An-Najah National University

Faculty of Graduate studies

Colon Cancer in Palestine: Associated risks, Perceived Causes, Patterns of Distress, and Help Seeking Behaviors

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This Thesis is Submitted in Partial Fulfillment of the Requirements for The Degree of Master in Public Health, Faculty of Graduate Studies, An-Najah National University, Nablus-Palestine.

2018

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Dedication

“My Welfare in Only in Allah”, without his guidance, love, mercifulness, and protection, I will not be in the position I am in today.

To our beloved Prophet Mohammed Peace be Upon Him, the light of the universe.

The mighty Allah gave me a great gift, he blessed me with the spiritual guide his eminence Sheikh Dr. Rajab Deeb, he is my savior, and with this study I hope to make him proud.

To my spiritual parents, Dr. George Daher and Mrs. Suhair Al Masri, no words can describe my true feelings, deep gratitude, and appreciation.

To my parents, Munther and Suhad Abdo, who never left my side, supported me through sickness and health, and kept pushing me to the best I can be.

And to all who are close to my heart, I love you, you were there for me no matter what, believed in me, and always gave me the push I need to battle through.

Acknowledgment

I would like to send deep thanks and gratitude to Dr. Abdulsalam Alkhayyat for his constant support and help through this process, and for believing in my vision and in me.

My appreciation is sent to all my instructors in the Public Health Program for their help and support.

Thanks should be sent to the Ministry of Health and hospitals administrations for facilitating my work.

Deep thank to all the patients who kindly took the time –even if they are tired and in pain- to help me collect the needed information.

And thanks to all the individuals who helped me throughout this journey, you are all deeply appreciated.

الإقرار

أنا الموقع أدناه مقدم الرسالة التي تحمل العنوان:

Colon Cancer in Palestine: Associated risks, Perceived Causes, Patterns of Distress, and Help Seeking Behaviors

اقر بأن ما اشتملت عليه هذه الرسالة إنما هي نتاج جهدي الخاص باستثناء ما تم الإشارة إليه حيثما ورد، وإن هذه الرسالة ككل أو أي جزء منها لم يقدم من قبل لأي درجه علمية أو بحث علمي أو بحثي لدى أي مؤسسة تعليمية أو بحثية أخرى.

Declaration

The work provided in this thesis, unless otherwise referenced is the researcher's own work and has not been submitted elsewhere for any other degree or qualification.

Student's name: **اسم الطالب:**

Signature: **التوقيع:**

Date: **التاريخ:**

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List of Abbreviations

BMI	Body Mass Index
CDC	Center of Disease Control and Prevention
CI	Confidence Interval
CT	Computerized Tomography
DK	Don’t Know
EMIC	Explanatory Model Interview Catalogue
FAP	Familial Adenomatous Polyposis
FDR	First Degree Relative
FFQ	Food Frequency Questionnaire
GBD	Global Burden of Disease
HNPCC	Hereditary non-polyposis Colorectal Cancer
HR	Hazard Ratio
HS	Help Seeking
IBD	Inflammatory Bowel Diseases
IRB	Institutional Review Board
IRR	Incidence Rate Ratio
MRI	Magnetic Resonance Imaging
PC	Perceived Causes
PD	Patterns of Distress
RR	Relative Risk
YLD	Years Lost Due to Disability
WHO	World Health Organization

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Abstract

Background:

With cancer being the second leading cause of death in West Bank and colon cancer being the second common cancer, attention should be drawn to it in order to better understand all the aspects of this diseases in the Palestinian settings. Among what attention should be drawn to are colon cancer risk factors and how the illness affects the patients' lives.

Objectives:

To identify the risks associated with colon cancer among Palestinian patients.

To better understand the illness experience of the colon cancer patients in terms of perceived causes, patterns of distress, and help seeking behaviors.

Methods and Materials:

A mixed method was used to achieve the purpose of this study, in the first phase, a total of 103 cases and 116 control were conveniently selected to participate in the case control study were they were asked to fill a

questionnaire consisting of 3 sections: the socio-demographics, the colon cancer section, and the food frequency section.

In the second phase, a qualitative study was conducted on 20 colon cancer patients who participated in the first phase of the study; data was collected via face-to-face Explanatory Model Interview Catalogue (EMIC) interview consisting of 3 sections: perceived causes, patterns of distress, and help seeking behavior.

Results of the Case-Control Phase:

Analysis showed that family history of colon cancer, regular screening, personal history of cancer, diabetes, constipation, constipation duration, cooked cereals, fruits, vegetables, legumes, red meat, cold meats, fats, type of fats, and fast foods were found to be different between cases and controls but following logistic regression, family history (OR=3.543), constipation (OR=29.989), hot cereals (OR=0.557), fats (OR=1.615), and fast food (OR=1.501) were the only factors found be significantly associated with colon cancer with only hot cereals as a protective factor.

Results of the Qualitative Phase:

Colon cancer patients went through a variety of challenges and hardships but chemotherapy and psychological distress was the most common among the sample. Few had an answer to what was the cause of their illness and the majority reported their low level of knowledge regarding that matter. Each patient had his/her own unique journey through the illness, but all

agreed that surgery was the most effective step as it alleviated their physical symptoms and gave them back their movement abilities which is what defines the general health according to those patients.

Conclusion:

Study had found that having a family history of colon cancer, suffering from constipation, consuming fats and fast food increase the risk of developing colon cancer while consuming hot cereals such as oatmeal works as a protective factor against colon cancer.

When looking at colon cancer as an illness, patients were unaware of the possible causes for their cancer, physical and psychological pain is considered a source of distress with chemotherapy being the hardest distress of all. Contradiction was noticed when patients used fatalistic phrases while showing high level of psychological distress. As for seeking help, patients' surgery, faith, and family support had positive impact on their wellbeing.

Chapter one
Introduction

1.1 Background:

With the epidemiological transition, chronic diseases are ranking as the leading causes of morbidity and mortality across the globe. Cancer is among those chronic diseases stealing the lives of millions annually. According to the American Cancer Society, in 2012, approximately 14 million new cases and 8.2 million cancer related deaths were recorded worldwide. Not being restricted to a specific site in the body, cancer can affect different organs and may spread from one body site to other (metastasis), the colon is one of those sites, causing 694 000 deaths in 2012 alone worldwide. By 2030, the global burden is expected to grow to 21.7 million new cancer cases and 13 million cancer deaths simply due to the growth and aging of the population (1). In Palestine, Cancer was the second main leading cause of death (14%) in 2016, new reported cancer cases in West Bank was 2,536, with an increase of 5.7% from the 2,400 new reported cases in 2015 with an incidence rate of 86.4 new cases per 100,000 populations (2).

1.2 Colon cancer:

In general, cancer can be defined as abnormal growth of cells, this growth is due to multiple changes in a gene leading to deregulated balance of cell proliferation and death ultimately evolving into a population of cells that

can invade tissues and metastasize to distant site causing significant morbidity and if untreated, death of the host (3).

Colorectal cancer usually develops slowly, over a period of 10 to 20 years. Most begin as a noncancerous growth called a polyp that develops on the inner lining of the colon or rectum. The most common kind of polyp is called an adenomatous polyp or adenoma (4).

From epidemiological point of view, colon cancer was the third most common cancer in the world (9.7% of all cancers) with nearly 1.4 million new cases diagnosed in 2012, about 54 per cent of cases occurred in more developed countries. In the same year, colon cancer accounted 8% of all cancer deaths with 608,700 deaths worldwide (1).

In Palestine, according to the Palestinian Ministry of Health, colon cancer was the second leading cause of cancer deaths in Palestine after lung cancer (15.1%%) and the second highly reported cancer cases in 2016 with 262 cases, which accounts to 10.3% of all reported cancer cases with an incidence rate of 8.9 (2)

1.3 Colon cancer risk factors:

There are several modifiable and unmodifiable risk factors that increase the individual's risk of developing colon cancer. When it comes to the unmodifiable risk factors, age is considered a risk for colon cancer, in people between the age of forty and fifty years, the incidence of colorectal cancer is fifteen new cases per hundred thousand persons while the

incidence rises by four hundred new cases per thousand in people above the age of eighty (5).

Family and personal history of colon cancer are risk factors especially if the individual or the first degree relative had the cancer at young age, in addition, the higher the number of relatives who had cancer, the higher the risk. Another history that attention should be drawn to is the individual's history of inflammatory bowel diseases such as ulcerative colitis and Crohn's disease where the lining of the colon become inflamed over a long period of time. When it comes to genetics, inherited symptoms cause approximately 5% of all colon cancers. The two most commonly inherited syndromes linked with colorectal cancers are Familial adenomatous polyposis (FAP) and hereditary non-polyposis colorectal cancer (HNPCC) (4).

Cancer can be avoided by eliminating its modifiable risk factors. Diet has its role in either lowering or increasing the risk of colon cancer; a diet that is high in red meat and fats and low in dietary fibers is found to increase the risk of colon cancer. On the contrary, fruits, vegetables, and cereals are found to be protective against colon cancer (5).

Being overweight or obese also increases the risk of colon cancer as fat, especially visceral fats, lead to metabolic syndrome and insulin resistance which induce hormonal imbalance and hence cell proliferation. Increased adipose tissues also leads to chronic inflammation, resulting in the inhibition of apoptosis. In order to maintain a healthy body weight,

physical activities must be incorporated in daily lives, physical activity is considered a protective factor as it decreases colon transit time, particularly in the recto-sigmoid region, and thus decrease contact time of alimentary carcinogens with the colon mucosa (6).

Other than inflammatory bowel diseases, diabetes and constipation are associated with an increased risk of colon cancer. Diabetes and cancer are diagnosed within the same individual more frequently than would be expected by chance. In 2009, the results of several studies were combined in a meta-analysis revealing that some cancers like colon cancer develop more commonly in patients with diabetes. Hyperinsulinaemia promotes tumor cell growth directly via the insulin receptor or indirectly via the insulin-like growth factor I (IGF-1) receptor, which are expressed on many cancer cells (7).

Chronic constipation is considered a risk factor for colon cancer, a theory explained that this risk is due to increased contact time and/or concentration of carcinogens (like bile acids and ammonium acetate) in the lumen (8).

1.4 Signs and Symptoms of Colon Cancer:

Early colorectal cancer often has no symptoms, which is why screening is so important. As a tumor grows, it may bleed or obstruct the intestine. Doctor should be consulted in case of the following warning signs: bleeding from the rectum, blood in the stool or in the toilet after having a bowel movement, dark or black stools, a change in the shape of the stool

(e.g., more narrow than usual), cramping or discomfort in the lower abdomen, an urge to have a bowel movement when the bowel is empty, constipation or diarrhea that lasts for more than a few days, decreased appetite, and unintentional weight loss. In some cases, blood loss from the cancer leads to anemia, causing symptoms such as weakness and excessive fatigue. Timely evaluation of symptoms consistent with colorectal cancer is essential, even for adults younger than age 50 (4).

According to the American Cancer Society, back pain is considered a symptom for colon cancer (9), chronic constipation is one of the health conditions that might trigger back pain; the build-up of fecal material increases within the body and can stress the lower back over time. Chronic constipation is often accompanied by lower left back pain as the patient also tries to force the body to defecate, straining at the toilet, only to put even more pressure on the lower back (10).

1.5 Colon cancer Diagnosis and Stages:

Colorectal cancer can be detected in its early stages when prevention and cure is possible (5), the patient and the doctor choose the appropriate test to do in order to detect the presence of cancer. Test could be structural such as sigmoidoscopy, colonoscopy, double contrast double barium enema, and Computed Tomographic Colonography, or stool tests such as High-Sensitivity Fecal Occult Blood Test, Fecal Immunochemical Test and Stool DNA. Any of those tests are useful in screening for colorectal cancer in average-risk adults. Each of these tests has strengths and limitations

related to accuracy, potential for prevention, cost, and risks, tests help the doctor determine in which of the four stages of cancer the patient is (4).

