematic content analysis to identify recurring themes and patterns.

Results

Sociodemographic Characteristics of Patients

The mean age of patient participants was 48.6 ± 10.2 years (range 28 to 68 years). Majority of patients had completed secondary education (42%) or had primary education only (35%), while 15% had graduate or postgraduate degrees. Most patients were homemakers (58%) or engaged in informal employment (25%). Monthly household income was less than 20,000 rupees for 54% of participants, reflecting predominantly lower to middle socioeconomic status. Urban residents comprised 62% of the sample, while 38% came from rural areas.

Clinical Characteristics

Regarding disease stage, 28% of patients had stage I breast cancer, 45% had stage II, 22% had stage III, and 5% had stage IV disease. The mean duration since diagnosis was 8.4 ± 4.6 months. Patients had completed an average of 4.2 ± 1.8 cycles of cisplatin-based chemotherapy at the time of study enrollment. Common chemotherapy-related adverse effects reported included nausea and vomiting (92%), fatigue (88%), peripheral neuropathy (64%), and psychological distress (72%).

CAM Awareness and Usage Patterns

Overall, 94% of patients reported awareness of at least one CAM modality. Among the 100 patients surveyed, 76% (n equals 76) reported using at least one form of CAM either currently or during their cancer treatment journey. Multiple CAM modalities were common, with users employing an average of 2.8 ± 1.4 different therapies.

CAM Modality	Number of Users	Percentage
Yoga and Meditation	54	54.0%
Dietary Supplements (Vitamins, Minerals)	48	48.0%
Ayurvedic Medicines	42	42.0%
Herbal Remedies	38	38.0%
Prayer and Spiritual Healing	36	36.0%
Homeopathy	28	28.0%
Special Diets (including restrictions)	24	24.0%
Acupuncture or Acupressure	12	12.0%
Traditional Healing Practices	10	10.0%

Table 1: CAM Modalities Used by Breast Cancer Patients (n equals 100)

The primary reasons cited for CAM use included managing chemotherapy side effects (68%), boosting immune system (62%), treating cancer itself (34%), psychological support and stress reduction (58%), and maintaining hope and sense of control (45%). It is observed that 18% of patients used CAM with the explicit goal of curing cancer, reflecting potential misconceptions about CAM capabilities.

Sources of information about CAM included family and friends (58%), media and internet (42%), other cancer patients (35%), traditional healers (28%), and healthcare professionals (only 12%). The predominance of non-medical sources highlights gaps in professional guidance regarding CAM therapies.

Patient-Physician Communication About CAM

Despite high CAM usage rates, only 38% of patients (n equals 29 out of 76 CAM users) disclosed their CAM use to their oncologists. Among those who did not disclose (n equals 47), barriers included fear of disapproval or negative judgment (48%), belief that physicians would not be interested (35%), physician did not ask about CAM use (52%), concern about being advised to stop CAM (38%), and belief that CAM use was irrelevant to conventional treatment (22%).

Patients who disclosed CAM use reported mixed physician responses. Approximately 34% of physicians expressed concern or advised discontinuation, 45% showed neutral acceptance without offering guidance, and only 21% provided supportive discussion with evidence-based recommendations. Patients expressed strong preference (82%) for oncologists to initiate conversations about CAM use and provide evidence-based information rather than dismissive attitudes.

Healthcare Professional Characteristics and Knowledge

Among the 25 healthcare professional participants, mean years of experience in oncology care was 8.6 ± 5.2 years (range 2 to 22 years). Medical oncologists comprised 48% of the sample, oncology nurses 32%, and clinical pharmacists 20%.

Knowledge assessment revealed that 88% of healthcare professionals were aware that patients commonly use CAM therapies, but only 44% could accurately identify more than three specific CAM modalities used by their patient population. Knowledge about potential herb-drug interactions was variable, with oncologists demonstrating better awareness (75% accurate knowledge) compared to nurses (50%) and pharmacists (60%).

Healthcare Professional Attitudes Toward CAM Integration

Healthcare professionals demonstrated diverse attitudes toward CAM integration. Positive perceptions included acknowledgment that CAM may benefit symptom management and quality of life (64%), recognition that patients have autonomy in treatment decisions (76%), and openness to evidence-based CAM therapies (52%). However, significant

concerns were expressed including lack of scientific evidence for most CAM therapies (72%), potential for herb-drug interactions affecting chemotherapy efficacy (68%), risk of treatment delay if patients prioritize CAM (58%), and insufficient knowledge to guide patients appropriately (64%).

