RESEARCH PAPER

Knowledge about the Impact of Tarvine (Boerhavia Diffusa) In Reducing Cancer among Colon Cancer Patients

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ABSTRACT
Some signs of colon cancer include blood (either bright red or dark in the stool or a change in bowel habits, diarrhea, constipation, feeling that the bowel does not empty completely, stools that are narrower or have a different shape than usual, general abdominal discomfort such as gas pains, bloating, fullness or cramps, weight loss for no known reason, fatigue, vomiting etc., are the major symptoms of colon cancer. However, these symptoms doesn't compulsorily the reasons / presence of colon cancer. There may be some other problem. Hence, consultation with doctor is necessary and if a person identify these symptoms, he has to consult the doctor and undergo for the prescribed tests. Lack of this knowledge leads to stage 4 among the colorectal cancer patients and they are victimizing to the cancer. Hence, the present study attempted to identify the awareness levels among the colorectal cancer patients and majority of them unaware about the symptoms of the colon cancer.

Keywords: Colon cancer, colorectal cancer, Punarnava, Tarvine, Awareness, Colorectal Cancer Patients
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INTRODUCTION

Colorectal cancer is caused by certain changes in the functions of colorectal cells, especially, the way in which they grow and divide into new cells. There are many risk factors for colorectal cancer, but many do not directly cause cancer. However, they increase the chance of DNA damage among the cells that may lead to colorectal cancer at colon or rectum. A risk factor is anything that increases the chance of getting disease due to the abnormality in cell formation, cell functioning can be viewed as cancer. However, the risk factors also include things that cannot be changed like genetics, getting older, family history, changes in lifestyle, food intake habits etc., are the determinants of the colorectal cancer. The risk factors for colorectal cancer are : having a first degree relative (parent, sibling or child) with a history of colon or rectal cancer; having a personal history of colon, rectal or ovarian cancer; having a personal history of high risk adenomas (Colorectal polyps that are 1 centimetre or larger in size or that have cells that look abnormal under a microscope); having inherited changes in certain genes that increase the risk of familial adenomatous polyposis (FAP) or Lynch syndrome (hereditary nonpolyposis colorectal cancer); having a personal history of chronic ulcertative colitis or Crohn disease for 8 years or more; having three or more alcoholic drinks per day; smoking cigars, certain races such as Black, as discussed earlier, obesity, old age etc., are the main causes for getting cancer. Of course, having one or more risk factors doesn't mean that the person will definitely have colorectal cancer, but chances will be there.

According to the Global Cancer Observatory, India recorded around 43,360 new cases of colon cancer in men and 26,678 in women in 2022. Cancer is a leading cause of mortality and morbidity worldwide. The WHO estimated 7.6 million deaths due to cancer in the year 2005, a number has expected to rise to 12 million deaths by the year 2030. An estimated 1 million cases of colorectal cancer occur each year, accounting for more than 9% of all new cancers. Colorectal cancer is the second most common cancer in women [570000 cases, 9.4% of the total] and third most common cancer in men [663,000 cases, 10.0% of the total] worldwide. According to the US preventive services task force and the American Cancer Society recommendations, every man and women aged 50 years and above should be screened for colorectal cancer using one of the screening tests like annual faecal occult blood test, sigmoidoscopy every 5 years, barium enema every 5 years or colonoscopy for every 10 years. In India, colon cancer ranks 9th and rectal cancer 10th among the most common cancers in men. For women, rectal cancer

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does not figure in the 10 cancer, whereas colon cancer ranks 9th. The highest adjusted incidence rate in men for colorectal cancer was recorded in Thiruvanthapuram, followed by Bengaluru and Mumbai. In women, the highest adjusted incidence rate was recorded in Nagaland followed by Aizwal. Though considered as one among the preventable cancers, more than 70% of colorectal cancer are resulting into deaths in India. (P. Anusha1, Dr. M. Nagarathnam, 2016).