1.6 Colon Cancer Treatment (11):

Treatment decisions are made by patients with their physicians after considering the best options for them. There are four types of cancer treatments:

- Surgery
- Chemotherapy
- Radiotherapy
- And Targeted therapy.

1.7 Colon Cancer Prevention and Early Detection (12):

Regular screening increases the likelihood that colorectal cancers that do develop will be detected at an early stage, when they are more likely to be cured, treatment is less extensive, and recovery is faster. In addition to following recommended screening guidelines, people can reduce their risk of developing or dying from colorectal cancer by maintaining a healthy body weight; engaging in regular physical activity; eating a healthy, well-balanced diet; limiting alcohol consumption; and not smoking.

1.8 Colon Cancer and perception (13):

Disease involves not only the body, but it also affects one's relationships, self-image, and behavior. The social aspects of disease may be related to the pathophysiologic changes that are occurring, but may be independent of them as well. The very act of diagnosing a condition as an illness has consequences far beyond the pathology involved.

Illness behavior is shaped by sociocultural and social-psychological factors such as culture of poverty, demographic status, and past experiences and the patient construct their own illness representations to help them make sense of their illness experience. It is these representations that form a basis for appropriate or inappropriate coping responses.

1.9 Introduction to the research:

1.9.1 Problem statement:

As mentioned earlier, colon cancer was the second leading cause of cancer deaths in Palestine after lung cancer (15.1%%) and the second highly reported cancer cases in 2016 (2), but there are no previous studies investigating colon cancer and its risk factors in Palestine.

Worldwide, about 80% of cancer patients reported moderate to severe pains (14), however, in Palestine no studies investigated patterns of distress and different experiences that cancer patients goes through. It should be noticed

that many literatures have reflected how palliative care is considered a rightful dream in Palestine (15-18).

1.9.2 Significance of the study:

The study will encourage future research in the fields of back pain, constipation, and colon cancer; it will also increase awareness about the importance of not neglecting any symptoms, and the importance of regular and early colon screening.

It should be noticed that this study will be the first in Palestine to investigate the experiences that the colon cancer patient's go through in terms of perceived causes (PC), patterns of distress (PD), and help seeking behaviors (HS).

1.9.3 Research questions:

- What are the risk factors associated with colon cancer in Palestine?
- What are the illness experiences of patients with colon cancer Palestine?

1.9.4 Goals of the study:

- To identify the risks associated with colon cancer among Palestinian patients.
- To better understand the illness experience in terms of perceived causes, patterns of distress, and help seeking behaviors.

1.9.5 Objectives of the study:

I Cancer section:

- To associate between colon cancer and family history of cancer
- To associate between colon cancer and Personal of cancer
- To associate between colon cancer and screening.

II Lifestyle factors section:

- To associate between colon cancer and Body Mass Index.
- To associate between colon cancer and physical activity.
- To associate between colon cancer and smoking.
- To associate between colon cancer and Second hand smoking.

III Health conditions:

- To associate between colon cancer and Diabetes.
- To associate between colon cancer and Inflammatory Bowel Diseases.
- To associate between colon cancer and constipation.
- To associate between colon cancer and low back pain.

IV Diet:

- To associate between colon cancer and hot cereals.

- To associate between colon cancer and ready to eat cereals
- To associate between colon cancer and fruits.
- To associate between colon cancer and vegetables.
- To associate between colon cancer and legumes.
- To associate between colon cancer and red meats.
- To associate between colon cancer and cold meats.
- To associate between colon cancer and fats.
- To associate between colon cancer and fats foods.
- To associate between colon cancer and fried foods.
- To associate between colon cancer and salty snacks.
- To associate between colon cancer and sweet snacks.

1.9.6 Hypothesis:

V Cancer section:

- There is a positive association between colon cancer and family history of cancer
- There is a positive association between colon cancer and Personal of cancer
- There is a negative association between colon cancer and screening.

VI Lifestyle factors section:

- There is a positive association between colon cancer and Body Mass Index.
- There is a negative association between colon cancer and physical activity.
- There is a positive association between colon cancer and smoking.
- There is a positive association between colon cancer and Second hand smoking.

VII Health conditions:

- There is a positive association between colon cancer and Diabetes.
- There is a positive association between colon cancer and Inflammatory Bowel Diseases.
- There is a positive association between colon cancer and constipation.
- There is a positive association colon cancer and low back pain.

VIII Diet:

- There is a negative association between colon cancer and hot cereals.
- There is a negative association between colon cancer and ready to eat cereals
- There is a negative association between colon cancer and fruits.

- There is a negative association between colon cancer and vegetables.
- There is a negative association between colon cancer and legumes.
- There is a positive association between colon cancer and red meats.
- There is a positive association between colon cancer and cold meats.
- There is a positive association between colon cancer and fats.
- There is a positive association between colon cancer and fats foods.
- There is a positive association between colon cancer and fried foods.
- There is a positive association between colon cancer and salty snacks.
- There is a positive association between colon cancer and sweet snacks.

Chapter Two

Literature Review

2.1 Family history and Colon Cancer:

In order to reduce the risk of colon cancer, attention should be drawn to its risk factors, whether they are modifiable or unmodifiable. Having family history of colon cancer increases the risk of developing the disease, which is what a comprehensive review of final set of 76 article had shown; having 1 affected first-degree relative (FDR) increases the colorectal cancer risk 2-fold, and the risk increases with multiple affected FDRs (19).

2.2 Diet and Colon Cancer:

Studies have shown that the individual's diet plays a role in either increasing or decreasing the risk of colon cancer. For example, one case-control study that was conducted in Uruguay on 361 cases and 1907 controls to determine the role of meat consumption in the etiology of colorectal cancer suggested that red meat and processed meat may play a role in the etiology of colorectal cancer (20).

On the other hand, adopting a diet that is high in fruits, vegetables, and whole grains protects against colon cancer due to their high levels of dietary fibers. One of the studies that linked dietary fibers with decreased risk of colon cancer is a prospective study that aimed to evaluate the association between dietary fibers intake and the risk of incident and recurrent colorectal adenoma. Researchers suggested through their findings

that individuals consuming the highest intakes of dietary fiber have reduced risks of incident colorectal adenoma and distal colon cancer and that this effect of dietary fiber, particularly from cereals and fruit, may begin early in colorectal carcinogenesis (21).

Aiming to truly sense the effect of adopting a healthy diet on the risk of colon cancer, Stephen J.D. and his colleagues performed 2-week food exchanges in subjects from the same populations, where African Americans were fed a high-fiber, low-fat African-style diet and rural Africans a high-fat, low-fiber western-style diet, under close supervision. The food changes resulted in remarkable reciprocal changes in mucosal biomarkers of cancer risk and in aspects of the microbiota and metabolome known to affect cancer risk, best illustrated by increased saccharolytic fermentation and butyrogenesis, and suppressed secondary bile acid synthesis in the African Americans (22).

2.3 Alcohol, Smoking, and Colon Cancer:

Alcohol consumption may vary across the days, but lifetime intake is related to an increased risk of colon cancer. In 2015, 4 researchers conducted a systematic review and meta-analysis to review the effect of long term alcohol consumption on cancer. Their review confirmed a dose-dependent associations between long-term alcohol intake and colorectal cancer (23).

Smoking is among the modifiable risk factors for colon cancer, in an updated review of the epidemiological evidence that cigarette smoking increases risk of colorectal cancer, Edward Giovannucci showed that twenty-one of 22 studies found that long-term, heavy cigarette smokers have a 2–3-fold elevated risk of colorectal adenoma, and that accumulating evidence strongly supports the addition of colorectal cancer to the list of tobacco-associated malignancies and the possibility that up to one in five colorectal cancers in the United States may be potentially attributable to tobacco use (24).

Unfortunately the risk is not solely associated with active smoking; passive smoking is also considered a risk factor for colon cancer. In a meta-analysis of observational studies that explored the association between passive smoking and the risk of colorectal cancer, researchers found that the pooled RR of all studies showed a statistically significant association between passive smoking and colorectal cancer (RR = 1.14; 95% CI = 1.05-1.24) (25).

2.4 Weight, Physical Activity, and Colon Cancer:

Excess weight affects the individual in many aspects including increasing the risk of colon cancer. In a 6.5 years prospective study that aimed to investigate the association between body size and risk of colon cancer, researchers found that body weight and BMI were statistically significantly associated with colon cancer risk in men but not in women (26).

One study that aimed to assess the impact of overweight duration and intensity in older adults on the risk of developing different forms of cancer found that 8.4 % of all obesity-related cancers could be attributed to overweight at any age, and that a longer duration of overweight increased the risk of colorectal cancer(27). In support of this theory, a systematic review have showed that childhood obesity is positively associated with colon cancer in males and females (28).

Physical activity plays an important role in the etiology of colon cancer. Its significance is seen by its consistent association as an independent predictor of colon cancer (29). In a Korean study that examined the association between the physical activity of 12,379 subjects aged above 20 years old and the risk of colon cancer, researchers found that men who did moderate physical activity showed a lower risk for colorectal cancer (HR 0.35, 95% CI: 0.19-0.65 for 30-419 minutes compared to who spend less than 30 minutes a week doing moderate activities) (30).

2.5 Health Conditions and Colon Cancer:

When it comes to some health conditions, research has linked diabetes, inflammatory bowel diseases, constipation, and back pain to colon cancer. In a study that analyzed two case control studies conducted in Italy and Spain between 2007 and 2013 on 1,147 histologically confirmed colorectal cancer cases and 1,594 corresponding controls, researcher found an evidence of a positive association between diabetes and colorectal cancer (mainly proximal colon cancer), they also found a negative association

between colorectal cancer and metformin use and a positive association for insulin use (31).

As for inflammatory bowel diseases (IBD), a study that was published in Gastroenterology in 2012 indicated that between 1998 to 2010 IBD had a 60% higher incidence of colorectal cancer (32), in addition, in 2013 an updated meta-analysis of population-based cohort studies concluded that the risk of colorectal cancer is significantly higher in patients with longer disease duration, extensive disease, and IBD diagnosis at young age (33).

2.6 Constipation, Back Pain, and Colon Cancer:

Studies regarding the association between constipation and colon cancer are controversy, for example, 2 studies that were conducted in Japan found that colon cancer is associated with constipation (34). On the other hand, a systematic review and meta-analysis found no increase in prevalence of colorectal cancer in patients with constipation (35).

Back pain in considered a red flag indicating that the individual should seek immediate medical care (36), as a proof, a systematic review and survey conducted by Anna Roberto and her colleagues suggested that more than one in three patients with cancer pain experience neuropathic cancer pain (37).

2.7 Screening:

According to the Center of Disease Control and Prevention (CDC), regular screening, beginning at age 50, is the key to preventing colorectal cancer (38). In one study, researchers assessed the protective benefit of colonoscopy within the previous 10 years and whether this effect is maintained with age, they concluded that colonoscopy within the previous 10 years provides substantial protective benefit for average-risk individuals over 60 years. Colorectal cancer death risk reduction may be maintained well beyond 74 years, a common upper age limit recommended by screening guidelines (39).

2.8 Illness Perception and Colon Cancer:

Illness perceptions have been proven to be predictive of coping and adjustment in many chronically ill patients. Petra Hopman and Mieke Rijken investigated illness perception among cancer patients and its association with their illness characteristics and their coping strategies. Petra and Mieke’s findings suggests that illness perceptions have proven to be predictive of coping and adjustment in many chronically ill patients (40).

Being diagnosed with cancer puts the individual under lots of physical, mental, and emotional stress. A study that examined the rate of emotional distress and maladaptive coping and their association with cancer patients' satisfaction with their interactions with the physician responsible for their care found that about one out of three cancer patients have moderate to

high level of emotional distress and about one out of four, clinically significant maladaptive coping. Also, patients showing hopelessness and distress tended to perceive their doctors as both disengaged and less supportive (41).

