ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

POSTGRADUATE PROGRAM

Colorectal cancer preventive practices and associated factors among care givers of patients with colorectal cancer attending Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2019.

BY: KALEB KANITO (BSC)

A THESES TO BE SUBMITTED TO ADDIS ABABA UNIVERSITY, COLLEGE OF HEALTH SCIENCES, SCHOOL OF NURSING AND MIDWIFERY FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENT FOR MASTER OF SCIENCE DEGREE IN CLINICAL ONCOLOGY NURSING.

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STATEMENT OF DECLARATION

By my signature below, I declare and affirm that this thesis is my own work. I have followed all ethical principles of scholarship in the preparation, data collection, data analysis and completion of this thesis. All scholarly matter that is included in the thesis has been given recognition through citation. I affirm that I have cited and referenced all sources used in this document. Every effort has been made to avoid plagiarism in the preparation of this thesis.

This thesis is submitted in partial fulfillment of the requirement for a graduate degree from the Addis Ababa University at College of Health Sciences, School of Nursing and Midwifery. The thesis is deposited in the Addis Ababa University Digital Library and is made available to local, national and international scientific community. I solemnly declare that this thesis has not been submitted to any other institution anywhere for the award of any academic degree, diploma or certificate.

STUDENT

Kaleb Kanito Signature: _____ Date: _____

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ABBREVIATIONS AND ACRONYMS

AACR Addis Ababa cancer registry

AICR American institute of cancer research

APC Adenomatous Polyposis Coli.

APIs Asian or Pacific Islander

BMI body mass index

CEWG Cancer Expert Working Group

CRC colorectal cancer

DBCE double contrast barium enema

DNA deoxyribonucleic acid

FAP Familial adenomas polyp.

FDR first degree relatives

FOBT Fecal Occult Blood Test

IARC International Agency for Research on Cancer

KAP knowledge, attitude and preventive practice

MET Metabolic Equivalent of Task

TASH Tikur Anbessa Specialized Hospital

WCRF world cancer research fund

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABTRASCT

INTRODUCTION: Colorectal Cancer is a worldwide problem with an incidence of 1.8 million cases and mortality of more than 884,000 in 2018. It is the third prevalent and the second cause of cancer related deaths worldwide. It is the first most prevalent cancer in males and the third most prevalent cancer in women of Ethiopia. People with a family history of colorectal neoplastic lesions have two to four times greater risk of developing Colorectal Cancer. Among all incidence of CRC One-fifth (20%) of cases are occurred in a first-degree relative affected by Colorectal Cancer.

OBJECTIVE: The aim of this study was to assess Colorectal Cancer preventive practice and associated factors among family care givers on oncology unit TASH, Addis Ababa, Ethiopia, 2019.

METHODOLOGY: A cross sectional study was conducted among adults ≥ 18 years old, attending Oncology unit TASH, Addis Ababa, Ethiopia, using validated pretested, face to face questionnaire. All individuals who fulfil inclusion criteria was included. The collected data was cleaned, coded, and entered into Epi- info 7.1 and transported SPSS 24 software for analysis. Binary logistic analysis was used.

Result: One hundred thirty-one respondents participated in this study with 98.5% response rate. Out of the participants of this study 14 (10.7%) of respondents had Colorectal Cancer preventive practices. The knowledge levels of the respondents were 29.8% and most of the participants (64.1%) had positive attitude towards Colorectal Cancer. The practice of colorectal cancer prevention was significantly associated with knowledge, residence and risk perception of the respondents.

Conclusion and recommendation: The study showed that there are poor practice colorectal cancer preventive practices. The adequate knowledge, high risk perception and urban designation were the predictors for practices of Colorectal Cancer prevention. Therefore, need to promote colorectal cancer preventive practices to care givers especially for inadequate knowledge, low risk perception and rural designations to prevent Colorectal Cancer and to detect Colorectal Cancer at the pre-cancerous stage.

Key terms: colorectal cancer, caregiver, preventive practices, TASH, Ethiopia.

CHAPTER ONE: INTRODUCTION

1.1 BACK GROUND

Cancer is worldwide problem with incidence of 18.1 million cases and 9.6 million deaths in 2018. From 5 men one man and from 6 women one woman develop cancer during their lifetime, and in from 8 men one man and from 11 women one woman die of the disease worldwide. The number of 5-year prevalence cancer, is estimated to be 43.8 million (1)

Colorectal cancer (CRC) is one of the most common cancers that occur in the mucosa layer of the lower digestive system. Mostly, colon and rectum cancers grouped because they have similar features(2). Most CRC are rising from precancerous polyps that begin to grow in the mucosa lining of the colon or rectum. Different types of colorectal cancer, such as; adenocarcinoma, carcinoid tumors, gastrointestinal stromal tumors, lymphomas and sarcoma. A 95 % of CRC is adenocarcinoma.(3)

Colorectal cancer is one of the most treatable types of cancers if diagnosed in an early stage. Early diagnosis of cancer is a key element in cancer treatment and curability. Early diagnosis improves survival time, treatment outcome and decrease treatment cost(4). Late stage diagnosis and medical help seek influenced mainly by knowledge of early warning signs and symptoms of CRC(5). Knowing CRC warning and early symptoms and signs makes patients present at an early stage. Warning symptoms and sign of CRC are rectal bleeding, changes in bowel habit, blood stool, weight loss, and abdominal pain and changes or fluctuation of bowel habits(6)

The preventive practices of CRC are lifestyle modification and CRC screening regularly. These methods proofed in researchers that reduced the incidence rate of CRC(7). As American Institute of Cancer Research (AICR) one third of cancer cases are prevented by eating well, moving more and staying lean(8)

Colorectal cancer incidence can be reduced through primary preventive practices. Primary preventive practices prevent the incidence of CRC. These Primary preventive practices are

physical activity, high intake of fruits and vegetables, milk and milk products and reduce or away from the risk factors of CRC (8).

Colorectal cancer screening is the only secondary preventive practices of CRC. Colorectal cancer screening is an important approach and important step in reducing mortality due CRC. Because those directed toward treatment of CRC, such as surgical and therapeutic measures are costive, painful and has not good outcomes. Most Recent Studies directed toward screening and removal of precancerous polyps through surgery which is effective in reducing CRC mortality(9).

On the other hand, strategies have been made to develop health promotion activities on preventive measure to decrease risk factors in high-risk populations of CRC. Recent studies have shown that the role of preventing activity in the CRC is poorly understood and low in developing countries(10)

Colorectal cancer is prevented by avoiding or minimizing the possible risk factors and by early detection of the cancer. Both approaches show an increased public awareness about the possible preventable risk factors and about the early signs and symptoms that can contribute to early detection and effective treatment of the disease(11)

Low levels of knowledge of CRC reported in some studies in many countries(12). Knowledge is only one factor that affects participation in CRC screening programs. The knowledge and understanding of CRC risk factors and outcome of the disease have an influence on an individual's decisions to participate in prevention and screening behaviors. It has been explained that higher awareness and knowledge levels are associated with preventive practices of CRC(13)

1.2 STATEMENT OF PROBLEM

Colorectal Cancer (CRC) is a worldwide problem with frequency of 1.8 million cases and mortality of more than 884,000 in 2018. It is the third prevalent and the second cause of cancer related deaths worldwide(1). The number of CRC incidence is increased from 1.4-1.8 million within six years(1, 14). The report of American Cancer Society indicated that total number of new CRC in United States in 2018 was 140,250 (15).

The prevalence and mortality rate of CRC is greatly differing across the globe. For instance, Seventy percent of CRC related death occurred in low and middle-income countries(16, 17). Colorectal cancer incidence rate from 2006-2010 in blacks was 25% higher than whites and 50% higher than Asian or Pacific Islanders (APIs). The death rate of CRC during this period in blacks was 29.4 per 100,000 populations and which was 50% higher than those in whites (18).

Being Low in socioeconomic status increases the occurrence and mortality of CRC. Even though on same socioeconomic status, Colorectal cancer incidence and death rates are significantly greater in blacks than in whites and APIs (19). Among all incidence of CRC One-fifth of cases are occurred in a first-degree relative (FDR) affected by CRC(20).

Colorectal cancer is the first most prevalent cancer in males and the third most prevalent cancer among women in Ethiopia (21). According to world health organization ,in Ethiopia the mortality rate of CRC in males is 11.2% and 4.8% in females(18). The Estimated Number of new Cases of CRC in 2015 among Women and males in Ethiopia was 2317 and 2632 respectively. According to Addis Ababa Cancer Registration(AACR) the age standardized rate per 100,000 for CRC is 9 in males and 7.1in females(22).

There are two types of risk factors of CRC. Modifiable risk factors for CRC, such as: diet, weight and exercise(23). A food that rich in red, processed meat and high intake of alcohol can increase the risk of colorectal cancer. On other hand vegetables, fruits, dairy products and fiber are associated with reducing the risk of developing CRC. Obesity, physical activity and smoking are related with an increased risk of occurrence of CRC(8).

Non-modifiable risk factors for CRC include age, race, and history of some diseases(24). Family or Personal history of precancerous polyps, inflammatory bowel diseases, or type II Diabetes Mellitus also increases risk of developing CRC. In addition, people with first-degree relatives who have a history of CRC are at high risk of developing the CRC(25).

In some developed nations such as North Europe and North America the incidence rate declined due to effect of CRC screening and preventive measures of CRC(26). However, incidence rate of CRC is increasing in developing nations including Brunei Darussalam and Ethiopia (27, 28).

The research done on pathology department of TASH showed the average age of presentation of CRC cancer is 47 years while 61.4% occurred below the age of 50 years, 36% below age 40 and 16% occurred below the age of 30 years. The male to female ratio of colorectal cancers is 2: 1. This indicates CRC appearance of Ethiopia is in younger age group with compare to Americans(21).

According study conducted in Tikur Anbess Specialized Hospital, Only 8.7% of CRC cases were diagnosed in early stages (stage1) of the disease(27). The American Cancer Society, reported that the five years relative survival rate for patients diagnosed with CRC at stage I is 93% whereas the rate is 8% for stage IVC, in which the cancerous cells goes to other organs and invade the lymphatic system(29).

Only 9.5% of care giver in tertiary hospital India has adequate knowledge that helps the care givers for prevention of CRC(30). One third of patients with complain of gastrointestinal symptom on surgery ward in Saudi Arabia has knowledge on preventive practices of CRC(31). The knowledge level of family caregivers on hospital based study at UAE was very low which indicates in low preventive practices toward CRC(32)

Poor knowledge of sign and symptom of Cancer may lead to late diagnoses of the disease and poor outcome of the treatment and adequate knowledge of CRC warning signs may result in early diagnose with improved cure chances (4). Poor knowledge on risk factors affects the people practice on prevention of CRC and good knowledge on risk factors have good practice on prevention(33).

In Ethiopia there have not been any previous studies about preventive measures and associated factors towards colorectal cancer. So, this study will help us to show the gap of colorectal cancer preventive measures towards colorectal canceramong family care givers.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter different literature's which are existed on CRC preventive practices and associated factors such as: the Prevalence of CRC, modifiable risk factors preventive practices, and associated factors are dig outed. In burdens of CRC the incidence and mortality about disease over worldwide. Modifiable risk factors are obesity,smoking, high intake of alcohol and red and processed meat. When modify these factors that prevent or reduce the risk to CRC. On other hand preventive practices are physical activity, high intake of fruits and vegetables, milk and milk products and CRC screening. The first three are protective or decrease the occurrence of CRC.The last one CRC screening are used to detect precancerous poly before it become or develop malignant cancer.