REVIEW OF LITERATURE

Aga SS, Khan MA, Alsulimani EF, Fallatah MA, Alquzi AS, Alzahrani RA, et al. , Al Abdouli L, Dalmook H, Abdo MA, Carrick FR, Rahman MA:, Anwar SL, Tampubolon G, Van Hemelrijck M, Hutajulu SH, Watkins J, Wulaningsih W, Brandt HM, Dolinger HR, Sharpe PA, Hardin JW, Berger FG., Christy SM, Sutton SK, Gwede CK, et al. , Gede N, Reményi Kiss D, Kiss I, HamidehSalimzadeh, AlirezaDelavari, Ali Montazeri et al., Imran M, Sayedalamin Z, Alsulami SS, Atta M, Baig M., Jurdana M., Khayyat YM, Ibrahim EM., Koo JH, Leong RW, Ching J, Yeoh KG, Wu DC, Murdani A, et al. , Kunzmann AT, Coleman HG, Huang WY, Cantwell MM, Kitahara CM, Berndt SI., Lee SY, Mhaidat NM, Al-Husein BA, Alzoubi KH, Hatamleh DI, Khader Y, Matalqah S, et al., Nasaif HA, Al Qallaf SM, Ravichandran, K., N. Al-Hamdan, and G. Mohamed, Redhwan A, AL-Naggar, Yuri V. Bobryshev et al. , Saeed RS, Bakir YY, Alkhalifah KH, Ali LM. , Siegel RL, Miller KD, Tfaily MA, Naamani D, Kassir A, et al. Vallis J, Wang PP. , Whitaker DE, Snyder FR, San Miguel-Majors SL, Bailey LO, Springfield SA, Zubaidi A, Humaid A, AlKhayal K, AlObeed O, AlSubaie N, Shaik S. etc., have conducted studies on Knowledge, Awareness and Attitudes of the colon cancer patients. However, there are no much studies found in social sciences compared to the studies in applied sciences. Hence, the present study has been undertaken with the following objectives.

Objectives of the Study

1. To identify the profile of the colorectal cancer patients
2. To understand the reasons of the colorectal cancer among the colorectal cancer patients
3. To assess the awareness levels possessed by the colorectal cancer patients about their disease.
4. To know the knowledge about the anti-cancer foods especially, the herb, PUNARNAVA among the sample of the study

RESEARCH DESIGN

Tirupati is the prime location in Rayalaseema Region in terms of pilgrim centre, educational hub and health avenues. It is the abode of Lord Venkateswara and having floating population in all the seasons. Further, it is having the 8 universities with number of colleges and become the educational hub of the region. It also becomes the popular for its avenues in the health care aspect by having Medical College, Sri Venkateswara Institute of Medical Sciences, Sri Padmavati Institute of Medical Sciences, SVICCAR (Cancer Institute) etc., apart from being the district headquarters. Hence, for the purpose of the study, the Colorectal Cancer Patients getting treatment in SVIMS has been selected as sample of the study thus, the locale constitutes Tirupati district.

As per the information from the hospital sources, there are about 78 Colorectal Cancer Patients are getting treatment in the department of Oncology, SVIMS. Out of the total patients, data was collected from 62 cancer patients spreading around Tirupati district by using the Purposive and Snowball sampling techniques.

In the next stage, a schedule has been constructed to find out the awareness levels among the Colon Cancer Patients. The research tool consists two parts viz., part I with personal information and part II with research items such as mode of treatment that they are undergoing, their food habits before attacking the colon cancer and after getting treatment, knowledge about the anti-cancer foods, leafy vegetables especially the Punarnava (Galijeru in local language) etc., The prepared schedule was administered to the sample of the study by the investigators and collected the information personally by visiting their places and during their visits to the hospital for getting treatment etc.,

In the next stage, the collected information was pooled together and analysed keeping in view of the objectives of the study. As the study is an explorative in nature, simple percentages were used as statistical technique.

The results obtained from the sample is presented in the following pages.

RESULTS OF THE STUDY

The findings of the study were presented in two sections whereas section I deals with the profile of the sample and section II deals with the awareness levels possessed by the sample colorectal cancer patients.

