

ORIGINAL RESEARCH

ALTERNATIVE MEDICINE-SEEKING BEHAVIOR AMONG CANCER PATIENTS AT THE INDONESIAN CANCER FOUNDATION

Perilaku Pencarian Pengobatan Alternatif pada Pasien Kanker di Yayasan Kanker Indonesia

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ABSTRACT

Background: A large proportion of cancer deaths are caused by patient delay in accessing hospital treatment. One of the causes of such delays is the use of alternative medicine. **Purpose:** This research is conducted to determine the characteristics and factors related to the behavior of seeking treatment in the form of alternative medicine among cancer patients at the Indonesian Cancer Foundation (Yayasan Kanker Indonesia). **Methods:** This research is a quantitative descriptive research with a cross-sectional study design. The target of the research is all patients who temporarily stayed at the Yayasan Kanker Indonesia from February–April 2020, a total of 45 patients aged ≥ 17 years who had been diagnosed with cancer. The data was obtained via questionnaires and interviews. The variables examined are the predisposition factors (sex, age, education, occupation, stage of cancer, time ranges for accessing health services after symptom onset, prior illness, family history), enabling factors (distance to health services, income, health insurance), and reinforcing factors (family support and information resources). Analysis of research data was conducted using frequency tables and Chi-Square or Fisher's Exact test. **Results:** The factors related to the behavior of seeking treatment via alternative medicine in cancer patients at Yayasan Kanker Indonesia are the stage of cancer ($p=0.04$), the time span between symptom onset and checking into health services ($p=0.02$), and length of illness ($p=0.03$). **Conclusion:** Alternative treatment search behavior is influenced by several factors, namely the stage of cancer, the time span between symptom onset and checking into health services, and the length of illness.

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ABSTRAK

Latar Belakang: Tingginya angka kematian akibat kanker salah satunya disebabkan oleh keterlambatan pasien dalam melakukan pengobatan ke rumah sakit. Salah satu penyebab keterlambatan tersebut yakni penggunaan pengobatan alternatif. **Tujuan:** Penelitian ini dilakukan untuk mengetahui karakteristik dan faktor apa saja yang berhubungan dengan perilaku pencarian pengobatan alternatif pada pasien kanker di Yayasan Kanker Indonesia. **Metode:** Penelitian ini merupakan penelitian deskriptif kuantitatif dengan desain studi cross sectional. Sasaran penelitian adalah seluruh pasien yang singgah di Yayasan Kanker Indonesia dari bulan Februari-April 2020 yakni sebanyak 45 pasien yang telah didiagnosis kanker dan berusia ≥ 17 tahun. Pengambilan data diperoleh dari kuesioner dan wawancara. Variabel yang diteliti yakni faktor prediposisi (jenis kelamin, usia, pendidikan, pekerjaan, stadium kanker, rentang waktu pemeriksaan ke layanan kesehatan, lama sakit, riwayat keluarga), faktor enabling (jarak layanan kesehatan, pendapatan, jaminan kesehatan), dan faktor reinforcing (dukungan keluarga dan sumber informasi). Analisis data penelitian menggunakan tabel frekuensi dan uji Chi-Square atau Fisher's Exact. **Hasil:** Faktor yang berhubungan dengan perilaku pencarian pengobatan alternatif pada pasien kanker di Yayasan Kanker Indonesia yakni stadium kanker ($p=0,04$), rentang waktu periksa ke layanan Kesehatan sejak timbul gejala ($p=0,02$), dan lama sakit ($p=0,03$). **Kesimpulan:** Perilaku pencarian pengobatan alternatif dipengaruhi oleh beberapa faktor yakni stadium kanker, rentang waktu periksa kelayanan kesehatan, dan lama sakit.

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INTRODUCTION

Cancer is a disease that can cause cells in the body to change and spread out of control (ESMO, 2018). The global cancer burden is estimated to have increased to 18.07 million new cases and 9.56 million deaths in 2018. One in five men and one in six women worldwide has cancer, and one in eight men and one in eleven women die from this disease (IARC, 2018).

The results of Indonesia's basic health research in Indonesia (Riskesdas) from 2018 show an increase in the prevalence of cancer, based on doctors' diagnoses in Indonesia, from 1% per million in 2013 to 2% per million in 2018. The highest estimated number of cancer patients in Indonesia are located in Central Java Province and East Java Provinces, at a total of 68,639 and 61,230 people respectively (Ministry of Health RI, 2018).