2.1 . PREVALENCE OF COLORECTAL CANCER

Colorectal cancer is the fifth most commonly diagnosed cancer in world, with 1.8 million new cases and almost 881,000 deaths in 2018(1). Six percent of peoples of world develop CRC during their life which means 4,620,000,000 rates are substantially higher in males than in females. The American Cancer Society's estimates for the number of colorectal cancer cases in the United States for 2018 are 140,250 and expected to cause about 50,630 deaths during 2018**.**

The estimated new cases of CRC in the world are 746,300 in males and 614,300 in females. Similarly, the estimated new cases in developed countries are 398,900 in males and 338,000 in females and in developing countries 347,400 in males and 276,300 in female. The incidence of CRC is 7.1% in males and 6.1% in females in eastern Africa in 2012(18).

As Egypt National Cancer Registry, Age-Standardized Incidence Rates (ASIR) of CRC per 100,000 were 6.3 for males and 4.3 for females(34) and also according to the Korean Central Cancer Registry, the ASIR of CRC were 51.4 per 100,000 for men and 28.0 per 100,000 for women in 2012(35). According to one study, from the total biopsies from Addis Ababa university pathology department 20.6% for CRC (21). According to Addis Ababa cancer registry (AACR) there were 2637 males and 2132 female colorectal cases in 2015. The incidence rate in Ethiopia is 4769 cases per year.

2.2 MODIFIABLE RISK FACTORS OF COLORECTAL CANCER

2.2.1 OBESITY

As National Cancer Institute of America, obese persons are more likely to have other health conditions associated with inflammation such as: Ulcerative colitis, an inflammatory bowel condition that also a risk factor for colorectal cancer due to weight. Gray said "obese persons have increased blood levels of insulin and insulin-like growth factor-1and IGF-1 that may promote CRC." A third hypothesis, Gray said that "fat cells produce adipokines, which are hormones that inhibit or promote cell growth"(36)

The meta- analysis studies done on Canadian population (153,760) revealed the relative risk obese individuals for development of CRC is 1.4. The same studies done on internationally showed that obese individuals are 1.37 risks developing CRC. Another studies done on Australia prospective cohort studies also indicated obesity increase risk of developing CRC with RR of 1.55(37)

The Nineteen prospective cohort studies selected from publication included the meta-analysis studies that have 12,837 CRC cases among 1,343,560 participants were showed greater BMI, and waist circumference were significantly associated with increased risk of total colorectal cancer (RR 1.42)(38).

The finding from the study on obesity and CRC suggest obesity increase growth of adenomas (39). Thirteen systematic review studies revealed that a weight gain during between adulthood and midlife is associated positively with the risk of CRC (RR 1.23,95% CI 1.14-1.34)(40).The prospective cohort study for eleven year in Canadian pre-menopausal women reveled that obesity (BMI>30kg/m^2 is associated with an approximately two time increased risk of CRC with HR 1.88(41).

2.2.2 ALCOHOL DRINKING

A meta-analysis of 27 cohort and 34 case control studies offers strong evidence for an association between alcohol drinking of >1 drink per day and colorectal cancer. Higher Alcohol consumption particularly >30g/day was associated with and higher risk of colon cancer. Its

association was stronger among those who have positive family history of colorectal cancer(42).

This might be because of acetaldehyde a toxic metabolite which is found by oxidation of ethanol that can be carcinogenic for colon cells(43). On the other mechanism excess intake of ethanol can induce oxidative stress via high production of reactive oxygen species which are genotoxic and carcinogenic(8, 43). Over all and dose response meta- analysis found significant 7% increases in risk of CRC even in light drinkers(44)

A Pooled Analysis of 8 Cohort Studies for averagely ten years follow up revealed increased risk of CRC is mostly on individuals who take >30g/day or greater (approximately >2 drinks/d). The study was done on Europe and North America. Compared with nondrinkers, the pooled multivariate relative risks were 1.16 (95% CI, 0.99 to 1.36) for persons who consumed 30 to less than 45 g/d and 1.41 for those who consumed 45 g/d or greater(45)

Another studies from database of Pub-med between 2008 and 2014 related to alcohol and CRC also showed the significant increased association between high intake of alcohol >30g/day or greater (approximately >2 drinks/d)and CRC(46).

2.2.3 SMOKING

Tobacco contains more than 6000 substances and chemicals including 70 of them known to cause cancer. These chemicals are known carcinogens(47).the risk of CRC is depending on the amount use per day and started age(48).A Population-based Case-control Study in Canada, total of 702 cases and 717 controls within five years follow up, former and current smoker were significantly increased risk for CRC with odd ratio1.36 and 1.96(48).

The other study in America, prospective cohort, the incidence of CRC was significantly higher in current and former smokers with hazard ration1.27and 1.23 respectively. another cohort study in Minnesota also revealed ever smokers were significantly increase risk of CRC with RR1.19 and current smokers are highly increased risk for CRC with RR 1.88(49).

Cigarette smoking has been associated with increased incidence and mortality from CRC. One hundred six observational meta- analysis studies estimated that the risk of developing CRC is increased among cigarette smoking when compared with non-smokers (RR 1.18)(50). Most

studies show that cigarette smoking increased the risk of colorectal cancer. In a case control study the risk increases in males and alcohol drinkers(51)**. C**igarette smoking is also risk factor for essential all types of colonic polyps(52).

2.2.4 RED MEAT AND PROCESSED MEAT

Red and processed meats contain some added and naturally occurring chemicals that cause these foods to be carcinogenic. Because a chemical' haem' in red meat is broken down to N-nitroso in the bowel. N-nitroso chemicals damage the cells that line the bowel, which can lead to CRC. In addition, the nitrite and nitrate preservatives used to preserve processed meat produce these N-nitroso chemicals and can lead to bowel cancer(53).

A meta-analysis of colorectal cancer in ten cohort studies reported a statistically significant dose–response relationship, with a 17% increased risk (95% CI 1·05–1·31) per 100 g per day of red meat and an 18% increase (95% CI 1·10–1·28) per 50 g per day of processed meat(8). World Health Organization's International Agency for Research (IARC) on Cancer had classified consumption of processed meat as "carcinogenic to humans (Group I)," and consumption of red meat as "probably carcinogenic to humans (Group 2A) and indicated that every 50 gram portion of processed meat eaten daily increases the risk of CRC by about 18%(54)but WCRF recommended daily intake of red and processed meat is not more than 70g/day or 500g/per week.

2.3. NON-MODIFIABLE RISK FACTORS OF COLORECTAL CANCER

2.3.1 FAMILY HISTORY OF CRC AND PREVIOUS HISTORY OF CRC

Family history with two or more first degree relatives (FDR) such as; a parent or sibling has two to three time greater risk of CRC. This family history accounts 20% of all cases. The most common of these are Lynch syndrome, Gardner syndrome and familial adenomatous polyposis (FAP)(55)

The risk of CRC in family history depend on the number of family developed, the age the occurrence of the year and the relation of the individual(degree of relation (56, 57). Family history had significant increase in colorectal cancer risk. The systematic review from 437 articles s in different countries showed relative risk of developing CRC varied from 0.89 (for

people with no family history) to nearly a 20-fold risk (for people with likely inherited syndromes), with risk levels in between, with increasing family history burden.

Risk of CRC was higher when the relative was diagnosed at an earlier age. CRC risk also depended on the age of the person at risk. People with positive family history in their 30s or 40s demonstrated a higher relative risk compared to their age-matched peers than people with the same positive family history at an older age(56).

The study found that family history of colon cancer is the most significant factor that associated with increased risk of CRC with odds ratio 1.17(57). Another case control study done on risk factor for colorectal cancer for young onset are family history of colorectal cancer in first-degree relatives, higher association with affected siblings, >14drinks/a week of alcohol drinks, and processed meat(58)

2.3.2 TYPE 2 DIABETES MELLITUS

Type 2 Diabetes Mellitus is one of risk factor of CRC occurrences. this is due to hyper-insulinemia. Hypothesis suggests increased amount of insulin and free IGF-1 increase cell growth of colon cells and lead mutational effects, finally resulting in occurrence of CRC. The meta-analysis and systematic study showed type 2 diabetes mellitus significantly increases CRC in both men with OR(OR, 1.36; 95% CI, 1.16-1.61) and women (OR, 1.38; 95% CI, 1.14-1.67)(59). The another study also showed T2DM increases the risk of CRC (60).

2.4 PREVENTIVE PRACTICES OF COLORECTAL CANCER

2.4.1 PHYSICAL EXERCISES

Physical activity may protect against CRC through decreasing inflammation, increasing the body's metabolic efficiency and capacity, and reducing insulin resistance. All kinds of Physical activity can be performed in a variety of intensities, ranging between light, moderate, and vigorous (high) intensity activity. Understanding the difference between intensity levels is important to understand the application of physical activities.

Take part in moderate-intensity aerobic physical activities for at least 150 minutes per week or taking vigorous intensity of activities for 75 minute per week. The study done on Northern California and Utah was showed the association of physical activities and the risk of CRC.

Vigorous activities are associated with reduced risk of CRC for both men and women with OR 0.6. The moderate activities are also associated with reduced risk of rectal cancer for men with OR 0.7(61)

Being active helps move food through our bodies. This reduces the amount of time any harmful chemicals in food waste are in contact with our bowel; helping to prevent cancer. Being active also helps control levels of inflammation in the bowel. Inflammation is a normal way our bodies respond to damage. But if there is too much, it can cause our cells to multiple more often increasing the risk of cancer. So being active can help prevent bowel cancer by reducing the levels of inflammation(62)

The study done on adults of Jordan population showed that physically inactivity increased the risk of colorectal cancer. The research done on Iran revealed that there is reverse relationship between physical exercise and CRC. Both men and women with regular physical activities reduced 40-50% incidence of CRC compared to those with no physical activities (63, 64).

In meta- analysis of 21 studies there was significantly 27% reduced risk of proximal colon cancer when compare to the most verses the least individuals and 26% of reduced risk of distal colon cancer(63). The study done on Sweden showed people that during their leisure time had at least 60 min of daily physical activity compared to those who had physically active for 10 min or less, the hazard ratio of colorectal cancer was 0.57 (95% CI, 0.41-0.79). Hazard ratio for colon cancer was 0.56 (95% CI, 0.37-0.83) and for rectal cancer was 0.59 (95% CI, 0.34-1.02)(65).

The recent 13 studies revealed 20% significantly decrease risk (RR0.80(95%CI0.72-0.88)) for colorectal cancer(8). One of the recommendations for primary prevention of CRC by CEWG/WCRF/AIRD,2017 is physical activities for at least 150 minutes per week.

2.4.2 HIGH INTAKE OF FRUITS AND VEGETABLES

World Health organization recommend daily intake of fruits and vegetables is at least 400gm per. The World Health Organization and Food and Agriculture of the United Nation recommended adults to consume at least five servings of fruits and vegetables per day or 400gm /day excluding starchy vegetables. A meta-analysis of six case-control studies showed that a

high intake of vegetables or fiber was associated with an approximate 40% to 50% reduction in risk for CRC.

Another pooled analysis of 13 case-control studies revealed high intake of fruits and vegetables reduces 50% risk of CRC associated with higher intake of fiber. High intake of vegetables, fruits, sea food and soya foods are shown to have statistically significant protective effect colorectal cancer. Some Studies found out that intake of vegetables, and fruits decreased the risk of colorectal cancer (66).