Profile of the sample

From the table 1, majority of the colorectal patients are males (58.06%). However, the table clearly shows that the notion of cancer threat is for males only as they might have had bad habits and females are not at high risk. The results clearly shows that it is only a notion and females are not exceptional from it. The age-wise classification of the sample shows that majority of the sample are from 61 years or more group (37.09%) followed by 51-60 years (30.65%), 41 to 50 years (20.97%) and less than 40 years of age group (11.29%). This clearly indicates that higher the age, risk of colorectal cancer is high and we need to obey the advices of the doctors for frequent checkups after passing 40 years of age attainment. The caste-wise distribution of the cancer patients shows that majority of them belongs to Scheduled Caste (37.09%) followed by Backward Castes (27.42%). An equal number of patients are there from forward castes and Scheduled Tribes with 17.74%. The education-wise classification of the sample shows that majority of sample educated upto primary level

(27.42%) followed by High School educated (19.35%), Intermediate education (17.74%), illiterates (14.52%), graduated (11.29%) and Post Graduated and above (9.68%). It clearly shows that education will impact somewhat better when compared with low or no educated.

Table 1: Profile of the sample

S. No	Variable	Group	N	%
1	Sex	Male	36	58.06
		Female	26	41.94
2	Age	Less than 40 years	7	11.29
		41 – 50 years	13	20.97
		51-60 years	19	30.65
		61 and more	23	37.09
3	Caste	OC	11	17.74
		BC	17	27.42
		SC	23	37.09
		ST	11	17.74
4	Education	Illiterate	9	14.52
		Primary	17	27.42
		High school	12	19.35
		Intermediate	11	17.74
		Graduation	7	11.29
		PG and above	6	9.68
5	Marital status	Unmarried	0	0.00
		Married	36	58.06
		Widowed	26	41.94
6	Type of family	Nuclear	58	93.55
		Joint	4	6.45
7	Occupation	Agriculture	8	12.90
		Business	5	8.06
		Job	5	8.06
		Pension	24	38.71
		Labour	11	17.74
		Agricultural labour	9	14.52
8	Family monthly income	Less than Rs. 10,000/-	28	45.16
		Rs. 10,001/- to 20,000/-	13	20.97
		Rs. 20,001 – 30,000/-	9	14.52
		Rs. 30,001 to 40,000/-	7	11.29
		Rs. 40,001 and above	5	8.06

With regard to the marital status of the sample, all the sample got married and out of them, 41.94 are widowed. Majority are having nuclear families only 6.45 percent represents from joint families which is clearly showing the impact of globalization. In a further probe with regard to the occupational status, majority i.e., 38.71 percent are relying on pensions issued by the Government followed by the labour (17.74), agricultural labour (14.52). An equal number of sample are having the business and agriculture (12.90% each) as their occupation. The results clearly indicates that majority are sustaining on the welfare programmes of the Government and living under below poverty conditions. The monthly income levels shows that nearly half of them i.e., 45.16 percent of them are having less than Rs. 10000/- as their monthly income followed by Rs. 10001 to Rs. 20000 (20.97%), Rs. 20001 to Rs. 30000/- (14.52%), Rs. 30001 to Rs. 40000 (11.29%) and only few of them have Rs. 40001 and above income (8.06%). The results showed in income levels supporting that majority of them are living under below poverty line.

From the above profile it can be concluded that majority of the sample are men, above 60 years of age group, Scheduled Castes, primary educated, married, from nuclear families living under below poverty circumstances and relying on Government Welfare Programmes.

RESEARCH FINDINGS

Table 2 : Period of suffering from Colorectal Cancer

S. No	Variable	Group	N	%
1	Period of existence of colon cancer	6 months	22	35.48

		7 months to 1 year	19	30.65
		1 year 6 months	14	22.58
		2 years and more	7	11.29

The colon cancer patients were enquired about since how long they are suffering with colorectal cancer revealed that majority of them are diagnosed for the last 6 months (35.48%) followed by 7 months to one year (30.65%, last one and half years (22.58%) and 2 years and more than that period (11.29%).