One of the causes of the high death rate for this illness is that the patient delays coming to the hospital, meaning that the patient is less likely to be cured. The use of herbal medicine is a factor

causing the delay in conventional treatment in patients with cancer, especially breast cancer patients at Banyumas Health Center, Banyumas district. This is an important factor to study because the majority of cancers are found at an advanced stage, namely at stage III (43%) and stage IV (26%). In stages III and IV, breast cancer tends to have metastasized in the tissue and lymph nodes, decreasing the success of therapeutic intervention (Bahar & Anwar, 2015).

Research conducted by Mambodiyanto & Maharani (2016) suggests that the use of alternative medicine is associated with a delay in taking up medical treatment among breast cancer patients. Alternative medicine has a significant effect on treatment delay. Many people choose alternative therapies because they are afraid of chemotherapy and surgery; moreover, public perception has been influenced by advertisements for herbal products in the mass media, which promise that herbal products will heal illness and are comparatively safer without side effects (Rossalia & Manuaba, 2016). The search for a new treatment typically begins when the tumor is

enlarged and causes pain, and the first behavior is often to seek out traditional medicine. When the disease gets worse, the patient then goes to the hospital (Lucin, 2016). Complementary and Alternative Medicine (CAM) is, as the name suggests, a combination of complementary and alternative medicine. Complementary medicine is a treatment that combines conventional medical treatment with non-medical medicine; for its part, alternative medicine is used without being followed by conventional or medical treatment (NCCIH, 2018).

According to research conducted by Johnson, Park, Gross, & Yu (2018), cancer patients who initially chose alternative medicine without first taking conventional or medical treatment have a higher chance of dying. In the context of the use of alternative medicine for early cancer treatment, better communication between patients and health services is urgently needed.

Research conducted by Shen et al (2016) shows that even though Taiwan has health insurance coverage that has reached 99%, there are still many cancer patients who delay treatment after being diagnosed. In a study conducted by Lee, Sohn, & Chon (2018), patients who refuse to take conventional treatment risk their cancer becoming worse. The same conclusion was also drawn by a study conducted in Taiwan: specifically, among patients who postponed or did not take conventional treatment, only 45% survived for five years, while patients who did not delay conventional treatment had a five-year survival rate of 85% (Chen, Kung, Huang, Wang, & Tsai, 2015).

Most people prioritize carrying out their daily activities while ignoring the pain; only when the pain worsens will treatment-seeking behavior emerge (Garg, 2016). This study aims to determine what characteristics and factors are associated with the behavior of seeking alternative medicine treatments among cancer patients at the Indonesian Cancer Foundation (Yayasan Kanker Indonesia).

METHODS

This research is a descriptive quantitative study with a cross-sectional study design. The targets of the research were all patients who were treated at the Indonesian Cancer Foundation from February–April 2020; this yielded a total of 45 patients who had been diagnosed with cancer, were willing to become respondents, and were \geq 17 years old. Data was obtained from

questionnaires and interviews. Sampling in this study was carried out using a non-probability sampling method through a purposive sampling technique, namely the determination of the sample among the population according to the criteria desired by the researcher.

The variables studied were predisposition factors (gender, age, education, employment status, cancer stage, the time span between symptom onset and checking into health services, duration of illness, family history), enabling factors (distance to health services, income, health insurance), and reinforcing factors (family support and information resources). The categorization of gender was binary (male and female). Age was categorized into ≤ 50 and > 50 years. Education was categorized into low ($<$ High School) and high (\geq High School), while employment status was categorized into employed and unemployed. Cancer stages were categorized into early-stage (stages I–II) and metastatic stage (III–IV). Time ranges for accessing health services after symptom onset were categorized as ≤ 3 months and > 3 months. Illness duration was categorized as ≤ 1 year and > 1 year. Family history of cancer was categorized into yes and no. Distance to health services was categorized as “near” if the distance from the house to health services was ≤ 5 km and “far” if the distance from the house to health services was > 5 km.

Income was categorized based on the District or City minimum wage where the patient lives, which can be divided into \leq Standard Income and $>$ Standard Income. Health insurance was categorized into having membership in an Insured Organization or company such as BPJS (public/private) and Self-paying. Family support was categorized into good and bad as measured by a questionnaire. Sources of information were categorized into friends, family, and advertisements.