Individuals who consumed less than 1.5 servings of fruit and vegetables per day had a relative risk for developing colorectal cancer of 1.65 (95% confidence interval = 1.23 to 2.20) compared with individuals who consumed more than 2.5 servings. It may be because fruits, vegetables and whole grains are a good source of vitamins like vitamin A, C, E and fiber, minerals, selenium and carotenoids which can have the effect of binding and diluting carcinogens and also has antioxidant effect to change the physical environment in the colonic flora. Generally plant based diet is shown to decrease the risk of colorectal cancer (67)

The research done in Europe shown high intake of dietary fiber are irreversibly related to CRC RR 0·75 (67). Starch, vegetable, protein and sodium have positive association with both colon and rectal cancer. But there is inverse relationship between Vitamins, fiber pattern and rectal cancer, (43, 68). One of the recommendations for primary prevention of CRC by CEWG/WCRF/AIRD, 2017 is Increase intake of dietary fiber (e.g. fiber from at least five servings of fruits and vegetables daily).

2.4.3 MILK AND MILK PRODUCTS

Milk and milk products contain vitamins like retinol and riboflavin and minerals like calcium, vitamin B12 and vitamin D. Some case control studies found that consumption of milk and milk products have protective effect on colorectal cancer(69). The mechanism could be due to calcium, riboflavin, vitamin B12, vitamin D and also Milk fat contains a number of potential anti carcinogenic components including conjugated linoleic acid, sphingomyelin, butyric acid and ether lipids. Conjugated linoleic acid inhibited proliferation of human malignant melanoma, colorectal.

In vitro studies showed that the milk phospholipid, sphingomyelin, through its biologically active metabolites ceramide and sphingosine, participates in three major anti proliferative pathways influencing on cogenesis, namely, inhibition of cell growth, and induction of differentiation and apoptosis. Butyrate produced by colonic fermentation is considered important for colon cancer protection (70)

Calcium has protective effect on colorectal cancer. It is may be calcium has protective role against inflammation and bile acid irritation on the colon wall. So calcium in colonic epithelial cells may decrease cancer promoting inflammatory responses(71, 72). A pooled analysis of 10 cohort studies and meta-analyses of observational studies demonstrate the association between high calcium intake and reduced colorectal cancer risk(69) . Prospective study done on Europe revealed that taking 200mg/day milk and milk product significantly decrease the incidence of CRC with HR0.93(73) . WCRF Continuous Update Project report consumption of diary product decrease the occurrence of colorectal cancer by 17%(74).

2.5.4 COLORECTAL CANCER SCREENING

The statics in 2011 of America "The Impact of Screening on Colorectal Cancer Mortality and Incidence – Has It Really Made a Difference?" showed that CRC screening decrease 40%of the incidence and mortality of CRC(36). Another study of evaluation of colorectal cancer screening in America from 2011-2014 revealed CRC screening decrease the incidence and mortality rate of CRC.

Regarding screening modalities, fecal occult blood test (FOBT), sigmoidoscopy and colonoscopy have been shown to reduce mortality from CRC based on research evidence. FOBT could reduce CRC mortality ranging from 15 to 33 % according to findings from large-scale randomized control trials (RCTs)(75). A Cochrane review showed that screening by FOBT might reduce CRC mortality in average risk population by 16%. Sigmoidoscopy was shown to lead to 28% risk reduction in overall CRC mortality and 43% risk reduction in distal CRC mortality in a meta-analysis. Colonoscopy was associated with 61% reduction in CRC mortality in a meta-analysis(76).

STUDIES ON PREVENTIVE PRACTIES OF CRC

The study conducted on Riyadh city Saudi Arabia community based study on 420 participants revealed the preventive practices of colorectal cancer in Riyadh city was 28%(77). The study done in Spain, hospital based survey on 334 first degree relative of colorectal cancer patients showed 22 % of the participant screened CRC at least once(56). The study conducted in southern Italy on 1165 adults revealed there was general low level of preventive practices of colorectal cancer(78).

2.5 ASSOCIATED FACTOR OF CRC PREVENTIVE PRACTICES

Associated factors are factors that affect the peoples prevention practice towards CRC. There are different factors that affect the prevention practice.These factors are ,knowledge , attitude, socio-dimographic factors and family history.

2.5.1 KNOWLEDGE

A study done on a both patients and relatives in Brunei, Darussalam showed the overall knowledge about risk factors, early signs and symptoms CRC was poor(45.9%) and practicing of prevention is also poor(28). The study done on care giver by using cross sectional hospital based in Andhra Pradesh that contains 200 care givers showed that 63 % of care givers have adequate knowledge to CRC (30).

A study conducted on an adult group in Ajam, UAE showed the overall knowledge about CRC was poor (5.9%)(32). On other hand the research conducted in Serdang Hospital, Malaysia in 308 non CRC relatives revealed that all the participants have adequate knowledge of CRC (79).

The recent studies done on Nigeria urban revealed the knowledge of the risk factors for development of CRC among the study population was low. Most respondents have inadequate knowledge of the risk factors for development of colorectal cancer(80).

2.5.2 ATTITUDE

The research conducted in Serdang Hospital, Malaysia in 308 non CRC relatives revealed that only 10.2% of the participants believed the have no chance to develop CRC(79). The research done on under graduated student in Malaysia also revealed that 76.9% of students have good

attitude towards CRC(13). The study done on Nigerian community showed that have good attitude towards CRC are only 60%(80). The study done on UK populations have negative attitude towards CRC(4). The research done on Riyadh city in the Kingdom of Saudi Arabia revealed that the negative attitude of CRC from 236 participants was 90%(77).

2.5.3 SOCIO-DEMOGRAPHIC DATA

Mostly socio demographic data can affect the practicing on prevention of CRC. The socio demographic data that were searching from different literatures are family history, residence of the individual, the educational level, the level of income to practice the prevention methods**.** The hospital based study on Ajam, UAE revealed educational status, family history, residence was the key factor to practice colorectal cancer preventive practices. (32).

Conclusion: The risk factors for colorectal cancers are obesity, >30g/d intake of alcohol, smoking, red and processed meat consumption. Therefore, avoiding or minimizing this risk factors preventive CRC indirectly. The direct preventive practices are physical activity 150min moderate intensity or 75minute per week vigorous intensity activities, high intake of fruits and vegetables 5 serving or >400gm/day, milk and milk products are preventive practices of CRC. CRC screening early detection during precancerous stage is the effect preventive practices of CRC. Family history of CRC and T2DM are non-modifiable risk factors of CRC.

2.6 CONCEPTUAL FRAME WORK

From searching of different literatures the conceptual frame work was adapted(10, 30, 32, 78). There are different factors associated with the colorectal cancer preventive practices. These are the sociodemographic factors that affect CRC preventive practices, knowledge and attitude. Personal history that affect preventive practices, knowledge and attitude. Knowledge and attitude that affects the preventive practices of CRC.

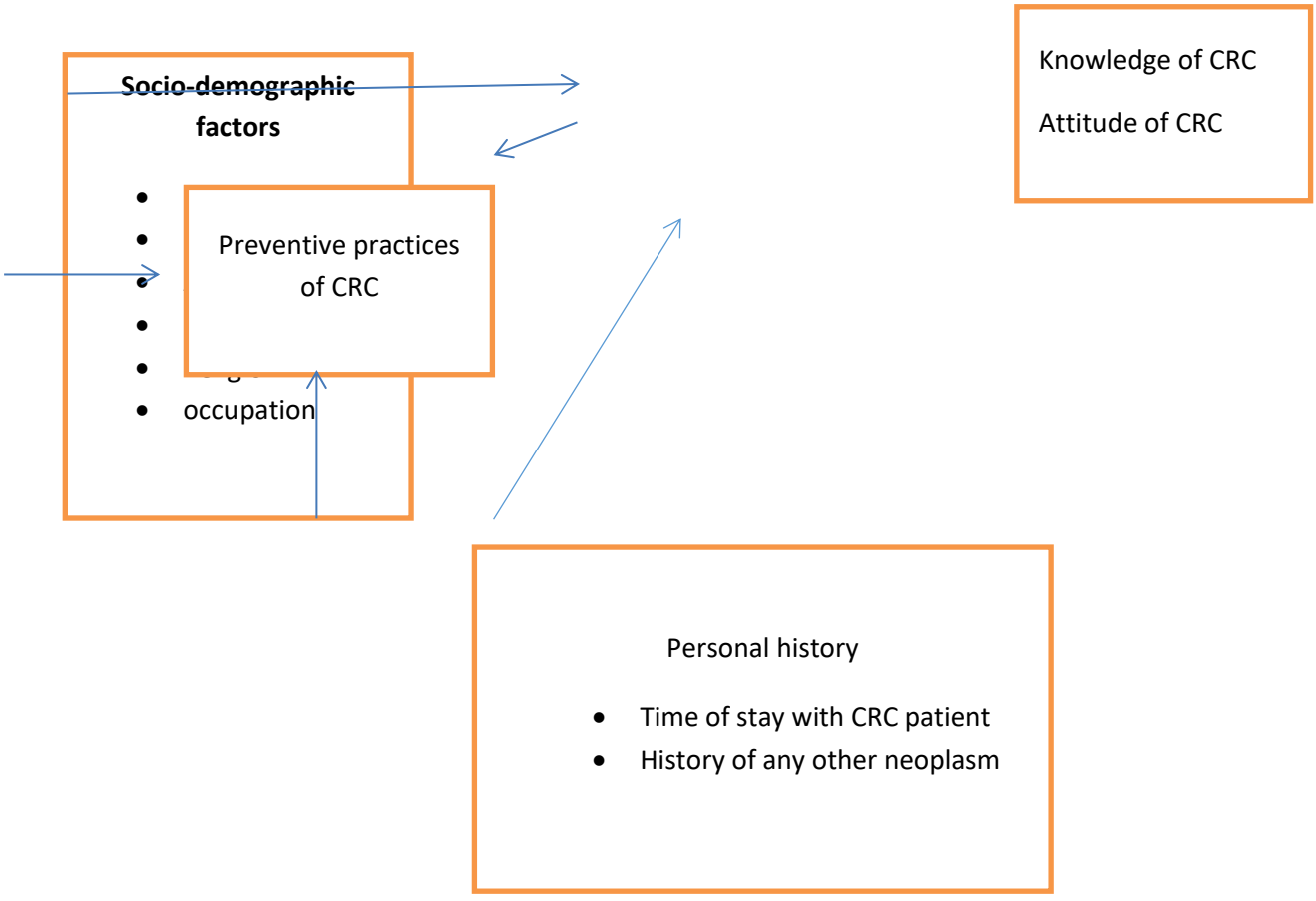

Figure 1 Conceptual frame work of Col rectal cancer preventive practices and associated factor.

2.7 SIGNIFICANCE OF STUDY

The Federal Ministry of Health is starting to include cancer as part of its efforts to control non communicable diseases. Despite, the government concern on the issue of non-communicable diseases with especial emphasis on cancer to reduce the incidence and mortality, the preventive practices of CRC is still not well performed in Ministry of Health. The result from this study will be used for improvement of the health education and promoting preventive practices program which will be a great help in reducing prevalence of CRC and good practices of prevention of CRC.