In a further probe made to identify the family cancer history reveals that less than 30 percent of them have the family history and remaining 70 percent does not have such history.

Table 3 : Family Cancer History

S. No	Variable	Group	N	%
1	Any of family members as cancer patients	Yes	18	29.03
		No	44	70.97
2	Relation with the sample (N= 18)	Spouse	4	22.22
		Mother / Father	7	38.89
		Siblings	5	27.78
		Children	2	11.11

With regard to the question who have the cancer, majority of them revealed that one of their parents either mother or father have the cancer history (38.89%) followed by siblings (27.78%), spouse (22.22%) and children (11.11%).

Table 4 : Opinions of the sample regarding colon cancer

S. No	Variable	Group	N	%
1	Do you think people after 50 years more likely get colon cancer?	Yes	15	24.19
		No	12	19.35
		May be	22	35.48
2	In your opinion, who will more likely to get colon cancer?	Men	14	22.58
		Women	17	27.42
		Both	31	50.00

An enquiry into the opinions of the sample colorectal patients with regard to the prevalence of colorectal cancer among the people over 50 years of age revealed that more than one third of the sample are not sure that prevalence of colorectal cancer will be more for the persons who crossed the age of 50 years followed by accepted sample (24.19%) and not accepted sample (19.35%). In a further probe which gender will get more chances of attack revealed that about half of the sample said that both men and women have the chances of attack followed by women (27.42%) and men (22.58%).

Table 5 : opinions of the sample about the food habits will cause colorectal cancer

S. No	Variable	Group	N	%
1	Do you think that lack of exercise is a contributing factor to colon cancer?	Yes	9	14.52
		No	53	85.48
2	Do you think that eating meat contributes to colon cancer	Yes	55	88.71
		No	7	11.29
3	Do you think that not eating fruits leads to colon cancer?	Yes	49	79.03
		No	13	20.97
4	Do you think that eating habits cause colon cancer?	Yes	45	72.58
		No	17	27.42
5	Do you think that obesity is related to colon cancer?	Yes	59	95.16
		No	3	4.84
6	Do you think that colon cancer is hereditary?	Yes	34	54.84
		No	28	45.16

An enquiry about their opinions regarding whether the food habits will lead to the reasons of colorectal cancer revealed that obesity (95.16%), eating meat will raise the threat of colorectal cancer (88.71%) followed by nonconsumption of fruits (79.03%), food intake habits influence (72.58%), hereditary factors (54.84%), lack of exercise etc., may be some of the reasons leading to colorectal cancer.

Table 6 : awareness about the symptoms of the colorectal cancer among sample

S. No	Variable	Group	N	%
1	Do you think that blood in the stool is one of the symptoms of colon cancer?	Yes	51	82.26
		No	11	17.74
2	Do you know that sudden weight loss and fever can be caused by colon cancer?	Yes	46	74.19
		No	16	25.81
3	Do you think that chronic abdominal pain is one of the symptoms of colon cancer?	Yes	52	83.87
		No	10	16.13
4	Do you think that chronic infection in the colon is one of the risk factors for colon cancer?	Yes	49	79.03
		No	13	20.97
5	Do you think that smoking / drinking alcohol can lead to colon cancer?	Yes	50	80.65
		No	12	19.35
6	Do you think that environmental factors are responsible for colon cancer?	Yes	34	54.84
		No	28	45.16
7	Did you know about the symptoms of colorectal cancer before attainment or after becoming the cancer patient?	Before	10	16.13
		After	52	83.87

The information obtained from the sample of the study with regard to their knowledge about the symptoms of the colorectal cancer revealed that chronic abdominal pain (83.87%) followed by blood in stool (82.26%), smoking and drinking (80.65%), chronic infection in the colon (79.03%), sudden weight loss (74.19%) are some of the symptoms that they observed in colorectal cancer. Further, they opined that the environmental factors to some extent (54.84%) are also leading to the colorectal cancer among the patients. Majority of the sample revealed that they have the knowledge about the symptoms of the colorectal cancer only after attainment of the cancer to them. This clearly shows that the researchers need to inculcate awareness among the society about the symptoms of the cancers especially, the colorectal cancer because of the notions of shame and timidity, they may not aware and consult the doctor.