Coping strategies among cancer patients varies, in a study that was conducted in Iran, researchers found that using spiritual coping strategies may play a vital role in adjustment process in patients with breast cancer (42). In a study that used an in-depth interviews for the aim of exploring the meaning of living with cancer and older adults' orientations to coping with stressors encountered during their cancer journey as reflected in narratives of elderly cancer survivors, researchers found that most of the elderly patients accepted their diagnosis without distress. Resolve and determination during the diagnosis phase was followed by assuming a more passive role during the treatment phase, relying on expert medical care. During the longer term survivorship phase older adults looked back at the adaptations they found most useful. The majority reported valuing active coping styles. These include seeking social support and instrumental orientations to dealing with the illness followed by religious or spiritual approaches (43).

2.9 Colon Cancer in Palestine:

In Palestine, few studies were conducted to investigate colon cancer screening(44), but no studies were conducted to investigate colon cancer in general and its risk factors in particular. On the other hand, n 2005, one Israeli study showed a low incidence of colon cancer among Arab patients, it also showed that increased incidence of colorectal cancer in 'westernized' countries is reflected in the Jewish but not the Arab community (45). After noticing an increase in colorectal cancer among Arabs in Israel, a study was conducted to investigate this trend, researchers explained that the reasons for the changing in colorectal cancer incidence among Arabs is related to their changing diet and lifestyle associated with industrialization and increasing affluence, Arabs in Israel have become more educated, affluent, urbanized, less likely to work in agriculture and few Arab women work outside home (46).

Chapter Three
Methods and Materials

A mixed approach was used in this study, mixed methods research is the type of research in which a researcher combines elements of qualitative and quantitative research approaches for the broad purposes of breadth and depth of understanding and corroboration (47). The study started with the qualitative phase in order to have an idea about the nature of colon cancer in Palestine as there are no base studies regarding the disease.

3.1 Phase I (The Quantitative Phase):

3.1.1 Methods and Materials:

Study design:

Case control study was conducted between May and September of 2017, it is a type of study that helps determine of an exposure is associated with an outcome, it looks back in time to learn if the cases (the group that has the outcome) or the controls (the group that is free of the outcome) had the exposure(s) (48).

Study Population:

Cases: colon cancer patients.

Controls: patients who came to all outpatient clinics and were in the same age average as the cases.

Study Settings:

The Oncology department at the main hospitals treating colon cancer in Palestine:

- Augusta Victoria Hospital in Jerusalem.
- Beit-Jalah Governmental Hospital in Beit-Jalah.
- Al Watani Governmental hospital in Nablus.
- Jenin Governmental Hospital in Jenin.
- And An-Najah National University Hospital in Nablus.

Sample size:

A total of 103 cases and 116 controls were conveniently selected; the participants who were present at the day of the researcher's visit and who accepted to participate in the study were selected.

Inclusion and exclusion criteria:

Colon cancer patients were included in the study if they:

- Were aged 18 years and over.
- Were diagnosed with primary colorectal adenocarcinoma.
- Were able and willing to complete the questionnaire

As for the exclusion criteria, patients were not be included they were admission for other malignancies.

As for the controls, participants were included if they were in the same age average as the cases and were free of malignancies.

Data Collection and Tool:

Colon cancer patients were asked to fill a self-reported questionnaire, but due the cases' health status, this phase ended up to be a face to face interview were the researcher asked the questions and filled the questionnaire. The questionnaire was based upon the literature review regarding colon cancer and its risk factors (19, 23, 33, 35, 42). The questionnaire contained three sections; the demographics section, the colon cancer section, and the food frequency section. In should be mentioned that each participant was given a code number and their phone numbers was collected to be used in phase 2 of the study.

The first section asked questions regarding age, gender, marital status, place of living, number of household, educational level, and occupation. The second section asked about the patients' colon cancer it terms of risk factors and screening, the factors that the sample was asked about were: family and personal history, diabetes, constipation, back pain, physical activity, smoking, drinking, height, weight, and IBDs. The Food Frequency Questionnaire (FFQ) is a type of nutrition assessment; it is a survey of foods routinely consumed where it will be used to discover the sample's eating habits in our study. The National Health and Nutrition Examination Survey (NHANES) FFQ was used as a guide for writing the diet section, participants were asked about their intake of the following foods prior to

diagnosis: cereals, fruits, vegetables, meats such as cold cuts and veal, legumes, high fat snacks such as ice-cream and chocolate, and fast foods such as falafel. Participants had 10 choices to answer from (never, 1 time per month or less, 2–3 times per month, 1–2 times per week, 3–4 times per week, 5–6 times per week, 1 time per day, 2–3 times per day, 4–5 times per day, and 6 or more times per day) (49). Internal consistency of the questionnaire was tested via cronbach's alpha test, the questionnaire yielded a reliability score of 0.514.

Some of the questions were open ended questions such as age and occupation while others were in multiple choice form such as "do you smoke?". Depending on the patients' self-reported weight and height, their BMI will be calculated using the following formula:

BMI=weight (kg)/height (m^2)

It should be mentioned that during the data collection process, some of cases' files were accessed to determine the stage of cancer, however, other cases' stage of cancer was identified and documented through asking the nurse in charge at the time of the visit.

Ethical consideration:

After taking the permission from the Public Health committee and seeking the IRB permission, the study was held to the Graduate Studies for Scientific Board Council for final approval. To gain the authority to collect

data, an approval from the Ministry of Health was obtained, and a verbal consent from participants was taken.

Conceptual and Operational Definition:

- According to the Palestinian Central Bureau of Statistics, in 1017, the poverty for a reference household of five individuals (2 adults and 3 children) was 2,470 New Israeli Shekels.

- Body Mass Index (BMI) is a simple index of weight-for-height that is commonly used to classify overweight and obesity in adults. It is defined as a person's weight in kilograms divided by the square of his height in meters (kg/m^2)(50). Underweight is having a BMI less than 18.5, normal weight is having a BMI between 18.5 and 24.99, overweight is having a BMI between 25 and 29.99, and obese is having a BMI above 30.BMI in this study was categorical.

- The World Health Organization (WHO) defined Second Hand Smoke as the Smoke formed from the burning of cigarettes and other tobacco products and from smoke exhaled by the smoker (51).

- Functional constipation presents as persistently difficult, infrequent, and seemingly incomplete defecation that does not fulfill the IBS criteria. Symptom onset more than 6 months prior to the diagnosis, with the following criteria fulfilled for the past 3 months:

1. Loose stools rarely present without the use of laxatives

2. Insufficient criteria met to establish a diagnosis of irritable bowel syndrome

3. Two or more of the following criteria must be met:

a. Less than three bowel movements per week

b. Manual maneuvers necessary to facilitate defecation more than 25% of the time.

c. Hard or lumpy stools more than 25% of the time

d. Sensation of incomplete evacuation more than 25% of the time

e. Sensation of anorectal obstruction more than 25%of the time

f. Straining with defecation more than 25% of the time (52).

- The WHO defined low back pain as pain of variable duration in an area of the anatomy afflicted so often that it is has become a paradigm of responses to external and internal stimuli (53).

Data Analysis:

The mean, standard deviation and percentages were used for the descriptive part of the study. Univariate analysis was used for all the factors in the questionnaire, chi square was calculated for the categorical variable using a p value of less than 0.05, while t-test was used for the continuous variables. The univariate analysis was followed by logistic regression, a confident

interval (CI) of 95% was used in the analysis. The odd ratio (OR) was calculated for the significant factors.

3.2 Phase II (The Qualitative Phase):

Study design:

A qualitative study was conducted. Qualitative research uses a naturalistic approach that seeks to understand phenomena in context-specific settings, such as "real world setting' where the researcher does not attempt to manipulate the phenomenon of interest. Qualitative researchers seek instead illumination, understanding, and extrapolation to similar situations (54).

Study Population:

Colon cancer patients who participated in the first phase of the study and were present in the hospital at the time of the visit.

Study Settings:

The Oncology department at Augusta Victoria Hospital in Jerusalem, and Beit-Jalah Hospital in Beit-Jalah due to ease of accessibility of patients in both hospitals.

Sample size:

The criteria of saturation was used, which means adding new cases to the point of diminishing returns, when no new information emerges(55).

A total of 20 colon cancer patients were interviewed. Every patient present at the time of the hospital visit was interviewed after taking their permission.

Data Collection and tool:

The data was collected via face to face recorded interview, the interview was guided by The Explanatory Model Interview Catalogue (EMIC), it is a semi-structured interview guide used by cultural epidemiologists to collect data on illness representations in different cultural contexts. The interview questions focused on three sections: patterns of distress (PD), perceived causes (PC), and help-seeking (HS) (56). The interview was validated through reassuring the relevancy and understanding of questions asked by the interviewer.

Ethical consideration:

To gain the authority to collect data, an approval from the Ministry of Health was obtained, and a verbal consent from patients was taken.

Data Analysis:

Data analysis took place alongside data collection to allow questions to be refined and new avenues of inquiry to develop (57). Data analysis was conducted by finding the most common and repeated words or phrases among the sample and categorizing them into themes (patterns of distress, perceived causes, health seeking behaviors, and health-care) and subthemes.

Chapter Four

Phase 1: The Quantitative Phase

4.1 The Results of the Quantitative Phase:

A total of 103 cases were interviewed and assessed and total of 117 controls were targeted for the study. Of the cases, 57.3% were females while of the controls, 63.2% were females. The age was 56.39 years in average (SD=12.80), among cases and 54.59 (SD= 10.52) among controls. Almost half of cases lived in Hebron and Gaza while more than half of controls lived in Bethlehem and Hebron. Both cases and controls worked in variety of jobs, but the majority was housewives, socio-demographic characteristics are illustrated in Table 1

Table 1: Socio-demographic characteristics of the cases and controls

		Colon cancer		P- value
		(Cases)	(Control)	
Sex (%)				0.377
	Male	42.7	36.8	
	Female	57.3	63.2	
Age (Mean +- SD)		56.39+-12.80	54.59+-10.52	0.263
Marital status (%)				0.896
	Married	85.4	84.2	
	Widow	9.7	12.3	
	Others	4.9	3.5	
Place of Residence				<0.001
	Hebron	22.3	23.3	
	Bethlehem	4.9	40.5	
	Gaza	20.4	0	
	Others	52.8	36.2	
# of Households(Mean+-SD)		8.17+-3.09	7.07+-3.19	0.012
Educational Level				0.083
	School Level	62.1	66.7	
	Undergraduate	23.3	19.8	
	Others	14.6	13.5	
Occupation (%)				<0.001
	Housewife	45.6	50.9	

	Others	54.4	49.1	
Family Monthly				0.156
	Under Poverty	34.0	54.4	
	Above Poverty	44.7	45.6	
	Missing	21.4	31.9	

During bivariate analysis, chi-square test was used for categorical variables and t-test for continuous variables, significant difference between cases and controls was found in 3 socio-demographic characteristics; place of residence (p=0.000), number of household (p=0.012), and occupation (p=0.000).

When cases and controls were asked about family history of cancer, a good percentage of cases had a relative with cancer (40.8%), while it was a low percentage of 14.7 for controls. Screening was not common among cases and controls as the majority did not have regular screening for cancer (91.2%, 81% respectively).

The patients' medical file showed that 35.9% of the cases were at stage 4 of colon cancer. After calculating the BMI using height and weight, it was found that over half of the two samples were in the overweight and obese category (76%, 82.1% respectively) despite that 63.1% of the cases claimed doing some sort of physical activity with an average of 1.71times/week (SD=2.713). Even though the majority of cases did not smoke (72.8%), the percentage of second hand smokers was high (52.6%) with an average exposure time of 13.18 years(SD=18.411), the same results goes for the controls with smokers percentage of 46.6 and second hand smokers percentage of 41.5 with an average exposure time of 12.06 years (SD=12.919).

When it comes to health conditions, the percentage of cases and controls who had Diabetes Mellitus not that high (20.4%, 34.5% respectively). When cases were asked about constipation, 58.5% of them claimed having constipation prior to diagnosis with an average duration of 1.191 years (SD=6.613), the controls' constipation percentage on the other hand was very low (9.6%). For third of the sample who confirmed having low back pain (38.6%), 56.76% of them did not know about the cause of their pain. Table 2 illustrates all the colon cancer related risks that were addressed in the study.