Ministry of Health did not approve screening program for colorectal cancer which is the secondary preventive practices of CRC. No official guideline for colorectal cancer screening exists in Ethiopia as yet. Hence, this study will make MOH and other concerned bodies to CRC prevention of Caregivers.

The result from this study will be used as a baseline data for researchers and policy makers' concerned bodies for further improvement of the preventive practice and intervention strategies which will be a great help in reducing prevalence of colorectal cancer and related morbidity and mortality.

CHAPTER THREE: OBJECTIVES

3.1 GENERAL OBJECTIVE

To assess Colorectal cancer preventive practice and associated factors among family caregivers of patients with colorectal cancer attending on oncology unit Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2019.

3.2 SPECIFIC OBJECTIVES

- To identify colorectal cancer preventive practice among family caregivers caregivers of patients with colorectal cancer attending on oncology unit TASH, Addis Ababa, Ethiopia, 2019.
- To determine the association between colorectal cancer preventive practices and related factors among family caregivers of patients with colorectal cancer attending oncology unit TASH, Addis Ababa, Ethiopia, 2019.

CHAPTER FOUR: METHODS AND MATERIALS

4.1. STUDY AREA AND STUDY PERIOD

This study was conducted at oncology unit of TASH; Addis Ababa, Ethiopia. Addis Ababa is the capital city of Ethiopia, with the population of 7.178 million according to 2018 estimation. It is the capital of African union and other numerous continental and international organizations. Addis Ababa contains ten sub cities. According to health indicator of federal ministry of health the total numbers of hospitals both private and governmental in Addis Ababa are 51(81).

Tikur Anbessa Specialized Hospital is the biggest referral public hospital and the main center for cancer registry, early detection, prevention, standard treatment and palliative care. Tikur Anbessa Specialized Hospital is only fully functional oncology center in Ethiopia. Tikur Anbessa Specialized Hospital is the training center for undergraduate and postgraduate medical students, dentists, nurses, pharmacists, laboratory technicians, and others, both in under graduate and post graduate level.

In 2018 the estimated number of colorectal cancer patients who get chemotherapy, radiation therapy and other supportive and palliative cares are greater than 1100 without considering the repetition of client flow. In one month, patients enrolled in chemotherapy, radiation therapy, follow up and complain therapy accounts for 120 CRC patients in number. At present, the oncology clinic of Tikur Anbessa Hospital is the major referral center that provides oncology care service in the country. Every year the unit takes at least 300 new diagnosed patients but the waiting time to start treatment is more than 6 months(82).

The study was done from March 10 to May 8 2019, in oncology center, TASH, Addis Ababa

4.2 STUDY DESIGN:

Descriptive institutional based Cross-sectional study was conducted from March 10 to May 8 2019.

4.3 STUDY POPULATION

4.3.1 STUDY POPULATION

The study populations were caregiver of colorectal cancer patients who came to cancer center for treatment during the study period.

4.3.2. STUDY SUBJECT:

The study population is caregiver of colorectal cancer patients who came to cancer center for treatment during the study period that fulfill the inclusion criteria.

4.3.3 ELIGIBILITY

Inclusion Criteria:

- All caregivers who were 18 years and above.
- Can communicate well and relative of patient with blood bond.

Exclusion Criteria:

Those who are previously or currently diagnosed with colorectal cancer

4.3.4 SAMPLE SIZE DETERMINATION

In Ethiopia there is no available published study done on assessing the preventive practice on CRC. Because of this reason, 50% will be taken to obtain the maximum sample size. The minimal difference will be taken as 5 % (d=5 %) with 95 % confidence of certainty.

To determine the sample size, the formula for single population proportion will be used:

$n = (Z\ \alpha/2)2\ p\ (1-p)/d2$

n = sample size,

Z α/2= significance level at α =0.05

P= expected proportion of adult cancer patients' rehabilitation service utilization (50%)

d = margin of error of 0.05

Therefore, total n=384

Since, population is below 10,000 by using correction formula. The average number of patient flow in one month was 120. Then

$$\frac{n}{1+\frac{n}{N}} = \frac{384}{1+\frac{384}{240}} = 147$$

with 10% non-respondent rate total sample size will be 161 care givers of cancer patients

4.3.5 SAMPLING PROCEDURE

All caregivers who fulfill the inclusion criteria was included in the study. The total number of the CRC patient in one month was averagely 120. Some patients come to the hospital without care giver. Due to unpredictable number of care givers of CRC patients study prefer censes for to have got the study participant. The data was collected from care givers in both OPD and IPD of oncology ward. One care giver form one colorectal cancer patients and if more than one care giver of CRC patient, then the most relative of patient was taken who fulfill the inclusion criteria and if more than one care giver and have the same degree of relative then the older one was respondent.

4.4 STUDY VARIABLES

4.4.1 Dependent Variables

Colorectal cancer preventive practices

4.4.2 Independent Variable

- Knowledge,
- Attitude
- Socio demographic variables (Age, sex, marital status, education, religion, ethnicity, income, residence, occupation.)

4.4.2 DATA COLLECTION TOOLS

A questionnaire from previous Italy study was adapted (78). After adaptation the question was reviewed by oncology experts and validated. The questionnaire has two parts. The first part contains general information including socio demographic characteristics of the caregivers. The second part contains knowledge, attitude, and preventive practice. Two version of the questionnaire was used: An English version and an Amharic version. English version was used for data analysis and Amharic was used for data collection.

4.4.3 DATA QUALITY CONTROL

The quality of data was controlled starting from the time of questionnaires preparations. Training was given for one MSc oncology nurse who was supervisor and two BSc nurses who were data collectors on the purpose of study and procedures of data collection for two days prior to study. After completing the training, a pre -test was done at non study subject in similar population 5% (9) respondents from Saint Paulo's hospital millennium medical colleague. After pre-test correction was made.

Finally, discussion was made on problems encountered during the pre-testing and correcting problems. During data collection, supervisors were received questionnaires from data collectors and reviewed for completeness, accuracy, and consistency. Correction measures were taken by discussing with the research team.

4.5 DATA PROCESSING AND ANALYSIS

The collected data was cleaned, coded, and entered into Epi-info 7.1 and transported SPSS 24 software for analysis. Descriptive analysis using frequency, mean, standard deviation and percentages was done. Binary logistic regression was used to assess relationship between independent variables with outcome variables to control confounding effect and to determine adjusted odds ratio (AOR). The results of the final model were expressed in terms of Odd Ratio (OR) and 95% confidence intervals (CI) and statistical significance was declared if the P-value is less than 0.05.

4.6 OPERATIONAL DEFINITIONS

Knowledge: Study participants on knowledge questionnaire who score below mean score was considered as having inadequate knowledge and those who score more than or equal to mean score was considered as having adequate knowledge.

Attitude: Study participants on Attitude Likert's scale who score above mean score were considered as positive attitude and those who score below mean score were considered negative attitude.

Preventive practice: Those respondents who practice CRC Preventive practices at least two from the three preventive practices. Study participants on Preventive practice who practice at least two were considered as good preventive practices and those who do not practices were considered as poor preventive practices(83).

Caregivers: Care givers are anyone who has blood bond with the patient and come with patients of CRC and live with patient three month and above(30).

4.7 ETHICAL CONSIDERATIONS

Ethical clearance was obtained from Addis Ababa University School of nursing and midwifery Research and Ethical Review Committee. Permission to conduct the study was also obtained from the hospital and head nurses of oncology ward. Informed consent was obtained from the participants using the consent form designed for this study, after the necessary explanation about the purpose, benefits and risks of the study and also their right on decision of participating in the study.

Confidentiality of the information was maintained throughout the study by excluding names as identification in the data extraction form and the data was used only for the purpose of the proposed study. The collected information was record anonymously and the confidentiality was maintained. Participants were informed that their participation was voluntary and that they can withdraw from the study at any time if they wished to do so

4.8 DISSEMINATION OF RESULTS

After completion of the research, the result of the study will be presented to Addis Ababa University College of Health Science, school nursing and midwifery as partial fulfillment of masters of science degree in clinical oncology nursing. Additionally, it will be presented to Ethiopian nursing association. Finally, it will be sent to local journals; attempts will be taken to have opportunity for publication to different national and international journals.

CHAPTER FIVE: RESULT

During data collection period, 133 care givers were found but the complete data were collected from 131 respondents who were eligible with 98.5% percent respondent rate. These 131 of participants were voluntarily agreed to participate in this study. Ninty four percent of the participants were first degree relatives of Colorectal cancer patients. The mean age of participants was 39.68 ± 12.09 SD years, with range of 19 - 65 years.

5.1 SOCIO-DEMOGRAPHIC CHARACTERISTICS

Among 131 respondents who participated in this study, 76 (58%) were males and the rest 55 (42%) were females. From the total respondents 56 (42.7%) were greater than age 45 years. The marital status data showed in the study 75 (57.3%) were married.

With regard to their educational status majority of respondents 113 (86.3%) can read and write. About 80 (61.1%) were orthodox religion followers. Out of 131 respondents 48 (36.6%) were private employees and 6 (4.6%) were retired. The data showed that 91 (69.5%) had minimum monthly income below 4629 Ethiopian birrs.

About 85 (64.9%) respondents came from urban. Ninety-two (70.2%) were stayed more than 1 year with relatives of CRC patient. The description of the participants presented in (Table1).

Table 1 Socio demographic characteristics of the respondents, TASH, Addis Ababa, Ethiopia, 2019 (N=131)

Variables	Sub groups	Frequency	Percent (%)
Age	18-35	38	29
	6-45	37	28.3
	>45	**56**	**42.7**
Sex	**Male**	**76**	**58**
	Female	55	42
Religion	**Orthodox**	**80**	**61**
	Muslim	34	26
	Protestant	17	13
Residence	**Urban**	**85**	**64.9**
	Rural	46	35.1
Educational level.	Illiterate	18	13.7
	primary school	23	17.6
	Secondary school	**56**	**42.7**
	Diploma and above	34	26
Marital status	**Married**	**42**	**57.3**
	Single	75	32
	Other	14	10.7
Occupation	Housewife	26	19.9
	Government employee	19	14.5
	Private employee	**59**	**45**
	Retired	6	4.6
	Unemployed	21	16
Income	**<1214.00ETB**	**50**	**38.2**
	1214.00-4629.00ETB	41	31.3
	4629.00 -9060.00ETB	26	19.8
	>9060.00ETB	14	10.7
Duration stay of caregivers with CRC patients	3-6 months	21	16
	6-12months	19	14.5
	>1year	**91**	**69.5**

5.2 PREVENTIVE PRACTICES

Out of 131 participants of the study only 14 (10.7% CI 5.4-16) had CRC preventive practices. Among those 131 participants 29 (22.1%, CI; 15.3-29.8) modify their dietary for the last one year. From the respondents 29 who modify dietary 2 (6.8%) were reduce red meat and processed meat intake,5 (17.2%) of them increase fruits and vegetables intake,1 (3.4%) of them increase milk and milk production, 3 (10.3%) of them reduce fats and oils intake and 18 (62%) of them reduce meat and processed meat intake, increase fruits and vegetables intake and reduce fats and oils intake

From respondents 26 (19.8%, CI; 13.7-26.7) of the participants perform regular physical activities. Among the 26 who perform regular physical activities for fear of CRC, 6 (23%) of them perform regular running, 8 (30.7%) of them perform regular anaerobic activities (body building), 1 (3.8%) perform regular swimming and the rest 11 (42.3%) do both regular running and regular anaerobic activities (body building).