In an enquiry about the knowledge regarding the causes for their disease only 30 percent of the sample know about the reason for their disease and less than 70 percent of the sample doesn't know the cause for their disease.

Table 7 : Knowledge about the cause of Colorectal cancer among the sample

S. No	Variable	Group	N	%
1	Knowledge about the causes of colon cancer	Yes	19	30.65
		No	43	69.35
2	Reason for causing colon cancer (N=19)	Hereditary	5	26.32
		Over intake of food	3	15.79
		Skipping breakfast	5	26.32
		Over intake of nonveg	6	31.58
3	Type of treatment	Chemo	28	45.16
		Medicines	34	54.84

The reasons informed by the sample revealed that over intake of non-vegetarian food including meat and chicken etc., (31.58%) followed by hereditary reasons and skipping of breakfast made them to become the colorectal cancer patients (26.32% each), over intake of regular food lead to obesity (15.79) are lead them as colorectal cancer patients. With regard to the type of treatment that they are undergoing revealed that more than half of them are taking medicines and about 45 percent of them are under chemo therapy.

Table 8 : Feelings of the sample after diagnosing the colorectal cancer

S. No	Variable	Group	N	%
1	Feelings when diagnosed as colon cancer patient	Very much feared	29	46.77
		Suspected about its curing	22	35.48
		Felt stressed	11	17.74

An enquiry was made with the sample about their feelings after diagnosing the colon cancer. The information obtained from them revealed that majority of them feared (46.77%) followed by suspect regarding the cure (35.48%) and stress feeling (17.74%). This clearly shows that we need to inculcate the awareness about the cancers and its preventions to avoid in the society and further, early detection will cure the cancer also and hence, every person

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after 40 years of age, need to undergo for the frequent medical checkups.

The knowledge is the gateway for courage so the prior knowledge will lead to the face the problems. Even though, they do not possess prior knowledge, the awareness programmes and counselling will relieve their stress and enhance the courage to face the situation.

Table 9: opinions of the sample about whether the medication can cure the disease and exposure to the awareness programmes

S. No	Variable	Group	N	%
1	Do you feel that medication will cure colon cancer?	Yes	39	62.90
		No	23	37.09
2	Do you think early detection can cure colon cancer?	Yes	49	79.03
		No	13	20.97
3	Have you ever attended any awareness programs after being diagnosed with colon cancer?	Yes	9	14.52
		No	53	85.48
4	What are the programmes? (N=9)	Counselling	3	33.33
		Colon cancer information	6	66.67
5	Is the awareness programme helpful to you?	Yes	6	66.67
		No	3	33.33
6	Organizer of the programme	Hospital	5	55.56
		NGO	4	44.44

In a further probe about their opinions regarding whether the medication will cure the colon cancer or not revealed that less than one third of the sample felt that the medication will cure their disease and however, more than one third doesn't have such faith. About 80 percent of them felt that early detection will cure it. Most of them i.e., 85.48 percent of them have not attended any awareness programmes and only less than 15 percent of them attended the awareness programmes and those who attended the programmes are attended the colon cancer information programmes organized by the hospitals and majority informed that these programmes organized are helpful to them in managing the stress, fear feelings.

An enquiry was made with the sample that did they face any difficulty in getting treatment for colon cancer or not revealed that more than 90 percent of them experienced problems while less than 10 percent doesn't experienced any problems while getting treatment.