Analysis of research data was conducted using univariable analysis using frequency tables and bivariable using the Chi-Square test or Fisher's Exact. This study has received ethical approval from the Faculty of Dentistry, with a registration number 075/HRECC.FODM/III/2020 at March, 9th 2020.

RESULTS

Based on the results of the study, it was found that out of a total of 45 respondents, 28.89% had used alternative medicine. Table 1 showed that most of the respondents were aged > 50 years (24

people; 53.33%); moreover, 80% of respondents were female (36 people), 57.78% had a low education level (26 people), and 53.33% did not work or were unemployed (24 people). Furthermore, 57.78% of respondents (26 people) had stage III or IV cancer. The proportion of respondents who waited three months or longer after symptom onset before seeking treatment was 64.45% (29 people), while 66.67% (30 people) reported a duration of illness > 1 year. Those reporting no family history of cancer represented 62.22% of respondents (28 people). The vast majority of respondents lived near health services (88.89%; 40 people); moreover, 66.67% (30 people) made less than standard income, 97.78% (44 people) used insurance, and 75.56% (34 people) reported good family support. The variables related to the behavior of seeking alternative treatment included stage of cancer ($p = 0.04$), time before utilizing health services following symptom onset ($p = 0.02$), and duration of illness ($p = 0.03$).

Findings regarding the use of alternative medicine show that most choose to take mind-body medicine or other non-medical treatment from people who they believe have the advantage in curing disease. Several respondents stated that they had tried more than one type of alternative medicine (Table 2). Table 3 shows that most respondents get information about alternative medicine through friends, both those who are suffering from cancer and those who do not have cancer.

DISCUSSION

The results showed that most respondents were > 50 years old or included in the elderly category. While age is not statistically related to alternative treatment-seeking behavior, older people do tend to use alternative medicine more than younger patients (Razali, Ali, Gan, & Lim, 2020).

Male and female respondents have the same likelihood of using alternative medicine overall, but in this study, it was found that more female patients used alternative medicine than men. This is in line with the research conducted by Razali, Ali, Gan, & Lim (2020), which states that more female patients use alternative medicine. This can lead to bias because patients with a diagnosis of breast cancer tend to be female. These results are also presented in the research of Scarton et al (2018), which shows that female patients tend to be more interested in using alternative medicine.

The results showed that no relationship exists between the level of education and the behavior of seeking alternative medicine. This is consistent with research conducted by Johnson, Park, Gross, & Yu (2018), which states that there is no statistical relationship between education level and alternative treatment-seeking behavior; patients with low and high levels of education are equally likely to try alternative medicine. This is also in line with research conducted by Razali, Ali, Gan, & Lim (2020), which shows no statistical relationship between the level of education and alternative medicine-seeking behavior. Similar studies have also found that although patients with lower levels of education tend to use alternative medicine more frequently, this tendency is not statistically significant, as both high and low levels of education have insignificant percentages (Abuelgasim et al., 2018).

Furthermore, the results showed no relationship between employment status and alternative medicine-seeking behavior. The majority of cancer patients were unemployed either because they had retired or because they were housewives (Mujar et al., 2017; Ryamizard, Nawangsih, & Margawati, 2018; Ustündag & Zencirci, 2015).

Based on the study results, it appears that there is a relationship between stage of cancer and the behavior of seeking alternative medicine. This is in accordance with research conducted by Johnson, Park, Gross, & Yu (2018) showing that a relationship exists between the stage of cancer suffered and the use of alternative medicine: the higher the cancer stage, the more patients with a history of using alternative medicine were found. This is in line with research conducted by Loquai et al (2017), which states that there is a relationship between cancer stage and the use of alternative medicine. According to Buckner, Lafrenie, Dénommée, Caswell, & Want (2018), patients tend to use alternative medicine because they feel they want to try all kinds of treatments that they think might help and believe that conventional medicine has a harmful effect.

The results additionally showed that there is a relationship between time until seeking health services and the behavior of seeking alternative medicine. The results of this study are in accordance with research conducted by Mambodiyanto & Maharani (2016), which states that there is a relationship between the use of alternative medicine and delays in treatment at health services. Patients who try alternative medicine tend to delay going to health services,

both at initial diagnosis and for therapy. Some respondents stated that they were afraid of surgery and wanted to seek other treatment so that surgery was not necessary.