Among 131 participants 13 (9.9%, CI; 6.1-16) of the participant modifies both dietary and physical activities. However; only one participant done all the three preventive practices such as screened colorectal cancer, modifies dietary and physical activities for fear of CRC.

Twelve (9.2%) of the participants were recommended to CRC screening.

5.2.1 Practice of CRC preventive practices across different variables

Among the total 14 participants who undergo CRC preventive practices more than 85% were participants who live in urban area. Nearly 70% of participants who had preventive practices were males. Fifty percent of participants who had preventive practices were age 46 to 65 years. The practices of CRC across different variables are presented in (Table2).

Table 2 Preventive Practices of CRC across different variables of the respondents, TASH Addis Ababa, Ethiopia, 2015 (N=131)

Variables	Sub groups	CRC Preventive practices			
		Poor practice		Good practice	
		Frequency	(%)	Frequency	(%)
Age	18-30	34	29	4	28.5
	30-45	34	29	2	14.3
	>45	**48**	**44**	**8**	**57.2**
Sex	**MALE**	**66**	**56.4**	**10**	**71.5**
	FEMALE	51	43.6	4	28.5
Marital status	**Married**	**65**	**55.5**	**10**	**71.5**
	Single	38	32.5	4	28.5
	Other	14	12	0	0
Education	Illiterate	18	15.3	0	0
	primary school	21	18	2	14.3
	Secondary school	52	44.5	4	28.5
	Diploma & above	**26**	**22.2**	**8**	**57.2**
Occupation	Government employee	15	12.8	4	28.5
	Private employee	**52**	**44.4**	**7**	**50**
	Housewife	24	20.5	2	14.3
	Retired	5	4.3	1	7.2
	Unemployed	21	18	0	0
Religion	**Orthodox**	**70**	**59.9**	**10**	**71.5**
	Muslim	30	25.6	4	28.5
	Protestant	17	14.5	0	0
Monthly income	<1214.00ETB	48	41	2	14.3
	1214.00-4629.00ETB	38	32.4	3	21.5
	4629.01-9060.00ETB	22	19	4	28.5
	>9060.00 ETB	**9**	**7.6**	**5**	**35.7**
Duration of stay	3-6 months	17	14.5	4	28.5
	6-12monthss	17	14.5	2	14.3
	>12months	**83**	**71**	**8**	**57.2**
Residence	Rural	44	37.6	2	14.3
	urban	**73**	**62.4**	**12**	**85.7**

5.3 FACTORS THAT DETERMINE CRC PREVENTIVE PRACTICES

5.3.1 KNOWLEDGE ABOUT CRC

5.3.1.1 KNOWLEDGE ABOUT CRC RISK FACTORS

The participants were asked for the risk factors for colorectal cancer and the response was coded as yes or no. “Low physical activity” is the most known risk factor for CRC that 70.2% of the respondents answer correctly. Fifty-three (40.5%) of respondent know that family history of CRC can increase the chance of getting of CRC. Only 10.7% of participants recognize that having “Diabetes Mellitus” have also increase the chance of attaining of CRC.Knowledge of risk factors summarized in (Table3)

Table 3 The level of knowledge about colorectal cancer risks factors of respondents, TASH, Addis Ababa, Ethiopia (N=131)

Variable	**Yes frequency**	**Percent (%)**	**NO frequency**	**Percent (%)**
Alcohol consumption	80	61.1	51	38.9
Smoking	80	61.1	51	38.9
Low intake of fruit/vegetables	66	50.4	65	49.6
High intake of red and processed meat	52	39.7	79	60.3
Low fiber diet	45	34.4	86	65.6
Overweight or obese	67	51.1	64	48.9
Older age	60	45.8	71	54.2
Family history of having bowel cancer	53	40.5	78	59.5
Low physical activity	**92**	**70.2**	**39**	**29.8**
Having diabetes	14	10.7	117	89.3
Having bowel disease	63	48.1	68	51.9

5.3.1.2 KNOWLEDGE ABOUT WARNING SIGNS OF CRC

The participants were asked for the warning signs of colorectal cancer and the response was coded as yes or no. Out of 131 respondents rectal bleeding was the most commonly known warning sign 77.9% of the respondents answer yes. More than half of respondents answered, unexpected weight loss, Lump in abdomen, Tenesmus, Abdominal pain, Change in bowel habit and Blood in stool correctly. Only one-third of participants do not answer obstruction and tiredness/anemia correctly. The knowledge of warning signs presented in (Table4)

Table 4 The percentage of correct and incorrect answers about warning signs of colorectal cancer of participants, TASH, Addis Ababa, Ethiopia(N=131)

Variables	**Yes**	**Percent (%)**	**No**	**Percent (%)**
Rectal bleeding	**102**	**77.9**	**29**	**22.1**
Unexplained weight loss	73	55.7	58	44.3
Lump in abdomen	77	58.8	54	41.2
Tenesmus	74	56.5	57	43.5
Change in bowel habit	65	49.6	66	50.4
Abdominal pain	74	56.5	57	43.5
Tiredness/anemia	51	38.9	80	61.1
Blood in stool	86	65.6	45	34.4
Obstruction	49	37.4	82	62.6

5.3.1.3 KNOWLEDGE ABOUT PREVENTIVE PRACTICE OF CRC

The participants were asked for the preventive practices of colorectal cancer and the response was leveled as yes or no. Accordingly Colorectal cancer screening and regular physical exercises are the commonly recognized preventive practices that nearly three-fourth of the respondents answer correctly. The rest preventive practices are recognized below 50%. Knowledge of preventive practices showed in (Figure 2)

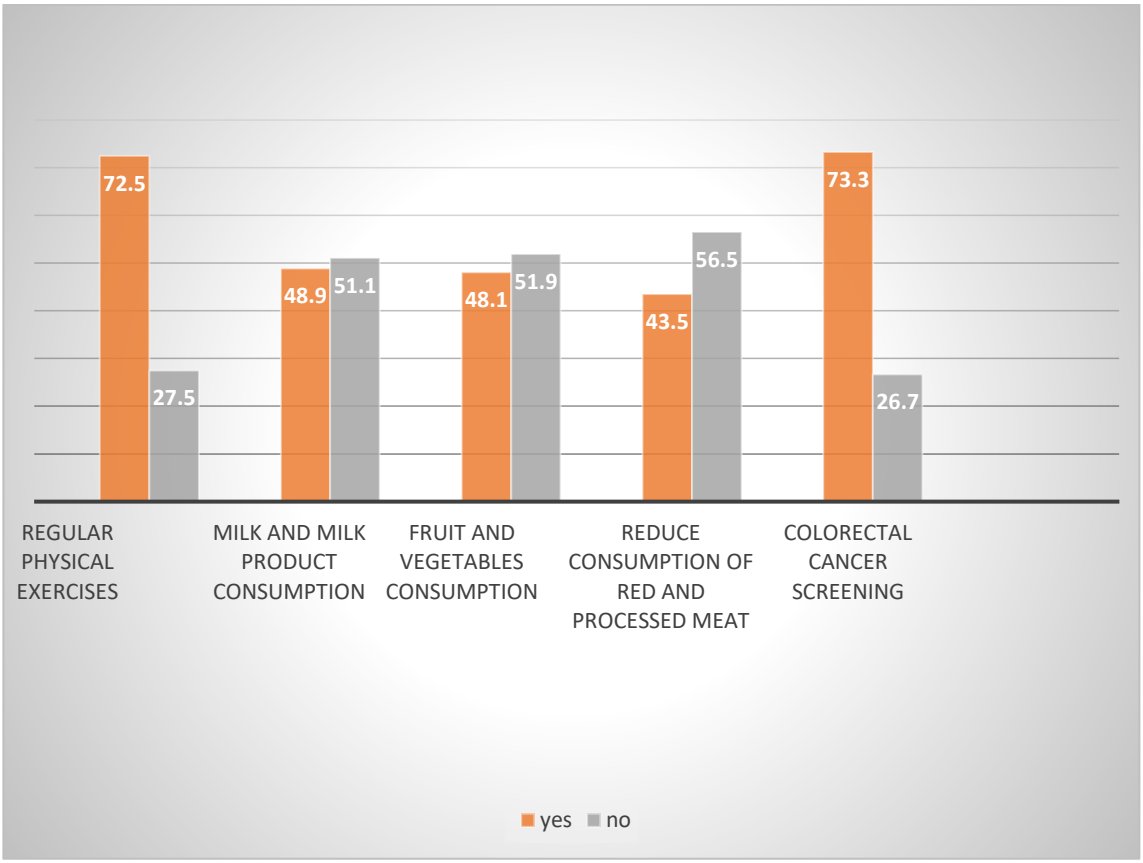

Figure 2 The percentage of correct and incorrect preventive practices of colorectal cancer of participants.

5.3.1.4 KNOWLEDGE ABOUT CRC SCREENING METHODS.

The participants were asked for CRC screening methods and the response is yes and no that indicate correct and incorrect answer for the question for CRC screening methods. From the listed CRC screenings colonoscopy was the most commonly known screening methods of colorectal cancer. The other CRC screening methods only below one fourth were recognized. Knowledge of colorectal cancer screening showed in (Figure 3).

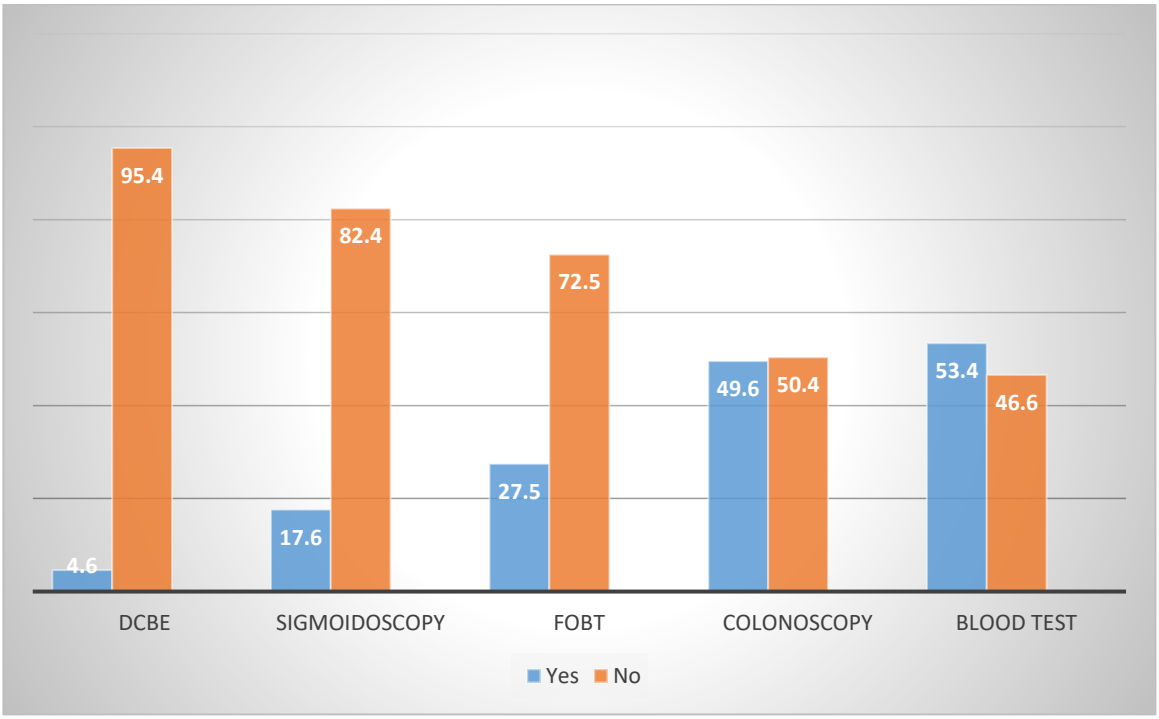

Figure 3 The percentage of knowledge in colorectal cancer screening methods of participants

5.3.1.5 OVER ALL KNOWLEDGE OF PARTICIPANTS ON COLORECTAL CANCER

Questions regarding knowledge of risk factors, warning symptom, preventive practices and CRC screening were scored and pulled together and the mean score was computed to determine the overall knowledge of respondents. Respondents scored above the mean score considered as adequate knowledgeable and below the mean score were considered as inadequate knowledge. In this study respondents who score above mean value which was 14.4, was 39 (29.8%) have adequate knowledge and the rest 92 (70.2%) were have inadequate knowledge.