Table 10 : Opinions of the sample about the treatment in the hospital and change in food habits

S. No	Variable	Group	N	%
1	Are you getting better treatment in the hospital?	Yes	62	100.00
		No	0	0.00
2	Change in food habits after diagnosing the colon cancer	Yes	55	88.71
		No	7	11.29
3	Type of changes made in food habits (N=55, Multiple)	Balanced diet	23	37.09
		Intake of leafy vegetables	28	45.16
		Consumption of fruits	18	29.03

The information obtained from the sample group regarding their treatment in hospital, change in food habits etc., revealed that all the sample expressed that they are receiving the good treatment in hospital. More than 88 percent of them revealed that they have changed their food intake habits. The change in terms of consumption of more leafy vegetables (45.16%) followed by taking of balanced diet (37.09%) and consumption of fruits (29.03%).

In the next question they were asked how many of them will consume leafy vegetables. The information obtained from them has been pooled together and presented in the table shows that about 95 percent of them will consume leafy vegetables now and then.

Table 11: Consumption of the leafy vegetables

S. No	Variable	Group	N	%
1	Consumption of leafy vegetables	Yes	59	95.16
		No	3	4.84
2	Name of the leafy	Spinach	33	55.93

	vegetable consumption often (N=59) (Multiple)	Amaranth (sirraku) and asparagus (Thotakura)	45	76.27
		Fenugreek	51	86.44
		Others such as roselle leaves (Gongura), bladder dock (Chukkakura)etc.,	32	54.24

More than 86 percent of the sample informed that they take Fenugreek seeds more oftenly followed by Amaranth and Asparagus (76.27%), spinach (55.93%) and other leafy vegetables such as Reselle, bladder dock etc.,

As a followup of this, the sample were further probed whether they have habit of the inclusion of Punarnava (Spreading Hogweed or Tarvine) leaves in preparation of curries or not. The obtained information disclosed that only 40 percent of them use it as curry for their meal and about 60 percent do not use it.

Table 12 : usage and knowledge about Punarnava leaves among sample

S. No	Variable	Group	N	%
1	Usage of Punarnava leaves as curry	Yes	25	40.32
		No	37	59.68
2	Knowledge about Punarnava acts as anti-cancer agent	Yes	5	8.06
		No	57	91.94

In a further probe, only 8 percent of them know that the Tarvine will act as an anti cancer agent and the remaining 92 percent do not know about its uses as cancer preventive food.

In the next question, they were asked that after diagnosing them as colon cancer patients, whether they inculcated the habit of inclusion of the Tarvine leaves in their food or not revealed the same trend as above i.e., only 8 percent included it in their food and remaining not yet included. This clearly shows that they are still unaware about the importance of Tarvine leaves in preventing cancer agents in the body. So there is a need to inculcate awareness among the people regarding anticancer agents and foods among the people.

Table 13 : Use of Tarvine leaves as food and its impact in health conditions

S. No	Variable	Group	N	%
1	Usage of Punarnava leaf as curry after diagnosing colon cancer	Yes	5	8.06
		No	57	91.94
2	How often (N=5)	Once in a week	4	80.00
		More than twice in a week	1	20.00
3	Did you noticed any change after consumption of Punarnava leaves	Yes	3	60.00
		No	2	40.00
4	Kind of change observed (N=5) (Multiple answers)	Increased digestion	4	80.00
		Hair growth	2	40.00
		No change observed	1	20.00

Again the sample has been asked about the how often they use to take Tarvine in their food revealed that about 80 percent of them take once in a week and reaming 20 percent take this twice or more in a week. With regard to the changes observed due to the consumption of Tarvine as food, they observed increased digestion followed by hair growth (it is because of the reason that due to Chemotherapy, there will be loss of hair) and one person informed that he/ she not observed any change.

CONCLUSIONS

From the study, it is clear that majority of the sample are not aware about the importance and uses of Tarvine leaves as food and it will reduce and prevent cancer. Hence, there is a need to conduct more scientific studies on its uses and functions and need to inform the results among the common people to make use its benefits. From the words of Dr. Nori Dattatreya, by 2037, the number of cancer patients will increase about 40 percent. As per Ayurveda, the herb Punarnava will cure all types of cancers and other scientist are also working on the functioning of the Tarvine leaves in curing and preventing cancer cells. If the results come out, really the use of Tarvine leaves in food intake will reduce such danger of lapsing of people as cancer patients.

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