Table 2: Colon Cancer Related Risks Among Cases and Controls

		Colon Cancer		P- value
		(Cases)	(Control)	
Family History of colon cancer (%)				0.000
	Yes	40.8	14.7	
	No	59.2	85.3	
# of relatives (Mean+-SD)		0.74+-1.214	0.18+-0.657	0.179
Regular cancer				0.032
	Yes	8.8	19.0	
	No	91.2	81.0	
Personal History of colon cancer (%)				0.043
	Yes	11.7	4.3	
	No	88.3	95.7	
If Yes, Type of cancer (%)				-
	Colon	72.7	-	
	Breast	9.09	-	
Year of Diagnosis				-
	2007-2012	7.8	-	
	2013-1017	92.2	-	
Stage of colon cancer				-
	Stage 1	6.9	-	
	Stage 2	39.2	-	
	Stage 3	17.6	-	
	Stage 4	35.9	-	
Height (Mean +-SD)		1.67+-0.09	1.65+-0.09	0.172
Weight (Mean+-SD)		80.95+-17.91	79.85+-18.50	0.658
Body Mass Index (%)				0.134
	Underweight	2	0	
	Normal	22	17.9	

	Overweight	39	33.0	
	Obese	37	49.1	
Smoking (%)				0.520
	Yes	27.2	46.6	
	No	72.8	52.6	
# of cigarettes (Mean+-SD)		6.84+-14.846	5.28+-11.027	0.367
# of smoking years (Mean +-SD)		7.03+-14.870	6.05+-12.225	0.351
Second Hand Smoker				0.760
	Yes	46.6	51.5	
	No	52.6	47.6	
# of SHS years (Mean+-SD)		13.18+-18.411	12.06+-12.919	0.436
Alcohol intake				0.933
	Yes	1.0	0.9	
	No	99.0	99.1	
Physical Activity (%)				0.225
	Yes	63.1	40.5	
	No	36.9	57.8	
# Physical Activity/week (Mean+-SD)		1.71+-2.713	1.29+-2.204	0.226
Diabetes Mellitus				0.020
	Yes	20.4	34.5	
	No	79.6	65.5	
Type of DM (%)				-
	Type 2	100	100	
DM duration (Mean+-SD)		9.55+-9.13	13.00+-5.58	0.103
DM Medication (%)				0.199
	Insulin	78.6	51.4	
	Metformin	14.3	31.4	
	Both	7.1	17.1	
Inflammatory Bowel Disease (IBD) (%)				0.080
	yes	4.9	0,9	
	No	94.2	99.1	
Constipation (%)				0.000
	Yes	58.5	9.6	
	No	41.7	90.4	
Constipation duration in weeks (Mean+-SD)		72.92+-317.471	26.08+-	0.000
Low Back Pain (LBP)				0.398
	Yes	38.6	33.0	
	No	61.4	67.0	
LBP Cause (%)				0.181
	Desk	13.51	38.56	
	Unknown	56.76	23.08	
	Work	18.92	23.08	
	Others	5.4	15.38	
# of LBP months (Mean+-SD)		20.79+-81.289	28.78+-64.466	0.452

The bivariate analysis showed a number of related risks that are significantly different between cases and controls. Family and personal history were different between cases and controls with a p value of 0.000 and 0.032 respectively. As for lifestyle factors, no factors was found to be significantly different between both samples. When it comes to health conditions, significant difference between cases and controls was found in people who have DM, the p value was 0.020, both constipation and its duration were found to be significantly different between cases and controls (p=0.000 for both factors), the chi square test showed that low back pain is not significantly different between cases and controls (p=0.398).

The food frequency results, and as illustrated in table 3, showed that the consumption of cooked and ready to eat cereal was very low among cases and controls (93.1%, 77% respectively), Cases reported eating fruits and vegetables once a day (33%, 51.5% respectively) while controls reported eating vegetables once a day (30.2). For high protein food, 62.4% of cases and 42.7% of controls consumed legumes 1-2 times/week, the majority of cases eat red meat 1-4 times/week (66%), as for the controls, 40% ate red meat 1-4 times/week. Once a day 64.1% of cases and 39.7% of controls added fats to their meal, 92.2% of the fats among cases and 79.8% of fats among control were liquid fats such as olive and corn oil. As for junk foods, the consumption of fast food especially falafel was mostly 1-3 times/week for cases and controls (37.9%, 38.8% respectively), the consumption of salty snack was low in comparison to sweet snacks with

half of the cases and the controls reporting never eating salty snacks (51.5%, 48.3% respectively).

Table 3: Food Frequency Among Cases and Controls

		Colon cancer		P- value
		(Cases)	(Control)	
Cooked Cereal (%)				0.008
	Never	93.1	77.0	
	Once a month or less	4.9	7.1	
	Others	2.0	15.9	
Ready to eat cereal (%)				0.168
	Never	89.2	75.9	
	Once a month or less	4.9	7.1	
	Others	5.9	17.0	
Type of ready to eat cereal (%)				0.250
	Whole grain	54.54	53.33	
	Missing	45.54	43.33	
Fruits (%)				0.053
	1-2 times/week	13.6	17.2	
	3-4 times/week	13.6	17.2	
	Once per day	33.0	19.8	
	2-3 times/day	25.2	22.4	
	Others	14.6	23.4	
Vegetables (%)				0.003
	1-2 times/week	6.8	17.2	
	3-4 times/week	11.7	17.2	
	Once per day	51.5	30.2	
	2-3 times/day	23.3	15.5	
	Others	16.7	19.9	
Legumes (%)				0.033
	2-3 times/months	6.9	13.6	
	1-2 times/week	62.4	42.7	
	3-4times/week	9.9	12.7	
	Others	20.8	31	
Red Meat (%)				<0.001
	1 once a month or less	4.9	29.3	
	1-2 times/month	13.6	8.6	
	1-2 times/week	34.0	34.5	
	3-4 times/week	32.0	6.0	
	others	15.5	21.6	
Cold Meats (%)				0.013
	never	38.2	42.0	
	1 once a month or less	8.8	24.1	
	2-3 times/month	14.7	6.3	
	1-2 times/week	21.6	16.1	

	Others	16.7	11.5	
Fats				<0.001
	3-4 times/ week	8.7	12.1	
	Once a day	64.1	39.7	
	2-3 times/ day	15.5	1.7	
	Others	11.7	46.5	
Type of fat (%)				0.003
	Solid fat	5.8	6.0	
	Liquid fat	92.2	79.8	
Fried Foods				0.244
	1 once a month or less	7.8	12.1	
	2-3 times/month	11.7	16.4	
	1-2 times/week	37.9	38.8	
	3-4 times/ week	20.4	13.8	
	Others	22.2	18.9	
Fast foods				<0.001
	1 once a month or less	11.9	12.1	
	2-3 times/month	15.8	16.4	
	1-2 times/week	52.5	38.8	
	3-4 times/ week	8.9	16.8	
	Others	89.1	15.9	
Salty Snacks				0.616
	Never	51.5	48.3	
	1 once a month or less	18.4	19.8	
	2-3 times/month	9.7	12.1	
	Others	20.4	19.8	
Sweets				0.181
	2-3 times/month	10.8	17.5	
	1-2 times/week	29.4	26.3	
	3-4 times/ week	14.7	8.8	
	Once a day	29.4	19.3	
	Others	15.7	28.1	

Analysis showed a significant difference between cases and controls in cooked cereals (p=.008), vegetables (p=0.003), legumes (p=.033), red meats (p=*0*.000), fat (p=.000) and its type (p=.003), and fast food (p=0.000).

To identify factors related to colon cancer, all variables from the bivariate analysis with a p value less than 0.05 were included in the multiple regression, the food items were included in a separate regression test.

Table 4: Related Risks Multiple Regression

Variable	Odds Ratio	95% CI		*P*
		Lower	Upper	
Family History	3.543	1.583	7.929	0.002
Screening	3.058	0.099	1.080	0.067
Personal History	2.023	0.464	8.827	0.349
Diabetes Mellitus	0.588	0.254	1.361	0.215
Constipation	29.989	9.368	96.006	0.000
Duration of constipation	1.001	0.999	1.002	0.323

As seen in table 4, Family history and constipation were the variables that were significantly associated with colon cancer (p=0.002, 0.000 respectively), the regression showed that people with family history of cancer have 3.543 higher odds of having colon cancer than people who don't, on the other hand, having constipation gives the person a 29.989 higher odds of having cancer than a person who do not have constipation.

As for the food frequency questionnaire, a binary regression was conducted for the all food items followed by multiple regressions for the significant once.

Table 5: Food Frequency Multiple Regression

Variables	Odds Ratio	95% CI		*P*
		Lower	Upper	
Hot Cereals	0.557	1.583	7.929	0.008
Ready to eat	0.558	0.568	1.091	0.158
Vegetables	1.059	0.856	1.309	0.597
Red Meat	1.085	0.873	1.145 1.348	0.464
Fats	1.615	1.277	2.040	<0.001
Fats Food	1.501	1.161	1.938	0.002

As illustrated in table 5, hot cereals, fats and fast foods were significantly associated with colon cancer. Data shows that the odds of developing colon cancer among people who consume hot cereals decrease by 44.3% while

people consuming fats and fast foods have 1.277 and 1.161 higher odds (respectively) of developing colon cancer.

4.2 The Discussion of the Quantitative Phase:

Data analysis showed differences between cases and controls in terms of many colon cancer related risks such as genetics, screening, diabetes, constipation, and some food items such as hot cereals, legumes, vegetables, red meats, fats, and fast foods. Following logistic regression, genetics, diabetes, constipation, hot cereals, fats and fast food were the variables found to be significantly associated with colon cancer, some were found to be protective factors such as hot cereals and other were found to have the opposite effect such as fats foods.

There was no difference between the percentage of males and females in this study, on the other hand, the Ministry of health's report of 2016 showed that the number of male reported cases in 2016 was higher than in females. This variation in distribution ratio display the need to investigate the difference between this study's results and MOH report's data.

The Ministry of Health report of 2016 also showed that the highest reported cancer cases in that year came from Bethlehem, followed by Jenin and Tulkarem. In this study, 32.4% of the cases were diagnosed in 2016 with few coming from Bethlehem, Jenin and Tulkarem. It should be noticed that 20% of cases came from Gaza but the ministry's report had no data regarding cases coming from Gaza (2).

Genetically, family and personal history of cancer have a role in increasing the risk of colon cancer, a personal history of adenomatous polyps confers a 15% to 20% risk of subsequently developing polyps(58). Many inherited syndromes causes the occurrence of colon cancer, each syndrome has its own colon cancer development route but most are defined by single germline mutation in genes that play a role in genetic instability, cell proliferation, or potentially the regulation of the crypt niche microenvironment (59).

Even though screening was not significantly associated with colon cancer, the extremely low rate of screening among cases and control is disturbing, a study that was conducted in 2014 investigated the barriers to colon cancer screening in Palestine, data showed that that lack of education beyond elementary school-which was 62.1% of the cases and 67.4% of the controls in my research- or familiarity with CRC screening, distrust of Western medicine, religious objection, and finding the test to be embarrassing were all associated with decreased odds of accepting colorectal cancer screening, the study found that 81% showed their willingness to undergo screening if recommended by a physician but unfortunately only 14% reported being informed about the screening by a physician (44). A global systematic review concluded that local resource availability are important to increase colorectal cancer screening uptake (60).

One of future services by the ministry of health is high quality primary health care services and healthy life style promotion program, one of the program’s goal is support and activate screening and early detection

programs for cancer disease, the draft published by the ministry did not provide any precise steps of how they are going to achieve this future goal (61).