Seven (5.3%) of the participant had not known any risk factor, warning sign, preventive methods and CRC screen methods.

The most common source of knowledge for participants was nurses 63 (48.1%). All of the participants 100% assumed they need more information about colorectal cancer. None of the participants had participated in preventive activities such as information brochures, clinical tests and campaign of CRC.

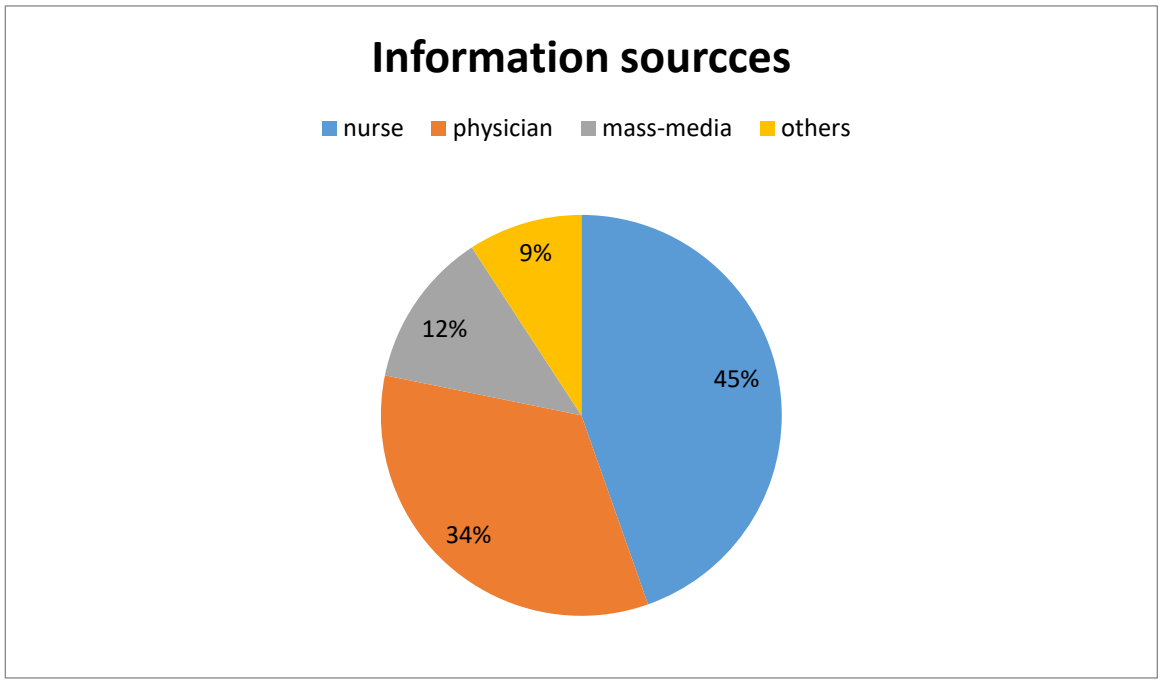

Figure 4 Source of information of respondents regarding colorectal cancer.

5.3.2 ATTITUDE TOWARDS CRC PREVENTIVE PRACTICES

There were eight questions that assess attitude of participants. And by computing the eight attitude questions score value was obtained to classify respondents as positive and negative attitude. Based on this mean score of attitudes the participated categorized into positive attitude and negative attitude towards colorectal cancer preventive practices.

Out of total 84 (64.1%, CI;55.7-72.5) had positive attitude towards colorectal cancer. The risk perception of the participant was where only 23 (17.5%, CI 10.7-24.4) were assumed they at risk of Colorectal cancer**.**

Table 5 The summarized response of participants for attitude questions, TASH, Addis Ababa, 2019 (N=131)

Attitudes to cancer and bowel cancer	Response	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
It's important for me to know about cancer	frequency	125	3	3	0	0
	%	95.4	2.3	2.3	0	0
It's just hardship that someone has cancer	frequency	124	3	3	1	0
	%	94.7	2.3	2.3	0.8	0
Colorectal cancer diagnosed in early stage can be treated better	frequency	94	7	28	1	0
	%	71.8	5.3	21.4	1.5	0
Regular CRC screening can find cancer in early stage	frequency	105	4	19	3	0
	%	80.2	3.1	14.5	2.3	0
I will take CRC screening regularly	frequency	94	7	28	1	0
	%	71.8	5.3	21.4	0.8	0
Colorectal cancer screening is effective	frequency	97	8	19	4	3
	%	74	6.1	14.5	3.1	2.3
Cancer screening should be widely implemented	frequency	106	4	19	2	0
	%	80.9	3.1	14.5	1.5	0
Risk perception of contracting CRC	Response	high		low	Uncertain	
	frequency	23		38	70	
	%	17.6		29	53.4	

5.4 ASSOCIATIONS OF CRC PREVENTIVE PRACTICES

Based on bivariate analysis monthly income, education and attitude were significantly associated with colorectal cancer preventive practices. Participants who have monthly income more than 9060.00 ETB were seventeen times more likely to practice CRC prevention than those participants with monthly income less than 1214 ETB (COR=17.2, 95% CI; 3.3, 87.7).

Based on multivariate analysis residence type, risk perception and knowledge were significantly associated with the preventive practices of CRC of the respondents. Adequate knowledge was found to be the significant predictor of practices of CRC prevention. Participants who had adequate knowledge were 10 times more likely practices CRC prevention when compared with those respondents with inadequate knowledge (AOR =10.4, 95% CI; 2.5, 42.3). Participant who had high risk perception to CRC were 10 times more likely practices colorectal cancer preventive practices when compared with those respondents with uncertain perception(AOR=9.6, 95% CI; 1.8,51.7). the association was summirized and presented in (Table6)

Table 6 Predictors of colorectal cancer preventive of participants, TASH, Addis Ababa, Ethiopia, 2019 (N=131**)**

Variable	CRC preventive Practices		COR (95%CI)	AOR (95%CI
	Poor Practices	Good Practices		
Monthly income				
<1214.00 ETB	48(96)	2(4)	1	1
1214.00-4629.00ETB	38(92.6)	3(7.4)	3.59 (1-12.4)	2.1(0.31-15.1)
4629.00-9060.00ETB	22 (84.6)	4(15.4)	8.1 (2.3-28.6)	2.8 (0.41-19.7)
>9060.00ETB	9(64.3)	5 (35.7)	**17.2(3.3-87.7) ****	2.9 (0.18-18.5)
Residence type				
Rural	44(98)	2(2)	1	**1**
Urban	74(84)	**11(16)**	**17.2(3.3-87.9) ****	**6.5 (1.2-34.1) ***
Education status				
Illiterate	18(100)	0	1	1
Primary	21(91.3)	2(8.7)	0.3(0.03-4.3)	0.12(0.006-2.73)
Secondary and high	52(92.8)	4(7.3)	2.2(0.4-11)	0.4(0.04-4)
Diploma and above	26(76.4)	8(23.6)	**7.5(1.5-37.8) ***	0.49(0.039-6.1)
Knowledge level				
Not knowledgeable	89 (96.7)	3(3.3)	1	1
Knowledgeable	28(71.7)	11 (28.3)	**28.6(9.9-82.8) ****	**10.4 (2.5-42.3) ****
Attitude				
negative	45 (95.7)	2(4.3)	1	1
positive	73(85.8)	12(14.2)	**7.7 (2.2-27) ****	1.2(0.21-7.4)
Risk perception				
Uncertain	70(100)	0	1	1
Low	36(94.7)	2(5.3)	5.8(1.7-20.30)	3.6(0.8-16.5)
High	11(48)	12(52)	**59.4(14-244) ****	**9.6(1.8-51.7) ***

NB * p-value < .05 and ** p-value < .001
COR= crude odds ratio, AOR=adjusted odds ratio

CHAPTER SIX: DISCUSSION

This study aimed to assess the colorectal cancer preventive practices of family members who related with CRC patients with blood bond about the risk factors, warning symptoms and preventive practices of CRC as well as determining factors of practices of CRC prevention among the respondents. In Ethiopia, colorectal cancer increases through a time(27). However, there is no official guide line for colorectal cancer screening. The increments of occurrence of colorectal cancer may be due to lack of practice on prevention of the disease.

The average preventive practice of CRC of the participants were 10.7%.This finding is less than the study conducted on Saudi Arabia 28% (77). This may be due to caregivers have less awareness of preventive practices and less information of colorectal cancer during their hospital stay and in the country.

This study found that adults older than 45 years, males, married private employers and stayed more than one year with CRC patients had more practices of CRC prevention. Positive attitude adequate knowledge, high monthly income level, education risk perception of CRC and residence type were associated with practice of CRC prevention. But other, such as gender and age were not significantly associated with preventive practices of colorectal cancer in this study. Study conducted southern Italy revealed that young age, females and married were significantly associated with CRC preventive practices(78). The study conducted china showed males had more practices than females(10). This may be due to different health policy of country.

In this study about 22.1% of participants modified their dietary for fear of CRC and about 19.1% of the participants modified their physical activity to prevent against the CRC. This finding is the same line with the study done on Riyadh city, Saudi Arabia 28% and 20% (77) respectively. Even if the study done on facility based, respond has greater chance to contact health professions and CRC patients. This might be due to low in transferring information to the care givers about CRC during in the hospita.

The main part of prevention of CRC is the early diagnose of CRC by colorectal cancer screening. Out of the total participants only one participant screened CRC by colonoscopy. This was very poor practices of CRC screening and lower than any other available findings. Five

percent of CRC screening in Saudi Arabia,9.2 % in china 22% in first degree relative in University Hospital of Canary Islands, Spain and 70%in FDR Alberta, Canada(10, 56, 77, 84). This may be due to absence guide line of colorectal cancer screening and promoting activities of colorectal cancer preventive practices and less recommendation of risk peoples in the country.

The 70% of the diseases CRC is preventable. Findings from the literature revealed that a lack of knowledge concerning the risk factors and the recognition of the early symptoms influenced the participation in preventive practices, screening programs, and late disease diagnosis(56)

Overall the knowledge of the risk factors, warning sign and preventive methods for development of colorectal cancer among the study participants is low. Less than one-third (29.8%) of the respondents have adequate knowledge of colorectal cancer. This finding is similar with the finding got from Nigeria and Saudi Arabia that was generally lack of knowledge of CRC and (32, 80) and less than the study done on Brunei 45%(28).