The results showed that there was a relationship between the length of time the patient suffered from cancer and the behavior of seeking alternative medicine. This is in accordance with

research conducted by Azhar, Achmad, Lukman, Hilmanto, & Aryandono (2016) stating that there is a relationship between the duration of illness and the use of alternative medicine. Patients who have had cancer for more than one year are more likely to try alternative treatments than those who have not yet reached one year since diagnosis.

Table 1

Characteristics and Search Behavior of Alternative Medicine in Cancer Patients at the Indonesian Cancer Foundation

Variable	Alternative Medicine				Total		<i>p</i>	PR	95%CI
	No		Yes		n	%			
	n	%	n	%					
Age (Years)									
≤50	17	37.78	4	8.89	21	46.67	0.30	1.30	(0.89–1.88)
>50	15	33.33	9	20.00	24	53.33			
Gender									
Male	5	11.11	4	8.89	9	20.00	0.41	0.74	(0.40–1.37)
Female	27	60.00	9	20.00	36	80.00			
Education									
Low	18	40.00	8	17.78	26	57.78	1.00	0.94	(0.65–1.36)
High	14	31.11	5	11.11	19	42.22			
Employment Status									
Employed	15	33.33	6	13.33	21	46.67	1.00	1.01	(0.69–1.46)
Unemployed	17	37.78	7	15.55	24	53.33			
Stage									
Early (I-II)	17	37.78	2	4.44	19	42.22	0.05	1.55	(1.08–2.23)
Metastatic (III-IV)	15	33.33	11	24.44	26	57.78			
Time Before Accessing Health Services (Months)									
≤3	15	33.33	1	2.22	16	35.55	0.02	1.60	(1.15–2.23)
>3	17	37.78	12	26.67	29	64.45			
Duration of Illness (Years)									
≤1	14	31.11	1	2.22	15	33.33	0.03	1.56	(1.13–2.15)
>1	18	40.00	12	26.67	30	66.67			
Family History of Cancer									
Yes	13	28.89	4	8.89	17	37.78	0.74	1.13	(0.78–1.63)
No	19	42.22	9	20.00	28	62.22			
Distance to Health Services									
Near (≤5km)	30	66.67	10	22.22	40	88.89	0.14	1.88	(0.63–5.57)
Far (>5 km)	2	4.44	3	6.67	5	11.11			
Household Income									
≤Standard Income	22	48.89	8	17.78	30	66.67	0.73	1.10	(0.72–1.67)
>Standard Income	10	22.22	5	11.11	15	33.33			
Health Insurance									
Insured (public/private)	31	68.89	13	28.89	44	97.78	1.00	0.71	(0.58–0.85)
Self-paying	1	2.22	0	0.00	1	2.22			
Family Support									
Good	25	55.56	9	20.00	34	75.56	0.70	1.16	(0.71–1.89)
Bad	7	15.55	4	8.89	11	24.44			
Total	32	71.11	13	28.89	45	100.00			

Table 2

Types of Alternative Medicine for Cancer Patients at the Indonesian Cancer Foundation

Types of Alternative Medicine	n	Total (%)
Biologically Based Therapies (BBT)		
Nutrition Supplement (multivitamin)	4	22.22
Mind-Body Interventions (MBI)		
Prayer	10	55.56
Whole Medical System		
Traditional Chinese Medicine	2	11.11
Manipulation and Body-based method (MBM)		
Massage	2	11.11

Note: Pasien menggunakan lebih dari satu jenis pengobatan

Tabel 3

Alternative Medicine Information Sources

Information Sources	n	%
Friends	10	76.92
Family	2	15.38
Advertisement	1	7.69
Total	13	100.00

The same conclusion was drawn by Hwang et al (2015), who found that the length of time a patient had suffered from cancer influenced the behavior of using alternative medicine. Most cancer patients in their study had had cancer for more than one year, and it was found that most were using alternative medicine.

The results showed that there was no relationship between a family history of cancer and alternative medicine-seeking behavior. This is in line with research conducted by Naja et al (2014) stating that there is no relationship between a family history of suffering from cancer and alternative treatment-seeking behavior. According to the article by Hwang et al (2015), there is no relationship between a family history of cancer and seeking alternative treatment. Experience with alternative medicine influences patients who have had cancer to either choose or not choose alternative medicine again depending on what benefits they have felt. Some respondents stated that their complaints had decreased, but after some time, these complaints both returned and worsened.