Working on increasing awareness and acceptability towards colon cancer screening will play a role in decreasing colon cancer mortality (62) giving notice that colon cancer is the second leading cause of cancer deaths in Palestine (2), increased screening will result in early detection and less tertiary care and thus less economic burden as the low screening rate found in this study may explain that third of the cases (35.9%) were diagnosed at stage 4 of colon cancer.

The lifestyle factors (BMI, physical activity, smoking, passive smoking, and alcohol intake) were not found to be significantly associated with colon cancer even though studies had proven otherwise (25, 63, 64). These results may be explained due to the high prevalence of each factor and lack of differences among cases and controls, a population based STEP survey that was conducted between 2010 and 2011 in Gaza and West Bank by the WHO to investigate the risk factors to chronic diseases showed high percentages of BMI equals or more than 25 kg/m^2 (79.6%), light activity (71.2%), and tobacco smoking (64.6%) (65).

Even though the multiple regression showed no significant association between Diabetes and colon cancer, there was and observed difference between cases and controls after conducting the bivariate analysis which is compatible with the results of the meta-analysis that was conducted in 2016

showing diabetes as a risk factor for colon cancer (66). The association between DM and CRC may result from shared risk factors between type 2 DM and cancer but epidemiological data suggest a potential contribution of hyperinsulinemia, hyperglycemia or DM therapy, additionally, the DM microenvironment, such as advanced glycation end-products, hyperlipidemia, local inflammation/oxidative stress, extracellular matrix alterations, and altered microbiota or ischemia due to vasculopathy may recruit secondary mediators of injury that may favor the development of cancer (67). It should be noticed that the observed difference might be contributed to collecting controls from patients coming to hospitals for reasons other than cancer.

Constipation is a common condition yet an underestimated regarding its relation to serious health problems such as colon cancer. A significant association was found between constipation and colon cancer in our study, this result is compatible with the results of a case controls study that aimed to investigate the association between chronic constipation, its severity, and colorectal cancer, investigators found that patients with chronic constipation are associated with significantly higher prevalence and incidence of colorectal cancer and benign colorectal neoplasm than matched chronic constipation-free patients, and these risks increase with the severity of chronic constipation (8). The underestimation of constipation has its impact on the health care budget because of physician visits and procedures, medication use, and diagnostic procedures to identify underlying etiology (68). On the other hand, in one comprehensive study

that was conducted in 2013, researchers found that prospective cross-sectional surveys and cohort studies demonstrate no increase in prevalence of CRC in patients or individuals with constipation.

With third of the cases and the controls (38.6%,33% respectively) reported having low back pain, attention should be drawn to this health issue even if no significant association was found between it and colon cancer especially that low back pain is considered the second leading cause of Year Lost Due to Disability in Palestine (69). Among participants who have low back pain, 56.76% of the cases and 23.08 of the control were unaware of the cause of their pain, and only the severe cases seeks help, this finding can be supported by Prof Jan Hartvigsen study which reported that for nearly all people with low back pain, it is not possible to identify a specific nociceptive cause and only a small proportion of people have a well understood pathological cause (70). One epidemiological study conducted in the USA found that low back pain is associated with depression, disability, sleep disturbances and medical comorbidities (71).

When it comes to diet, fats, fast food, and oatmeal were significantly associated with colon cancer. One study showed that a diet high in dietary energy density, which is a ratio of energy (kilocalories) intake to food weight (grams), may be a contributing factor for obesity-related cancers such as colon cancer (72). It was first hypothesized that dietary fat, through its influence on bacterial flora, has an effect on colon cancer pathogenesis. High-fat diets promote carcinogenesis by the formation of deoxycholic acid and lithocholic acid. High fat intake stimulates the production of bile acids

from the liver, which after contact with anaerobic bacteria in the colon, are dehydrogenated to form these compounds (73).

Hot cereals such as oatmeal and vegetables were found to be linked to colon cancer as a protective factor, both of these food items are rich in fibers: soluble fermentable fiber lowers colonic pH, inhibiting pathogenic bacteria and increasing butyrogenic bacteria to promote healthy colonic mucosal cells, reduces colon inflammation, and inhibits cancer cell proliferation and facilitates apoptosis. On the other hand, insoluble fiber dilutes or inactivates potential carcinogens by bulking stools and binding carcinogens to reduce their exposure to the colon and rectum(74).

It should be noticed that even though most of studies confirm the role of red and processed meat in increasing the risk of colon cancer due to high content of carcinogens(75)

4.3 Strength and limitations of the quantitative phase:

The use of case control study relies on the participants' memory which may had resulted in some data confusion and data loss for some participants. Cancer patients who lives in Gaza have to travel to the West Bank for treatment but that does not always apply to non-cancer patients, this explain why no controls came from Gaza which prevented the chance of comparison. Collecting controls from hospitals may limit the validation of results on general population.

Regardless of the limitation, using a mixed method in the study gave strength to it and therefore offsetting the weaknesses of the qualitative and the quantitative studies.

Chapter Five
Phase II: The Qualitative Phase

5.1 Results of the Qualitative Phase:

Following the data collection criteria, a total of 20 colon cancer patients were interviewed between the 10th of October 2017 and 29th of November 2017. 18 out of 20 patients were interviewed at Augusta Victoria Hospital, and 2 of the patients were interviewed at Beit-Jala Hospital, 15 patients were females, there were no major differences in the nature of answers between males and females. The interview was recorded after taking the approval from interviewees, the interview lasted 26.6 minutes in average. Some questions were skipped during the interview for different reasons such as empathy, tiredness of the patient, and questions inconvenience. Some questions needed an example or a type of explanation as some patients did not understand them.

The data was divided into theme and subthemes:

- General health
  - Pre cancer
  - Post cancer
- Perceived causes
- Patterns of distress
  - Physical

. Psychological

- Help seeking behaviors

. Medical

. Spirituality

. Social

- Health care

. Positive

. Negative

The interview started with a question that ask the patients to report their general health pre-cancer, a common response(11 out of 20) was *"I was able to come, go, and work"* ,it should be noticed that the majority of those who said those words had some health conditions such as Diabetes, Hypertension, joint problems, etc.

Perceived Causes (PC): that rate of *"I Don't Know"* (DK) answers was high, 2 female patients from Gaza said that the war on Gaza and the phosphorus that the occupation threw contributed to the development of their illness.

A curiosity was present to see if the patients knew that their past habits might have a role in the development of the disease. Some patients were asked if, in their opinion, there were habits or actions they did in the past

that contributed to the development of the illness. Only 7 answered the question, 2 of them removed themselves from the picture by saying that they have nothing to do with it, and only 2 said that their diet played a role. One patient linked their cancer to eating a hot pepper once.

Patterns of Distress (PD): colon cancer patients face many distresses through their journeys, 4 questions were asked regarding this matter:

1. “I would like to know the difficulties you went through during your illness”

The interviewees’ main focus was on their physical symptoms such as bloating, pain, fatigue, loss of energy, and inability to get up. The next most mentioned difficulties were food related such as loss of appetite, nausea, vomiting, and weight loss. Psychological status was next followed by social status and children. 5 of the patients gave general answers by saying that the difficulties were many.

2. “In your opinion what was the hardest thing that happened to you?”

Chemotherapy and psychological status were the most common answers. For the psychological status words like, shocked, humiliated, burden on people, cry by myself, and fear were mentioned. Also the psychological status was linked to chemotherapy as many get stressed when the date of the chemotherapy approaches.

3. “Tell me how did the disease affected your social and personal life whether positively or negatively?”

The negatives effects were revolved around the psychological status of the patient,

“I start screaming when I hear the subject” [female patient]

“I swear to god sometimes my psychological state gets affected, especially when I come to the hospital because of the transportation and the crossing boarders as the soldiers take off my clothes and search me”[female patient]

Positively, the illness lead to religious awakening in the majority of the interviewees, some started reading and memorizing the Quran, cut unwanted habits, praying daily, repentance to God, putting the Hijab, asking for God’s forgiveness, and performing pilgrimage. Some patients found that the disease contributed to their anger management.

“I was an angry man, but now I do not get angry at my kids, I let them solve their problems by their own or I ask my wife to interfere” [male patient from Gaza].

4. “What are the matters that used to worry you and still do regarding your illness?”

The answers of this question showed that the illness threatened their entrusted social role; most of the patients expressed their worries about their kids and significant other.

“I worry about my kids, I used to sleep on my bed but now I sleep in their room, I wake up and look at them, I sometimes cry…” [Female patient]

Other patients used fatalistic phrases to reduce worrying:

“Whom God destined him to live will live” [female patient from Ramallah]

“What is from God is all Good” [female patient from Beit-Jala]

Some patients worry about getting better, being able to come and go, getting back to pre-cancer health, and how to be psychologically strong.

Help Seeking Behaviors (HS): patients were asked about the first step taken after experiencing symptoms, most of the answers revolved around family, some went to their children while others went to their husband. For others the first step was heading directly to get medical help whether by going to outpatients clinics or heading straight to the hospital. Among the sample interviewed, only one patient reported using Complementary and Alternative Medicine (CAM).

“What was the most helpful step you took throughout your illness journey?” the operation was the answer agreed upon by the majority of the interviewees.

To better understand the spiritual and religious effect on patients, the following question was asked: “How did your faith play a role in illness journey?” the patients’ answers are divided into 3 categories:

- Improvement in the physical and psychological well-being.
- Empowerment
- Fatalism

These three categories can be found in this female patient's answer who said:

"Many matters become better when I pray, God do not forget about me, I stay optimistic and motivated that I will get better, God gives me hope, when I am in distress, I hold the masbaha and when I end tasbeeh, it is like magic, it erases everything in me and I become happy"

"What was the role of people around you in your illness journey?" 99.9% of the answers were positive, the surrounding individuals – whether family, relatives, and neighbors- had a role in physically and psychologically supporting the cancer patient, whether through helping at home, accompanying them through therapy and surgery, raising their spirit.

"Without them I would not know what would have happened to me" [female patient]

Health Care: the answers of the patients were general without getting into details, nevertheless, patients united in some of the evaluations, results can be divided according to cities:

- Jerusalem: all the evaluation came strongly positive from all aspects of health care such as doctors, nurses, hygiene, food, and service.

“Augusta Victoria hospital is like an international European hospital, from services, doctors, nurses, administration, and hygiene, they are humanitarians with manner and ethics” [male patient from Gaza]

- Gaza: all feedbacks came extremely negative, from doctors and nurses’ care to hygiene and food.

“In Gaza you die before you can find the nurse or the doctor, In Gaza they clean and as if they did not clean at all, bad work” [female patient from Gaza]

- Hebron: the feedbacks depended on the hospital itself, for one hospital the feedback were positive while the other hospital’s feedback came out negative.

- Beit-Jala: the feedbacks were general yet positive in nature.

“In general, what are the steps that you take in order to maintain your health? “And “I would like to know the steps that you are planning to take I order to maintain a good state of physical and psychological health in the future?” these two questions aimed to understand the knowledge of patients on how to maintain as good state of health while and after treatment. Answers varied between the two questions; in the first question, all the answered were health oriented, patients wanted to eat healthy, eat as needed, lose weight, quite smoking, and become physically active. As for the future plans, the answers became diverse; even though maintaining a healthy lifestyle stayed a future goal for some, some patients wanted to get

back to their lives pre-cancer were they were able to “come and go”, while others wanted to be happy by seeing their family grow up and get married, the religious aspect had its own share in the answers as many wanted to perform Umrah and pilgrimage.

5.2 Discussion of the Qualitative Phase:

The aim of the interview was to investigate illness experiences that colon cancer patients go through in terms of: Perceived Causes (PC), Patterns of Distress (PD), and Help Seeking Behaviors (HS).

Most of interviewees reported their general health on the basis of their movement abilities, this either means that those patients might have a wrong definition of health or their reporting was based on the comparison between their status pre and post cancer. A study that was conducted on colon cancer survivors showed that experiences with cancer shape how survivors view their health(76). In a study that was conducted to identify the beliefs and attitudes that influence health-related behaviors between turkey and Palestine, researchers found that there are 6 factors that affects the health of Palestinians (housing, smoking, income, stress, and freedom) but movement abilities was not part of them(77).