Attitude Statement	Agree	Neutral	Disagree
CAM can help manage chemotherapy side effects	64%	28%	8%
CAM may interfere with conventional treatment	68%	20%	12%
Patients should inform oncologists about CAM use	96%	4%	0%
I feel comfortable discussing CAM with patients	44%	32%	24%
CAM should be integrated into cancer care	52%	32%	16%
I need more education about CAM therapies	80%	16%	4%

Communication Practices Among Healthcare Professionals

Only 32% of healthcare professionals reported routinely asking patients about CAM use during initial consultations or follow-up visits. Barriers to initiating CAM discussions included time constraints during clinical encounters (68%), lack of knowledge about CAM to provide meaningful guidance (64%), concern about appearing to endorse unproven therapies (48%), and uncertainty about how to counsel patients effectively (56%).

When patients voluntarily disclosed CAM use, most healthcare professionals (76%) documented this information in medical records, but only 40% engaged in detailed discussions about potential interactions or safety concerns. The majority (80%) expressed strong interest in receiving structured education about CAM therapies, evidence base, and communication strategies.

Comparative Analysis of Patient and Physician Perceptions

Significant perception gaps emerged between patients and healthcare providers. While 82% of patients desired physician-initiated CAM discussions, only 32% of healthcare professionals routinely inquired about CAM use (p less than 0.001). Patients perceived greater benefits from CAM for symptom management (78%) compared to healthcare professionals (64%), though this difference was not statistically significant.

Regarding safety concerns, 72% of healthcare professionals worried about herb-drug interactions, while only 28% of patients identified this as a concern (p less than 0.001), indicating knowledge disparities. Both groups strongly agreed (patients 84%, healthcare professionals 96%) that CAM use should be disclosed to oncology teams, yet actual disclosure rates remained low (38%), highlighting the implementation gap.

Factors Associated With CAM Disclosure

Logistic regression analysis identified several predictors of CAM disclosure to healthcare providers. Patients with higher education levels were significantly more likely to disclose CAM use (odds ratio 3.2, 95% confidence interval 1.4 to 7.3, p equals 0.006). Urban residence was associated with higher disclosure rates (odds ratio 2.4, 95% confidence interval 1.1 to 5.2, p equals 0.028). Previous positive communication experiences with healthcare team predicted disclosure (odds ratio 4.6, 95% confidence interval 1.8 to 11.4, p equals 0.001). Conversely, fear of disapproval significantly decreased disclosure likelihood (odds ratio 0.3, 95% confidence interval 0.1 to 0.7, p equals 0.008).

Preferences for CAM Integration Models

Patients expressed preferences for integration models that included routine CAM inquiry during clinical visits (86%), access to evidence-based information about CAM from healthcare team (88%), referrals to qualified CAM practitioners when appropriate (64%), and inclusion of CAM therapies in comprehensive cancer care plans (72%).

Healthcare professionals supported integration strategies including development of institutional guidelines on CAM (88%), continuing medical education programs on CAM in oncology (92%), availability of consultation with CAM experts (76%), and creation of patient education materials about safe CAM use (84%).

Discussion

This study provides comprehensive insights into patient and physician perceptions toward CAM integration in oncology care, specifically among breast cancer patients receiving cisplatin-based chemotherapy in Gujarat, India. The findings reveal substantial CAM usage rates (76%), significant communication gaps between patients and providers, and diverse attitudes toward integration among both populations.

The high prevalence of CAM use observed in this study aligns with previous research demonstrating that 40% to 80% of cancer patients globally utilize CAM therapies[14][15]. The specific modalities identified reflect cultural preferences in the Indian context, with yoga, Ayurvedic medicines, and dietary supplements predominating. These patterns differ somewhat from Western populations where herbal supplements and mind-body therapies show different distribution patterns[16]. The finding that 34% of patients used CAM with the goal of treating cancer itself raises important concerns about potential misconceptions and unrealistic expectations that require educational intervention.

The communication gap revealed in this study, with only 38% of CAM users disclosing to their oncologists, is consistent with international literature reporting nondisclosure rates ranging from 40% to 77%[6][17][18]. This nondisclosure poses significant clinical risks given the potential for herb-drug interactions with chemotherapy agents, particularly with cisplatin whose metabolism and toxicity profile may be affected by certain herbal compounds[19][20]. The predominant barriers identified including fear of disapproval, perception of physician disinterest, and lack of physician inquiry mirror findings from previous studies and highlight systemic failures in patient-provider communication[21][22].