Even if the finding is similar with Nigeria and Saudi Arabia, this study is mostly done in participants who were care givers and stayed with CRC patients three months and above but the same result with others study. This may be due to care givers may not get enough information and health education in the hospital and less information about CRC through different medias.

The very important finding in this study is that only two-fifth (40.5%) of the participants known family history as risk factor for CRC. This finding is greater than study conducted on Ajam 17.5%(32) and similar line with study conducted on Riyadh city Saudi Arabia 38%(77). This may be due to different health policy of the countries and study design of the study that participant in facility had the chance to receive information about family history as risk factor of CRC.

Only one-tenth (10.7%) individuals known Diabetes mellitus increase the occurrence of colorectal cancer. This finding is the same as the study conducted on Ajam (32). This may be due to Diabetes mellitus is not known as risk factor as CRC in both countries. The risk perception of contracting CRC of the respondents were 17.5%. This finding is less than the studies conducted University Hospital of Canary Islands (46.7%). This may be due to

availability of CRC screening guide line in Spain and health education about to CRC prevention to FDR in the hospitals and different health policy and awareness programs(56).

The main source of information of the participants was health professional mostly nurse (44.8%). On other hand the study conducted in Guangzhou China revealed main source of information was mass media 40%(10). This may be due to that the Ethiopia media were not give enough information and awareness about to colorectal cancer or nurses gave more information than mass media.

7 STRENGTH AND LIMITATIONS OF THE STUDY

7.1 STRENGTH OF THE STUDY

The study was done on new area so that it provided baseline data for future education and awareness activities

7.2 LIMITATION OF THE STUDY

Absence of easily available similar studies done in Africa and Ethiopia for compression purpose.

Finally, the information was obtained through face to face questionnaire so that response is prone to recall bias.

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CHAPTER EIGHT: RECOMENDATION AND CONCULISION

8.1 CONCULISION

The study showed that there were poor practices of CRC. The reason for poor practice among participants was lack of knowledge and information. The more educated participants, living in urban area, adequate knowledge, positive attitude, risk perception and high monthly income were the predictors for practices of CRC prevention. Therefore, need to promote colorectal cancer preventive practices to care givers to prevent CRC and to detect CRC at the pre-cancerous. Hence the more emphasis should be on preventive practices of disease is required for the prevention of the disease by enabling the early treatment and prevention of cancer development.

8.2 RECOMMENDATION

To Oncology nurses:

Health education and awareness creation regarding colorectal cancer preventive practices should be implemented at the oncology wards and outpatient department.

Oncology nurses should be able to recommend preventive practices of CRC for care givers particularly related with blood bond with CRC patients.

To Oncology Researchers:

National level studies in the wider population regarding Practice on colorectal cancer preventive practices should be considered.

To Oncology nursing managers:

Regular health education and awareness creation programs about colorectal cancer preventive practices for caregivers should be planned and listed.

Follow up the scheduled program and applying the program should be considered.

To Federal minster of health and other policy makers:

There is a need to design policy and CRC screening guide lines which is applied at health institutions on the prevention and control of colorectal cancer among population especially for high risk individuals such as family history.

Design Health education and awareness creation regarding colorectal cancer at primary health care.

National level regular program like campaign of CRC preventive practices should be considered.

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10. ANNEX

A. QUESTIONNAIRE IN ENGLISH

Good morning/ afternoon?

My name is _____ Currently I am a graduate student at Addis Ababa University, College of Health Sciences, School of Nursing and Midwifery. And now I am conducting study colorectal cancer preventive practices and associated factors Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2019.

Title of the research: Colorectal cancer preventive practices and associated factors among care givers of patients with colorectal cancer attending Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2019.

Objective: this study will be aimed to identify preventive practice and associated factors of colorectal cancer.

Participants: care givers of patient with colorectal cancer.

Potential Risks: There is no foreseen risk by being involved in this study.

Benefits: No financial benefits are related with this study. But by participating in this study, most importantly, the result of the study will be beneficial to design effective preventive and control measures for colorectal cancer. Hence, you are indirectly benefiting other patients and the society in this respect.

I would like to ask you few questions. Your honest response to the questions can make the study to achieve its objective. All the information that you give will be kept confidential and private. Only the principal investigator and interviewer will have access to the information. You are kindly requested to respond voluntarily. You can also choose not to participate in this study totally or if you become uncomfortable during the study, you will be allowed to leave the interview at any time. At any time that you have questions, you can contact me by using the following Addresses**:**

Kaleb kanito: Mobile: 09 20984233, E-mail: kanito143@gmail.com

Consent form

In signing this document, I am giving my consent to participate in the study entitled "risk factors of colorectal cancer preventive practices and associated factors among care givers of patients with colorectal cancer attending Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2019.

I have been informed that the purpose of this study is to identify risk factors of birth asphyxia. I have understood that participation in this study is entirely voluntarily. I have been told that my answers to the questions will not be given to anyone else and no reports of this study ever identify me in any way. I have also been informed that my participation or non-participation or my refusal to answer questions will have no effect on me. I understood that participation in this study does not involve risks. I understood that kaleb kanito is the contact person if I have questions about the study or about my rights as a study participant.

Respondent's signature_____

Date of interview: _____ Time started: _____ Time finished: _____

Interviewer Name_____Signature_____Date_____

Supervisor's name _____ signature _____

Results of interview questionnaire

1. Completed

2. Refused

1. Partially completed

Kaleb kanito: Mobile: 09 20984233, E-mail: kanito143@gmail.com

Instruction: circle all the possible answers of the respondent from the choice provided

A. SOCIO-DEMOGRAPHIC CHARACTERISTICS

This section is designed to gather information about your socio-demographic characteristics.

A1. Age_____

A2. Sex 1. Male 2. Female

A3. Marital status 1. Married 2. Single 3. Widow/widower

4. Divorced/ separated 5. other

A4. Education level 1. Illiterate 2. primary school

3. Secondary and higher secondary 4. diploma and above

A5. Occupation 1. farmer 2. merchant 3. Government employee 4. daily labour

5. Private employee 6. Housewife 7. Retired

A6. Religion 1. orthodox 2. Muslim 3. Protestant

A7. Monthly income _____

A8. Residence 1. rural 2. Urban

A9. How long has it been since you relative diagnosed with CRC**?**

A10. Have you ever smoke cigarettes? 1. Yes current 2. Yes, before 3. No

B. KNOWLEDGE

This section is designed to assess your knowledge related to colorectal cancer (CRC).

B1 Have you ever heard about CRC? _____ 1. Yes 2. No

B2 Which of the following is risk factor for CRC?

s. no.	Items	Yes	NO
1	Alcohol consumption		
2	Smoking		
3	Low intake of fruit/vegetables		
4	High intake of red and processed meat		
5	Low fiber diet		
6	Overweight or obese		
7	Older age		
8	Family history of having bowel cancer		
9	Low physical activity		
10	Having diabetes		
11	Having bowel disease		

B3 Which of the following is warning sign and symptom for CRC?

s. no	Items	Yes	No
1	Rectal bleeding		
2	Unexplained weight loss		

3	Lump in abdomen		
4	Tenesmus		
5	Change in bowel habit		
6	Abdominal pain		
7	Tiredness/anemia		
8	Blood in stool		
9	Obstruction		

B4. Which of the following are preventive ways for CRC?

s. no	ITEMS	YES	NO
1	Regular Physical exercises		
2	Milk and milk product consumption		
3	Fruit and vegetables consumption		
4	Reduce consumption of red and processed meat		
5	CRC screening		

B5. Which of the following are CRC screenings?

S. NO	ITEMS	YES	NO
1	Blood test		
2	Double contrast barium enema		

3	Sigmoidoscopy		
4	Fecal occult blood testing		
5	Colonoscopy		

C. ATTITUDES: This section is designed to ask about your attitude about CRC

s.no	Attitudes to cancer and bowel cancer	Strongly agree	Agree	Don't care	Disagree	Strongly disagree
1	It's important for me to know about colorectal cancer					
2	It's just hardship that someone has colorectal cancer					
3	Colorectal cancer diagnosed in early stage can be treated bette					
4	Regular CRC screening can find cancer in early stage					
5	CRC screening regularly is important					
6	Colorectal cancer screening are effective					
7	Cancer screening should be widely implemented					
8	Risk perception of contracting CRC	High 2	Low 1		Uncertain 0	

D. Preventive practices

This section is designed to gather information about your behavior.

D1. In the last year have you modified your dietary habits for fear of contracting CRC?

1. No 2. Yes (**please specify) _____**

D2. In the last year have you modified your physical activity for fear of contracting CRC?

1. No 2. Yes (**please specify)**

D3. Have you ever performed CRC screening?

1. Yes 2. No

D4. Do you perform any of the following physical activities regularly?

	No	**Yes**
Running		
Swimming		
Aerobic dance/Body building		

D6. Have you ever participated in preventive activities (information brochures, clinical tests, etc.) on CRC?

1. No 2. Yes (which activity _____organized by _____)

D7. Who is the first health care provider you would consult for a health problem?

1. Nurse 2. General practitioner 3. Specialist 4. other (**please specify)**

E. INFORMATION

E1. From which of the following sources do you receive information about CRC? (**Mark one or more**)

1. Scientific journals 2. Mass-media 3. Educational courses 4. Physicians

5. Nurse 6. Other (**please specify _____**)

E2. Do you feel you need more information about CRC?

1. Yes 2. No 3. Not Shure

Thank you for your participation!

B. QUESTIONNAIRE IN AMHARIC

B የተሳታፊዎች የመረጃ ቅፅ በአማረኛ

እንደምን አደሩ/ዋሉ?

ስሜ_____ እባላለው፤ በአዲስ አበባ ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፣ ነርሲንግና ሚድዋይፍሪ ትምህርት ክፍል ኦንኮሎጅ ህክምና ነርስ የ2ኛ ዓመት የማስትሬት ድግሪ ተመራቂ ተማሪ ነኝ። በአሁኑ ሰዓት ጥቁር አንበሳ ሆስፒታል ውስት የአንጀት ካንሰርን መከላከል ልምዶችን እና ተያያዥነት ያላቸውን ምክንያቶች በመለየት ላይ ነኝ።

የጥናቱ ርዕስ፡ - የአንጀት ካንሰርን መከላከል ልምዶችን እና ተያያዥነት ያላቸውን ምክንያቶች በአንጀት ካንሰር ታማሚ ቤተሰብ አባላት ላይ ጥቁር አንበሳ የሆስፒታል ሆስፒታል, አዲስ አበባ, ኢትዮጵያ, 2011.

የጥናቱ አላማ፡- የዚህ ጥናት ዓላማ የአንጀት ካንሰርን የመከላከል ልምዶችን ደረጃ ለማወቅ እና ተያያዥነት ያላቸውን ምክንያቶች ለመለየት ነው.