5.2.1 Perceived Causes:

The results of the quantitative phase showed that 90.3% of colon cancer patients did not do any regular screening for tumors, this findings can be linked to the patients’ “I don’t know” answers through a study that was

conducted in the United States, this study showed that a DK respond is associated with colorectal cancer screening (78). Another explanation for the high DK answers is the lack of knowledge regarding colon cancer and its related risks, unfortunately there is an absence in studies that investigate the rate of colon cancer awareness and knowledge in Palestine, but in a study that was carried out in England, researchers found that almost half of participants (44%) could not recall any risk factor for colorectal cancer, and only 10% of the sample knew the burden of this illness(79), this might explain why the patients did report any past habits that might have played a role in the development of their illness, why third of colon cancer patients who participated in this study were diagnosed as stage 4 (35.9%), and why the screening percentage was very low (9.7%). One patient linked the cancer to eating a hot pepper once, but evidence contradict the answer and shows that capsaicin in hot pepper have a preventive effect against colorectal carcinogenesis(80).

5.2.2 Patterns of Distress:

Chemotherapy was one the hardest distress among the interviewees; it caused burning of veins, nausea, loss of appetite, mouth sores, and fatigue which affected their quality of life. A study that explored the perception of colorectal cancer patients regarding the chemotherapy treatment reported that emotional factors, side effects, and other factors, such as auxiliary activities needed to receive treatment have been set as negative experiences associated with chemotherapy (81).

In a study that explored pain experience of patients with advanced cancer, researchers found that patients who had pain experienced anxiety, helplessness, hopelessness and many restrictions in daily life as well as inability to manage with pain.(82)

Cancer effect was mostly noticed on the psychological status of the interviewees, a study in Jordan studies the prevalence and degree of emotional distress, anxiety, and depression, and social difficulties and their effect on cancer patients' quality of life, researchers found that anxiety and depression were common among Jordanian cancer patients(83). The result of psychological distress is an impact on the quality of life and social functioning of the patient, that is what Gunaseelan Karunanithi and his colleagues found in their study(84).

Religious awakening was a positive effect of the cancer journey for the majority of the sample. A study that was conducted by Marilyn Tuls Halstead and Margaret Hull in 2001 showed that Spiritual growth occurs over time following the diagnosis of cancer (85), which is what had been shown by the patients' answers.

The sample's worries revolved around family and physical mobility, a study that was conducted in England on England adults (n=2048) investigated the prevalence and population distribution of general cancer worry and worries about specific aspects of cancer, it found that the majority of English adults would be most worried about the emotional and physical impact of a cancer diagnosis(86).

5.2.3 Help Seeking Behaviors:

Most of the first step to help seeking answers among interviewees revolved around family who encouraged them to get tested followed by the medical help, a Japanese study studies the influencing factors to help seeking among breast cancer women, the study found that common trigger for help-seeking that was the presence of other persons who encouraged seeking a provider evaluation. One study has shown that complementary and alternative medicine (CAM) is very common in Palestine(87), but among the sample interviewed, only one patient reported using CAM.

Colon cancer surgery was reports as the most helpful step in the patients' cancer journey as it contributed in pain relief, energy raising, and appetite reacquisition. Aiming to compare pain perception between two types of colon cancer surgery, researchers conducted a prospective cohort study including adult patients (≥ 18 years) who underwent elective or emergent colorectal surgery in the Department of Visceral Surgery at Lausanne University Hospital, they found that the total pain scores were low after colorectal surgery(88).

The spiritual and religious effects on the patients were divides into 3 categories:

- Improvement in the physical and psychological well-being.
- Empowerment
- Fatalism

The effect is scientifically proven as many researchers have found a strong relation between patients' reliance on religious beliefs and practices and the effectiveness of their coping with cancer; faith can give a suffering person a framework for finding meaning and perspective through a source greater than self, and it can provide a sense of control over feelings of helplessness(89).

Fatalism refers to the level of control people believe they have over outside events, the more fatalistic the person is, the less control he believes he have over outside events. In general, Middle East society and Muslims are more fatalistic than other cultures and religions, they attribute all life events to the will of God (90, 91).

It should be noticed that a contradiction was noticed among the patients' answers; the high repentance of fatalistic phrases came alongside the high repentance of worrying, depressive phrases, and fear. This could be explained through Freud's theory of ego defense mechanism, especially denial(92).

All the interviewers showed the importance of the people around them in their illness journey, they showed physical and psychological support. A cross-sectional study that was conducted in China on lung cancer patients suggested that Lower psychological anxiety and depression would be experienced by lung cancer patients with higher social support(93), this study can be supports by another study that was conducted in Brazil on colorectal cancer patients, the study found that social support had a strong,

positive, and direct effect of the quality of life while it had a negative effect of stress perception(94).

The Palestinian family is the foundation of social life in Palestine, the Palestinian are characterized by their generosity, hospitality, and loyalty; they support family members, relatives, and other society members such as neighbors(95), these characteristics had found its way in supporting the colon cancer patients interviewed.

When it comes to health care, the answers varied according to the hospital, some were positive while others were negative. A study that was conducted in 2014 to evaluate the primary health care in northern Palestine from patients and health care providers' point of view has found that the degree of patient's satisfaction score was a medium score which is considered not satisfactory due to the direct effect of health care of the patient's life; rules and regulations are not followed, patients are not treated in a decent way, the rate of hygiene is not satisfactory, long waiting times, non-compliance to working hours, inaccurate performance of medical staff, and lack of different specialties (96).A study that was conducted in Gaza to examine the quality life among cancer patients showed that a better health care facilities is among the patients' expressed needs (97). Another thing noticed from the stories is wrong diagnosis.

The future plans for a better health was revolved around seeing family members growing up and getting married and around performing pilgrimage, none of the patients focused on their mental health as it plays a

role in the patients' ability to maintain a future healthy lifestyle and therefore prevent cancer recurrence(98). Also few focused on staying healthy which reflect their lack of knowledge regarding the importance of that matter as lifestyle factor such as obesity and physical activity play a role in survival post cancer survival (99).

5.2.4 General Observation:

Throughout each interview, many words were repeated, but the sentence "come and go and work" had its own share of repentance throughout every single interview, especially among females. This indicated a fear of mobility and weakness the importance of mobility for the patients because it gives them a feel of power, control, and independence. This was translated in the interviewees focus on physical symptoms and distresses.

The occupational situation in Palestine played two major roles in illness experience, especially for patients coming from Gaza; It was a causality for cancer due to the bombing of phosphorus by the Israeli occupation, white phosphorus is a colorless white or yellow solid that is used by the military for various type of ammunition, skin contact with burning white phosphorus may burn skin or cause liver, heart, and kidney damage, but no studies were conducted to examine the effect of white phosphorus on cancer growth(100) however, another mystery weapon has been used by Israel which is the Dense Inert Metal Explosives DIME, DIME bombs produce an unusually powerful blast within a relatively small area, spraying a superheated "micro-shrapnel" of powdered Heavy Metal Tungsten Alloy

(HMTA). Scientific studies have found that HMTA is chemically toxic, damages the immune system, rapidly causes cancer, and attacks DNA (genotoxic)(101). On another hand, the occupation affected the patients' psychological status in many ways due to difficulties in transportation, time restrictions, unhuman body searching, and preventing caregivers from crossing the boarders with the patients. A study examines the long-term association between Israeli-imposed restrictions on travel for medical care in the occupied Palestinian territory and health status in adulthood, results showed that those who were barred from travel in that same year reported worse self-rated health and greater limits on daily functioning caused by physical health (102).

5.3 Strengths and limitations:

Depending on the limited experience of the researcher in qualitative research and interviews, important information might have been missed or not deeply explored.

But regardless of this limitation, the mixed method used in this research offset the weaknesses of the quantitative research; it also provided the opportunity to investigate colon cancer from the medical and the patient's perspective.

Chapter Six
Overall Conclusion and Recommendations

6.1 Overall Conclusion:

Attention should be drawn to colon cancer, there is a great need to better understand the physical and psychological aspect of this illness as all is linked together; psychological status may affect behavior and thus may increase or decrease the risk factors associated with colon cancer. On the other hand increasing awareness among population about colon cancer will increase this illness's early detection and regular screening and thus decrease colon cancer burden in Palestine.

As for tertiary prevention, understanding the physical or psychosocial distresses that each cancer patients go through is very important; as this understanding will lead to a better palliative care-which is underdeveloped at the moment- that will lead to a positive change in the patient's perceptions, behaviors, and experiences through the illness journey and thus an increased chance of survival and fast recovery.

6.2 Recommendations:

Through the journey of this research, it was noticed that a variety of research is needed in Palestine:

- To have an insight on the rate of colon cancer knowledge, colon cancer Knowledge, attitudes, and practices (KAP) studies could be conducted

among Palestinian in the future to correctly measure the percentages and plan future steps accordingly.

- Since constipation is significantly associated with colon cancer, an epidemiological study should be conducted to study the rate of constipation and its related risks in Palestine.

- Even though law back pain was not significantly associated with colon cancer, studies should be drawn towards finding its rate, burden, causes, and how to prevent it in Palestine since it is considered the second cause of years lost due to disability (YLD) in Palestine (69).

- A research should be conducted to better understand the meaning and perception of health in the Palestine and what are the factors that construct the definition of health among Palestinians.

- Prospective studies to further investigate the lifestyle factors that are linked to colon cancer which are obesity, Smoking, passive smoking, alcohol intake, and physical activity.

- As mentioned earlier, fatalistic phrases were used extensively throughout the interviews, in depth investigation should be conducted to examine the association between fatalism and denial among community in general and patients in specific.

Awareness programs should be conducted to increase knowledge among Palestinians in the area of colon cancer, early screening, and its risk factors, on the other hand, awareness should be raised among colon cancer patients

on the importance of maintaining a healthy lifestyle during and post treatment to improve their chances of survival and lower the risk of cancer recurrence. Another health condition that requires attention and awareness is constipation, its causes, and how, if not treated, may contribute to the development of cancer.

The awareness raising goal can be approached through:

- Prevention programs that targets schools, universities, and health care centers.
- Taking advantage of the internet and using social media by health providers and governmental bodies to provide reliable information and encourage the population to take forward steps towards their health.
- Conducting training courses for health care providers to improve diagnosis, treatment and health care for the patients.
- Conducting conferences and lectures to target all the population at all social and educational levels.

Embrace the eastern culture among Palestinians as studies have shown that westernized culture have higher risks of colon cancer as they are characterized by lower intake of fruits and vegetables, and physical inactivity.

Since the ministry of health has the goal of improving screening and early detection in Palestine, attention should be drawn towards putting this goal into action by increasing awareness and screening acceptability among

Palestinians, also attention should be drawn towards the importance of incorporating colon cancer screening with the national strategy.

Attention towards low back pain and its health consequences should be drawn by the Ministry of Health, even if multiple clinical guidelines provide recommendations for managing low back pain exist, a substantial gap between evidence and practice exists worldwide (103).

The government should raise tax on junk food to decrease its consumption among the population.

Focus should be directed towards improving health care services in all institutions through surveillance and training as rules and regulation are not followed by the health care providers, health and humanitarian services are not provided as needed, the rate of hygiene is not satisfactory, and importantly there is an inaccurate performance of medical staff., it should be notices that these observations were reported by interviewed patients when they were asked to tell the story of their illness. The wrong diagnosis noticed by the stories of the patients drew attention to the importance of increasing the number of specialized and efficient health practitioners.

When it comes to palliative care, it is necessary to include a bio-psychosocial approach that may include exercise/physical reconditioning, education (of the patient and family members), and psychological approaches such as cognitive behavioral therapy, mindfulness-/acceptance-based therapies, behavior modification, and biofeedback training, these

approaches will play a role in managing pain and coping with the illness(104).