From the healthcare professional perspective, the mixed attitudes observed reflect broader tensions within oncology regarding CAM integration. While 64% acknowledged potential benefits for symptom management, 72% expressed concerns about herb-drug interactions and lack of evidence. This ambivalence is well-documented in literature examining oncology provider attitudes globally[23][24]. The finding that only 32% of healthcare professionals routinely inquired about CAM use represents a critical missed opportunity for therapeutic dialogue and safety monitoring.

The knowledge gaps identified among healthcare professionals regarding specific CAM modalities and herb-drug interactions underscore urgent educational needs. Previous research demonstrates that structured CAM education for oncology providers improves communication quality, enhances patient satisfaction, and reduces potential safety risks[25][26]. The strong interest expressed by 80% of healthcare professionals in receiving CAM education suggests receptiveness to professional development in this domain.

Factors predicting CAM disclosure including higher education, urban residence, and positive prior communication experiences suggest that disclosure patterns are influenced by patient empowerment, health literacy, and trust in the healthcare relationship[27]. These findings have important implications for targeted interventions to improve communication, particularly among vulnerable populations with lower education levels who may be at higher risk for unsafe CAM practices.

The perception gaps between patients and providers regarding benefits and risks of CAM reflect different epistemological frameworks and information sources. Patients often rely on experiential knowledge, testimonials, and cultural traditions, while healthcare professionals prioritize evidence-based medicine and scientific validation[28]. Bridging these perspectives requires respectful dialogue that acknowledges patient autonomy while providing evidence-based guidance to optimize safety and efficacy.

The integration preferences expressed by both patients and healthcare professionals converge on several key elements including routine CAM inquiry, evidence-based information provision, development of institutional guidelines, and access to qualified CAM practitioners. These components align with integrative oncology models being implemented in leading cancer centers globally, which demonstrate feasibility and patient satisfaction[29][30]. Implementation of such

models in the Indian healthcare context requires adaptation to local resources, cultural factors, and healthcare system structures.

Several limitations of this study warrant acknowledgment. The single-center design and geographic specificity limit generalizability to other regions of India or international contexts. The cross-sectional design precludes assessment of longitudinal patterns in CAM use and disclosure behaviors. Self-reported data may be subject to recall bias and social desirability effects. The relatively small sample size of healthcare professionals limits statistical power for subgroup analyses. Future research should employ multicenter designs, longitudinal follow-up, and objective measures of CAM use and clinical outcomes.

Despite these limitations, this study contributes important evidence regarding patient and physician perceptions toward CAM integration in the understudied context of breast cancer patients receiving cisplatin-based chemotherapy in India. The findings highlight urgent needs for enhanced communication strategies, provider education, and development of integrative care frameworks that respect patient preferences while ensuring safety and evidence-based practice.

Conclusion

This study demonstrates that CAM use is highly prevalent among breast cancer patients receiving cisplatin-based chemotherapy, yet substantial communication gaps persist between patients and healthcare providers. The low disclosure rates and diverse attitudes toward CAM integration reflect complex interplay of patient factors, provider knowledge and attitudes, and systemic barriers to effective communication. Bridging the perception gap requires multifaceted interventions including routine CAM inquiry by healthcare professionals, structured education for both patients and providers, development of evidence-based institutional guidelines, and creation of integrative care models adapted to local contexts.

Improving patient-physician communication about CAM use is essential not only for safety monitoring and prevention of herb-drug interactions but also for building trust, respecting patient autonomy, and delivering patient-centered holistic care. Healthcare institutions should prioritize implementation of systematic CAM assessment protocols, invest in provider education about commonly used CAM modalities and their evidence base, and develop referral networks with qualified CAM practitioners when appropriate.

Future research should focus on evaluating the effectiveness of specific integrative oncology interventions in improving communication, patient satisfaction, and clinical outcomes. Studies examining the safety and efficacy of commonly used CAM therapies in combination with chemotherapy protocols are urgently needed to provide evidence-based guidance for clinical practice. As cancer care continues to evolve toward more holistic and patient-centered models, integration of safe and evidence-based CAM therapies represents an important frontier in optimizing quality of life and treatment outcomes for cancer patients.

Conflict of Interest

The authors declare no conflicts of interest in relation to this research. This study was conducted independently without sponsorship or influence from any pharmaceutical companies, CAM product manufacturers, or other organizations that could affect research objectivity or outcomes.

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