The results showed no relationship between distance to health services and the behavior of seeking alternative medicine. This is in accordance with research conducted by Ryamizard, Nawangsih, & Margawati (2018); these authors found no relationship between health service distance and alternative treatment-seeking behavior. This is because the majority of cancer patients want to get well soon by trying treatment,

even in cases where they need to travel long distances to access alternative medicine services. Most patients follow the advice of people they know who tell them about the experiences of patients who have successfully recovered (Lucin, 2016).

The present results also found no relationship between income level and likelihood of seeking out alternative medicine. These findings are consistent with research conducted by Ryamizard, Nawangsih, Margawati (2018), who also found no relationship between income and alternative medicine-seeking behavior. Patients who have been diagnosed with cancer tend to seek various kinds of treatment even if their income is average or below average. Research conducted by Mujar et al (2017) further shows that patients with a below-average income tend to use more alternative medicine, although this relationship was not statistically significant. The results of this study contradict the findings of Abuelgasim et al (2018), which suggest that most patients using alternative medicine were patients with above-average income.

The results showed that there was no relationship between health insurance status and alternative treatment-seeking behavior. This is in accordance with research conducted by Azhar, Achmad, Lukman, Hilmanto, & Aryandono (2016) stating that health insurance status is not statistically related to seeking out alternative treatments. The majority of respondents used public health insurance, namely BPJS. A small

proportion of respondents were not yet registered as BPJS users when they first presented to the hospital for diagnosis, but subsequently registered themselves, after which the medical costs were covered by the BPJS. Research conducted by Naja et al (2014) states that most cancer patients have used health insurance. A study conducted by Dewi & Nisa (2019) additionally notes that patients continue to use alternative medicine even though they are registered as part of the BPJS.

This study shows that level of family support is not related to alternative treatment-seeking behavior. Although not statistically related, however, family support did influence the desire to use alternative medicine. The results of research conducted by Susanti, Devy, & Hargono (2018) show that social support contributes to treatment-seeking patterns. Patients who are treated in medical services tend to be fully supported by their families, while patients who do not have family support prefer non-medical or alternative treatments. The role of family support is very important for patients, as being with those around them makes the patient feel loved, appreciated, and cared for throughout their illness. Family support also plays a significant role in determining the patient's treatment status. If this support is obtained by the patient during the treatment process, the patient will feel more confident, happier, and ready to undergo all treatments. According to research conducted by Rahayuwati, Ibrahim, & Komariah (2017), the decision to use alternative medicine is usually determined by discussions carried out with the family, including husbands or parents.

The most widely used type of alternative medicine is the prayer method, which is administered by people who are considered capable of providing healing. This finding is in accordance with research conducted by Mujar et al (2017). A study by Monicah, Mbugua, & Mburugu (2019) states that the majority of cancer patients in Kenya choose to use alternative medicine with spiritual methods.

Based on the distribution, the source of the respondent's information about alternative medicine was mostly friends (76.92%; 10 people). This is in accordance with the research conducted by Razali, Ali, Gan, & Lim (2020), which found that many cancer patients get information about alternative medicine through friends; these may be friends who are also cancer patients or friends who do not have cancer but have access to information about alternative medicine. Many of them became interested in trying alternatives after hearing some

patients promise that they had recovered successfully after taking the treatment. According to research conducted by Buckner, Lafrenie, Dénonnée, Caswell, & Want (2018), cancer patients who use alternative medicine want to try all treatments that are considered capable of helping to heal them, so they tend seek out alternative options.

CONCLUSION

The majority of cancer patients at the Indonesian Cancer Foundation have the following characteristics: > 50 years old, female, low education level, cancer stage III–IV, time span between symptom onset and accessing health services > 3 months, duration of illness > 1 year, no family history of cancer, close proximity to health services, below-average income, have health insurance, and have good family support. The type of alternative medicine most commonly used is spiritual or prayer. Most information regarding alternative medicine is obtained from friends. Variables that were found to be statistically related to alternative treatment-seeking behavior included stage of cancer, time between symptom onset and visiting a health service, and duration of illness.

CONFLICT OF INTEREST

There is no conflict of interest in this study.

AUTHOR CONTRIBUTIONS

ANI: Concept, Method, and Statistic. LYH: Validation, Editing, Supervision.

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