Environmental investigation should be conducted in Gaza Strip to investigate the rate of population exposure to the toxic materials that resulted from the bombing on Gaza and also study the effect of these toxics on the health of the population especially in the development of cancer among Gaza citizens.

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Annexes

A. Institutional Review Board(IRB) approval of the study

An-Najah
National University
Faculty of medicine
&Health Sciences
Department of Graduate
Studies

جامعة النجاح
الوطنية
كلية الطب وعلوم الصحة
دائرة الدراسات العليا

IRB Approval Letter

Study Title :

"Colon Cancer in Palestine: Associated risks, Perceived Causes, Patterns of Distress, and Help Seeking Behaviors"

Submitted by:
Dana Abdo, Abdulsalam Khayyat

Date Reviewed:
12/March/2017

Date Approved:
16/March/2017

Your Study titled "Colon Cancer in Palestine: Associated risks, Perceived Causes, Patterns of Distress, and Help Seeking Behaviors" with achieved number 3March,2017 was reviewed by An-Najah National University IRB committee and was approved on 16. March..2017.

Hasan Fitian, MD

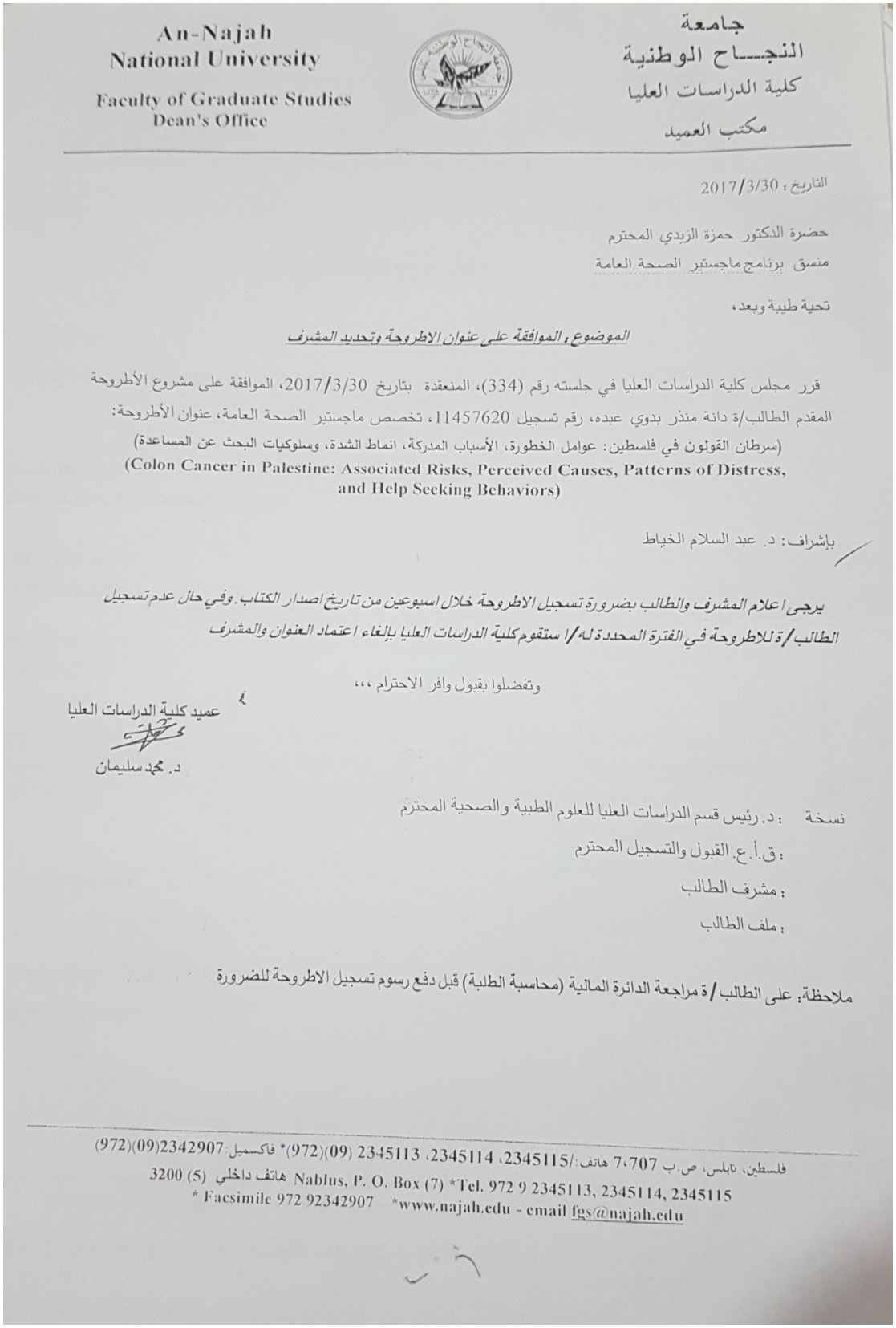
IRB

IRB Committee Chairman
An-Najah National University

نابلس - ص.ب 7 أو 707 || هاتف 14/8/7/4/2342902(09) (970) || فاكسميل 2342910 (09) (970)

Nablus - P.O Box :7 or 707 | Tel (970) (09) 2342902/4/7/8/14 | Faximile (970) (09) 2342910 | E-mail : hgs@najah.edu

B. Faculty of graduate studies scientific research board approval



An-Najah
National University
Faculty of Graduate Studies
Dean's Office

جامعة
النجـــاح الوطنية
كلية الدراسات العليا
مكتب العميد

التاريخ: 2017/3/30

حضرة الدكتور حمزة الزبدي المحترم
منسق برنامج ماجستير الصحة العامة

تحية طيبة وبعد،

الموضوع: الموافقة على عنوان الاطروحة وتحديد المشرف

قرر مجلس كلية الدراسات العليا في جلسته رقم (334)، المنعقدة بتاريخ 2017/3/30، الموافقة على مشروع الأطروحة المقدم الطالب/ة دانة منذر بدوي عبده، رقم تسجيل 11457620، تخصص ماجستير الصحة العامة، عنوان الأطروحة:

(سرطان القولون في فلسطين: عوامل الخطورة، الأسباب المدركة، انماط الشدة، وسلوكيات البحث عن المساعدة)
(Colon Cancer in Palestine: Associated Risks, Perceived Causes, Patterns of Distress, and Help Seeking Behaviors)

بإشراف: د. عبد السلام الخياط

يرجى اعلام المشرف والطالب بضرورة تسجيل الاطروحة خلال اسبوعين من تاريخ اصدار الكتاب. وفي حال عدم تسجيل الطالب/ة للاطروحة في الفترة المحددة له/ا ستقوم كلية الدراسات العليا بإلغاء اعتماد العنوان والمشرف

وتفضلوا بقبول وافر الاحترام ،،،

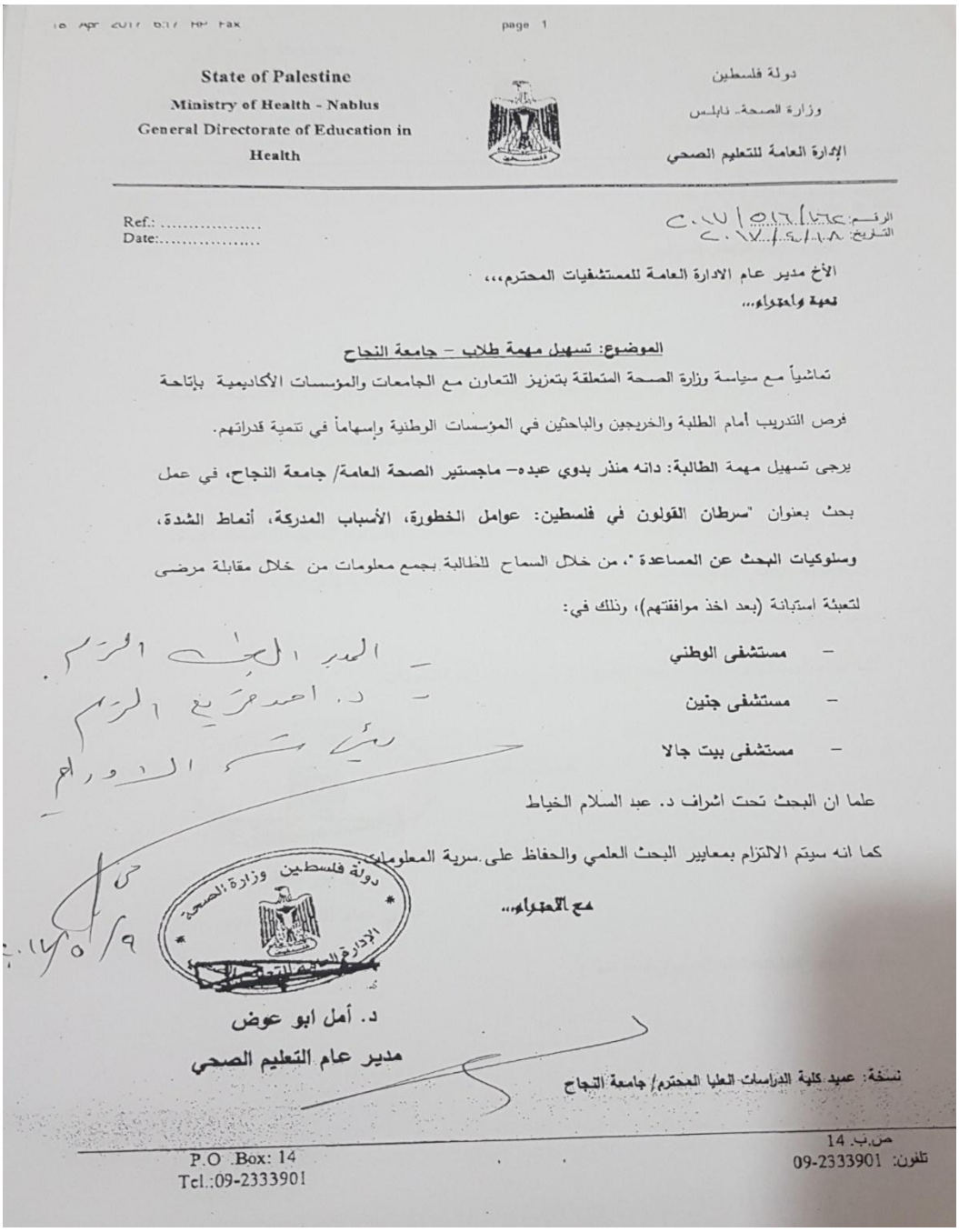
عميد كلية الدراسات العليا
د. محمد سليمان

نسخة : د. رئيس قسم الدراسات العليا للعلوم الطبية والصحية المحترم
: ق.أ.ع. القبول والتسجيل المحترم
: مشرف الطالب
: ملف الطالب

ملاحظة: على الطالب/ة مراجعة الدائرة المالية (محاسبة الطلبة) قبل دفع رسوم تسجيل الاطروحة للضرورة

فلسطين، نابلس، ص.ب 707، هاتف: 2345115، 2345114، 2345113 (09)(972)* فاكسميل 2342907(09)(972)
هاتف داخلي (5) 3200 Nablus, P. O. Box (7) *Tel. 972 9 2345113, 2345114, 2345115
* Facsimile 972 92342907 *www.najah.edu - email fgs@najah.edu

C. Letter to the general directorate of hospitals to facilitate the student's mission



State of Palestine
Ministry of Health - Nablus
General Directorate of Education in Health

دولة فلسطين
وزارة الصحة- نابلس
الإدارة العامة للتعليم الصحي

Ref.: .....
Date:.....

الرقم: ع ت/٥١٦/١٧
التاريخ: ٢٠١٧/٩/١٨

الأخ مدير عام الادارة العامة للمستشفيات المحترم،،،
تحية واحتراما،،،

الموضوع: تسهيل مهمة طلاب – جامعة النجاح

تماشياً مع سياسة وزارة الصحة المتعلقة بتعزيز التعاون مع الجامعات والمؤسسات الأكاديمية بإتاحة فرص التدريب أمام الطلبة والخريجين والباحثين في المؤسسات الوطنية وإسهاماً في تنمية قدراتهم.