ተሳታፊዎች፡ - ጥቁር አንበሳ ሆስፒታል ውስጥ ያሉ የአንጀት ካንሰርን ታማሚ ቤተሰብ አባላት

የጎንዮሽ ጉዳት፡ - በዚህ ጥናት መሳተፍ ምንም አይነት ጉዳት የለውም።

ጥቅማጥቅም፡ - በጥናቱ ለሚሳተፉ ፍቃደኛ ተሳታፊዎች ምንም አይነት የገንዘብ ክፍያ የለም፣ነገር ግን የጥናቱ ውጤት የአንጀት ካንሰርን ለመከላከል ስለሚጠቅም በተዘዋዋሪ መንገድ ሌላ ህመምተኛ እንዲሁም ህብረተሰቡን የመጥቀም እድል ያገኛሉ።

ስለዚህ የተወሰኑ ጥያቄዎችን ልጠይቅዎት እወዳለሁ። የእርስዎ በእውነት ላይ የተመሰረተ መልስ ለዚህ ጥናት መሳካት አስተዋፅኦ ያደርጋል። እርስዎ የሚሰጡት መረጃ ከአጥኚውና ቃለመጠይቅ አድራጊው በስተቀር በማንኛውም መልኩ ለሌላ 3ኛ ወገን ተላልፎ አይሰጥም። በሙሉ ፈቃደኝት እንዲሳተፉ እየጠየቅሁ ያለመሳተፍ ወይም በማንኛውም ጊዜ ራስዎን ከጥናቱ የማግለል ሙሉ መብት አለዎት። ማንኛውም ጥያቄ ካለዎት በሚከተለው አድራሻዬ ማግኘት ይችላሉ፡

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የስምምነት መግለጫ ፎርም

አዲስ አበባ ዩኒቨርሲቲ፤ጤና ሳይንስ ኮሌጅ፤ነርሲንግ ትምህርት ክፍል፤ድህረ ምረቃ ፕሮግራም

እኔ ለዚህ ጥናት የስምምነት ፊርማዬን ስሰጥ፤የዚህ ጥናት ዓላማ በደንብ የተብራራልኝ ሲሆን የጥናቱንም ዓላማ ተረድቻለሁ፡፡ በዚሁ ጥናት ላይ መሳተፍ በሙሉ ፈቃደኝነት ላይ የተመሰረተ መሆኑን በሚገባ የተረዳሁ ሲሆን በማንኛውም ጊዜ ከጥናቱ ራሴን የማግለል መብት እንዳለኝ አውቄአለሁ፡፡ ስለሆነም የምሰጠው መረጃ እስከተጠበቀ ድረስ በዚህ ጥናት ለመሳተፍ ተስማምቻለሁ፡፡ በጥናቱ በኔ ላይ ምንም አይነት ጉዳት እንደሌለው በግልጽ ተረድቻለሁ፡፡በዚህ ጥናት ለመሳተፍ ስምምነቴን ስገልፅ ለምጠቀው ጥያቄ በእውነት ላይ የመሰረተ መልስ ለመስጠት የተስማማሁ መሆኔን አረጋግጣለሁ፡፡በመብቴ ዙሪያም ሆነ ስለ ጥናቱ መንኛውንም ያልገባኝን ጥያቄ መጠየቅ እንደምችል ተገልጸልኛል፡፡

የመረጃ ሰጪ ፊርማ _____ቀን _____

የተጀመረበት ሰዓት _____ ያለቀበት ሰዓት_____

የጠያቂው ስም _____ፊርማ_____ቀን_____

የተቆጣጣሪ፤ስም_____ፊርማ_____ቀን_____

የመጠይቁ ውጤት

1. **ሙሉ በሙሉ የተሞላ**
2. **ያልተስማሙ**
3. **በከፊል የተሞላ**

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መመሪያ-ከተሰጠው ምርጫ የመጡ ምላሾች ሁሉ ሊገኙ ይችላሉ

A. ማህበረሰባዊ ጥያቄዎች

ይህ ክፍል ስለ የእርስዎ ማህበራዊ-ስነ-ሕዝብ ባህሪ መረጃ ለመሰብሰብ ታቅዷል.

A1. ዕድሜ __

A2. ፆታ 1. ወንድ 2. ሴት

A3. የጋብቻ ሁኔታ 1. ያገባ 2. ያላገባ 3. ሚስት / ባል የሞተች/ባት

4. የተፋታ/ች 5. ሌላ .....

A4. የትምህርት ደረጃ 1.ማንበብና መፃፍ የማይችል 2. የመጀመሪያ ደረጃ ትምህር

3. ሁለተኛ እና ከፍተኛ ሁለተኛ ደረጃ 4. ዲፕሎማ እና ከዛ በላይ

A5. የስራ ድርሻ 1. አርሶ አደር 2. ነጋዴ 3. የመንግስት ሠራተኛ

4. የጉልበት ሰራተኛ 5. የግል ሰራተኛ 6. የቤት እመቤት 7. ጡረታ የወጣ

A6. ሀይማኖት 1.ኦርቶዶክስ 2. ሙስሊም 3 ሌላ

A7. ወርሃዊ ገቢ _____

A8.የምኖሩበት ቦታ ሀ. ገጠር 2 . ከተማ

A9. እርስዎ ቤተሰብ በቋሚነት የአንጀት ካንሰርን በምርመራ ካረጋግጡ ወዲህ ምን ያህል ጊዜ ሆኖታል?

A10. ሲጋራ አጭሰው ያውቃሉ? 1. አው የአሁኑን ጊዜ 2. አው ከዝህ በፊት 3.አይ

B 2 እውቀት

የአንጀት ካንሰርን ጋር የተዛመደ እውቀትዎን ለመቃኘት የተዘጋጀ ነው.

1 ስለ አንጀት ካንሰርን ሰምተው ያውቃሉ? _____ 1. አዎ 2. . አይ

2 ከሚከተሉት ውስጥ የትኛው ለ የአንጀት ካንሰርን ያጋልጣል ብለው ያስባሉ?

ተ.ቁ.	መለያዎች	አዎ	አይ
1	አልኮል መጠጥ መጠቀምን		
2	ማጨስ		
3	ዝቅተኛ መጠን ፍራፍሬ / አትክልት መመገብ		
4	በብዛት ቀይ እና የተነባበረ ስጋ መመገብ		
5	ዝቅተኛ መጠን ፋይበር(fibers) አመጋገብ		
6	ከመጠን በላይ ክብደት ወይም ወፍራም		
7	ዕድሜ መጨመር		
8	የቤተሰብ ዘር በካንሰር መያዝ		
9	ዝቅተኛ አካላዊ እንቅስቃሴ		
10	የስኳር በሽታ መከሰት		
11	የአንጀት በሽታ መከሰት		

B3 ከሚከተሉት ውስጥ የትኞቹ የአንጅት ካንሰር ምልክት ናቸዉ ?

ተ.ቁ.	መለያዎች	አዎ	አይ
1	ከፊንጢጣ ደም መፍሰስ		
2	ሳይታወቀው የክብደት መቀነስ		
3	በሆድ ውስጥ እብጠት		
4	ማስማጥ		

5	የሽንት/ሰገራ ሂደት መዛባት		
6	የሆድ ህመም		
7	ድካምና የደም ማነስ		
8	ከደም ጋር የተቀላቀለ ሰገራ		
9	የአንጀት መታጠፍ		

B4. ከሚከተሉት ውስጥ ለ CRC ቅድመ ሁኔታ መከላከያ መንገዶች የትኛው ነው? (አንድ ወይም ተጨማሪ ምልክት አድርግ)

ተ.ቁ.	መለያዎች	አዎ	አይ
1	መደበኛ የሰውነት እንቅስቃሴ		
2	ወተት እና የወተት ምርት ፍጆታ		
3	ፍራፍሬዎችና አትክልቶች መብላት		
4	ቀይ እና የተቀቀለ ሥጋን መቀነስ		
5	ቅድመ የአንጀት ካንሰር ምርመራ		

B5. ከሚከተሉት ውስጥ የትኞቹ ቅድመ የአንጀት ካንሰር ምርመራ ናቸው?

ተ.ቁ.	መለያዎች	አዎ	አይ
1	የደም ምርመራ		
2	Double contrast barium enema ምርመራ		
3	ሲግሞይዶስኮፕ Sigmoidoscopy		
4	Fecal occult blood testing ምርመራ		
5	ኮሎኖስኮፒ Colonoscopy		

ይህ ክፍል 2 አመለካከት

ስለ የአንጀት ካንሰር ያለዎትን አመለካከት ለመጠየቅ የተዘጋጀ ነው

D. **የመከላከል ልምዶች/ተግባራት**

	አመለካከት	**በጣም እስማማለሁ**	**እስማማው**	**እስማማው አልስማማም**	**አልስማም**	**በጣም አልስማማም**
1	**ስለ ካንሰር ማወቅ በጣም አስፈላጊ ነው**					
2	**በካንሰር መያዝ ለሲቃይ ይዳርጋል**					
3	**ቀድሞ የታወቀ የአንጀት ካንሰር የመዳን እድሉ የተሻለ ነው**					
4	**በመደበኛነት ቅድመ ካንሰር ምርመራ ማድረግ ካንሰርን ቀድሞ ለመለየት ያግዛል**					
5	**በመደበኛነት ቅድመ ካንሰር ምርመራ አደርጋለሁ**					
6	**ቅድመ የአንጀት ካንሰር ምርመራ ውጤታማ ነው**					
7	**ቅድመ የአንጀት ካንሰር ምርመራ በስፋት መተግበር አለበት**					
8	**የአንጀት ካንሰር የመያዝ አጋጣም**	**ከፍተኛ**	**ዝቅተኛ**			
		2	1		0	

ይህ ክፍል ስለ እርስዎ ባህሪ መረጃ ለመሰብሰብ ተብሎ የተዘጋጀ ነው።

D1. ከባለፈው ዓመት ጀምሮ የአንጀት ካንሰር በመስጋት የአመጋገብ ስርዓትን ቀይረዋል / አሻሽለዋል።

አይ 2. አዎ (እባክዎን ይግለጹ) _____

D2. ባለፈው ዓመት ጀምሮ የአንጀት ካንሰር በመፍራት የአካላዊ እንቅስቃሴ ማድረግ ችለዋል?

1. አይ 2. አዎ (እባክዎን ይግለጹ)----------

D3 ቅድመ የአንጀት ካንሰር ምርመራ አድርገው ያቃሉ?

አዎ 2. አይ

D5. ከሚከተሉት አካላዊ እንቅስቃሴዎች አዘውትሮ ያካሂዳሉ

	አዎ	አይ
ሩጫ		
ዋና		
የአሮቢክ እንቅስቃሴ		
ሌላ ካለ		

D6. የአንጀት ካንሰር ላይ የመከላከያ ድርጊቶች (የመረጃ ትንበያዎች, የክሊኒካል ምርመራ, ወዘተ) ላይ ተሳትፈዋል?

አይ 2. አዎ (የትኛው እንቅስቃሴ _____ በ ምን ሁኔታ ----------)

D7. ለጤና ችግር ለመጀመሪያ ጊዜ ማንን ያማክራሉ

ነርስ 2. ሐኪም 3. ልዩ ባለሙያ 4. ሌላ እባክዎ ይግለጹ

E. መረጃ

E1. ከታች የሚከተሉት ምንጮች የአንጀት ካንሰር መረጃ ከየት/ከማን ያገኛሉ? (አንድ ወይም ተጨማሪ ምልክት አድርግ)

ሳይንሳዊ መጽሔቶች 2. ማስ-ሚዲያ 3. ትምህርታዊ ኮርሶች d

4. ሐኪም 5. ነርስ 6. ሌላ (እባክዎን ይግለጹ _____)

E2. ስለ አንጀት ተጨማሪ መረጃ የሚያስፈልግዎት ይመስልዎታል?

አዎ 2. የለም 3. እርግጠኛ አደለሁም

ስለ ተሳተፉ አመሰግናለሁ !