يرجى تسهيل مهمة الطالبة: دانه منذر بدوي عبده– ماجستير الصحة العامة/ جامعة النجاح، في عمل بحث بعنوان "سرطان القولون في فلسطين: عوامل الخطورة، الأسباب المدركة، أنماط الشدة، وسلوكيات البحث عن المساعدة"، من خلال السماح للطالبة بجمع معلومات من خلال مقابلة مرضى لتعبئة استبانة (بعد اخذ موافقتهم)، وذلك في:

- مستشفى الوطني
- مستشفى جنين
- مستشفى بيت جالا

علما ان البحث تحت اشراف د. عبد السلام الخياط

كما انه سيتم الالتزام بمعايير البحث العلمي والحفاظ على سرية المعلومات

مع الاحترام،،،

دولة فلسطين وزارة الصحة الإدارة العامة للتعليم الصحي

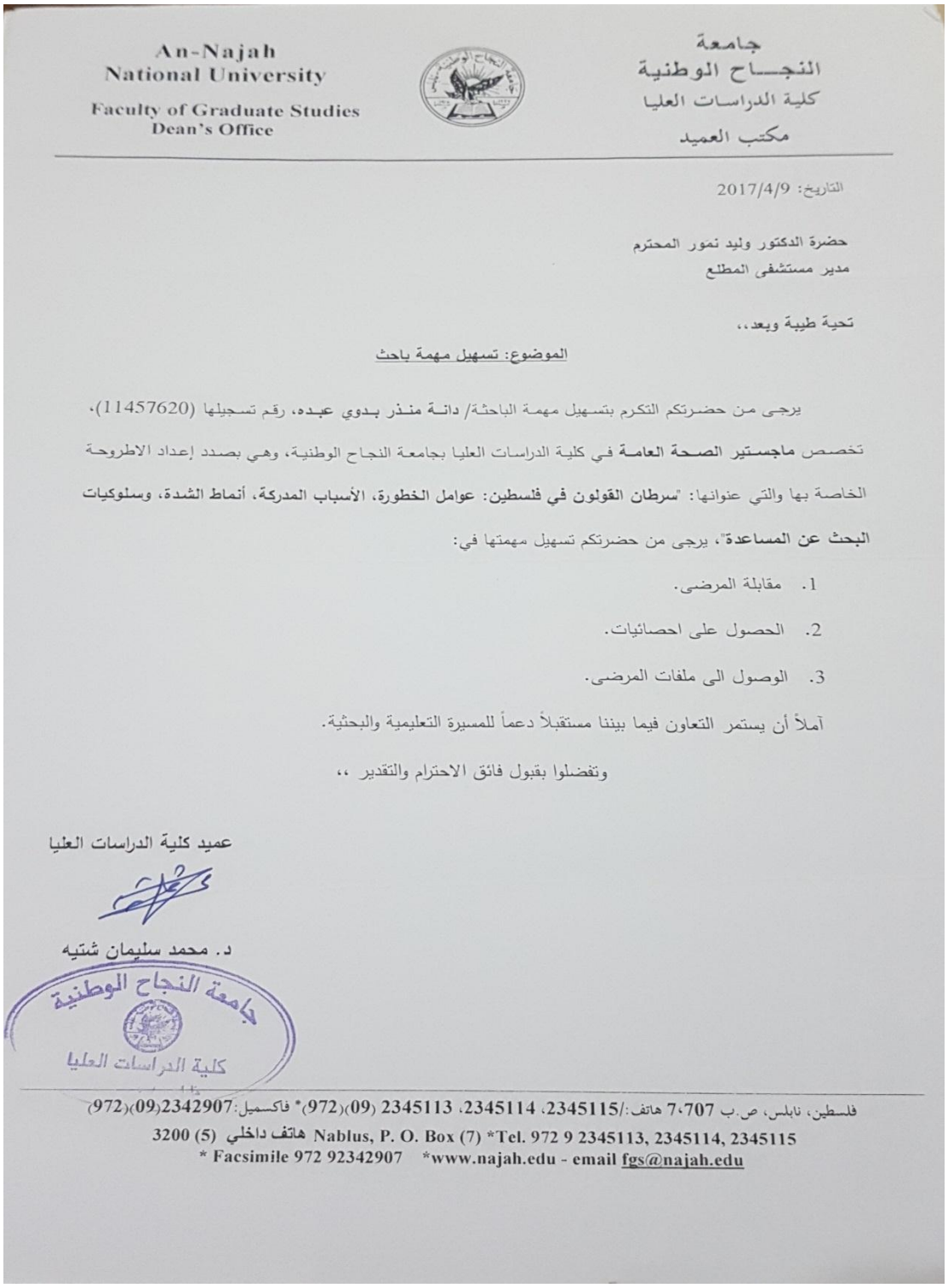
د. أمل ابو عوض
مدير عام التعليم الصحي

نسخة: عميد كلية الدراسات العليا المحترم/ جامعة النجاح

P.O .Box: 14
Tel.:09-2333901

ص.ب 14
تلفون: 09-2333901

D. Letter to Augusta Victoria hospital's administration



An-Najah
National University
Faculty of Graduate Studies
Dean's Office

جامعة
النجـــاح الوطنية
كلية الدراسات العليا
مكتب العميد

التاريخ: 2017/4/9

حضرة الدكتور وليد نمور المحترم
مدير مستشفى المطلع

تحية طيبة وبعد،،

الموضوع: تسهيل مهمة باحث

يرجى من حضرتكم التكرم بتسهيل مهمة الباحثة/ دانة منذر بدوي عبده، رقم تسجيلها (11457620)، تخصص **ماجستير الصحة العامة** في كلية الدراسات العليا بجامعة النجاح الوطنية، وهي بصدد إعداد الاطروحة الخاصة بها والتي عنوانها: "**سرطان القولون في فلسطين: عوامل الخطورة، الأسباب المدركة، أنماط الشدة، وسلوكيات البحث عن المساعدة**"، يرجى من حضرتكم تسهيل مهمتها في:

1. مقابلة المرضى.
2. الحصول على احصائيات.
3. الوصول الى ملفات المرضى.

آملاً أن يستمر التعاون فيما بيننا مستقبلاً دعماً للمسيرة التعليمية والبحثية.

وتفضلوا بقبول فائق الاحترام والتقدير ،،

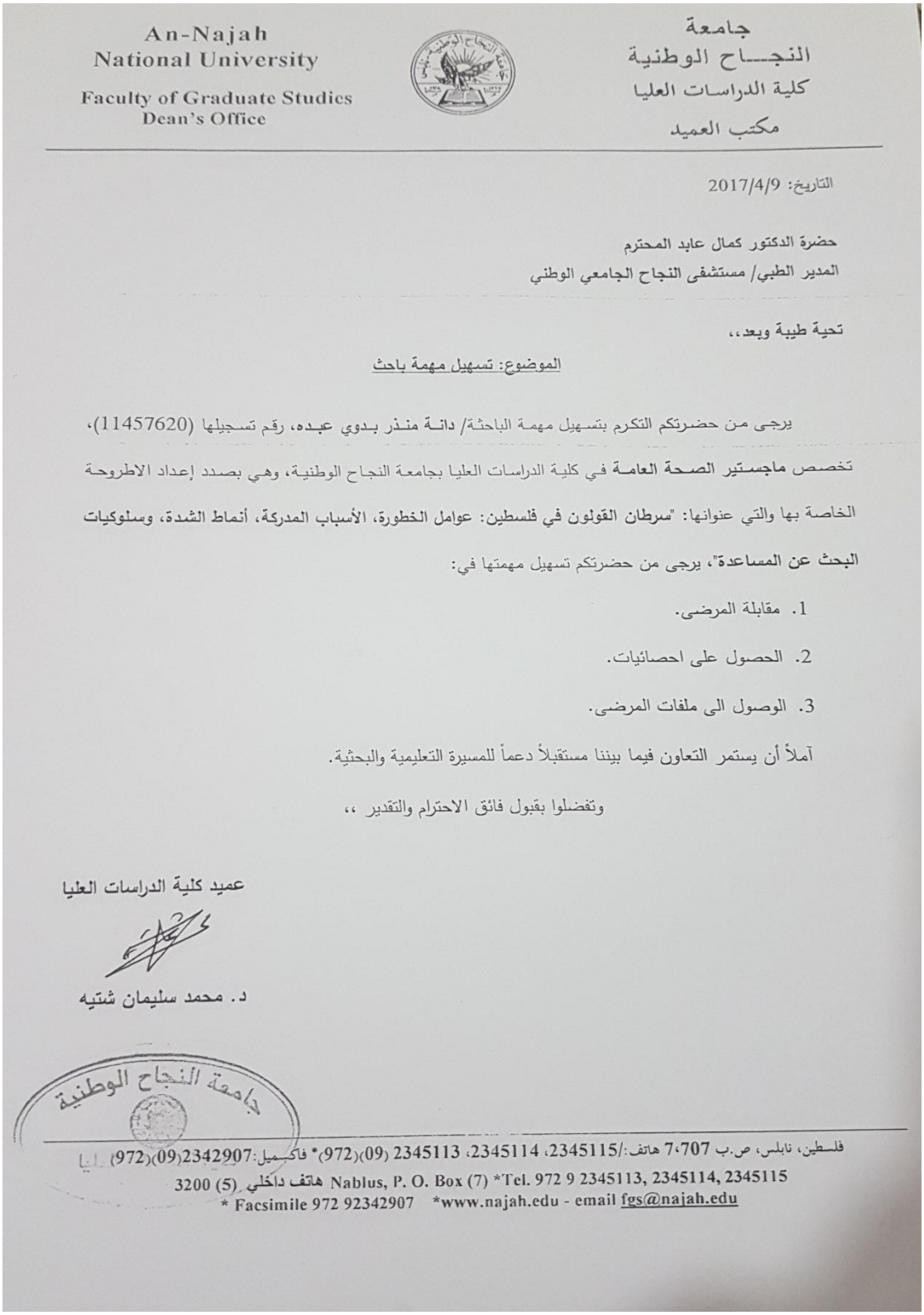
عميد كلية الدراسات العليا

د. محمد سليمان شتيه

جامعة النجاح الوطنية
كلية الدراسات العليا

فلسطين، نابلس، ص.ب 7،707 هاتف:/2345115، 2345114، 2345113 (09)(972)* فاكسميل:2342907(09)(972)
3200 (5) هاتف داخلي Nablus, P. O. Box (7) *Tel. 972 9 2345113, 2345114, 2345115
* Facsimile 972 92342907 *www.najah.edu - email fgs@najah.edu

E. Letter to An-Najah National University hospital's administration



An-Najah
National University
Faculty of Graduate Studies
Dean's Office

جامعة
النجـــاح الوطنية
كلية الدراسات العليا
مكتب العميد

التاريخ: 2017/4/9

حضرة الدكتور كمال عابد المحترم
المدير الطبي/ مستشفى النجاح الجامعي الوطني

تحية طيبة وبعد،،

الموضوع: تسهيل مهمة باحث

يرجى من حضرتكم التكرم بتسهيل مهمة الباحثة/ دانة منذر بدوي عبده، رقم تسجيلها (11457620)، تخصص ماجستير الصحة العامة في كلية الدراسات العليا بجامعة النجاح الوطنية، وهي بصدد إعداد الاطروحة الخاصة بها والتي عنوانها: "سرطان القولون في فلسطين: عوامل الخطورة، الأسباب المدركة، أنماط الشدة، وسلوكيات البحث عن المساعدة"، يرجى من حضرتكم تسهيل مهمتها في:

1. مقابلة المرضى.
2. الحصول على احصائيات.
3. الوصول الى ملفات المرضى.

آملاً أن يستمر التعاون فيما بيننا مستقبلاً دعماً للمسيرة التعليمية والبحثية.

وتفضلوا بقبول فائق الاحترام والتقدير ،،

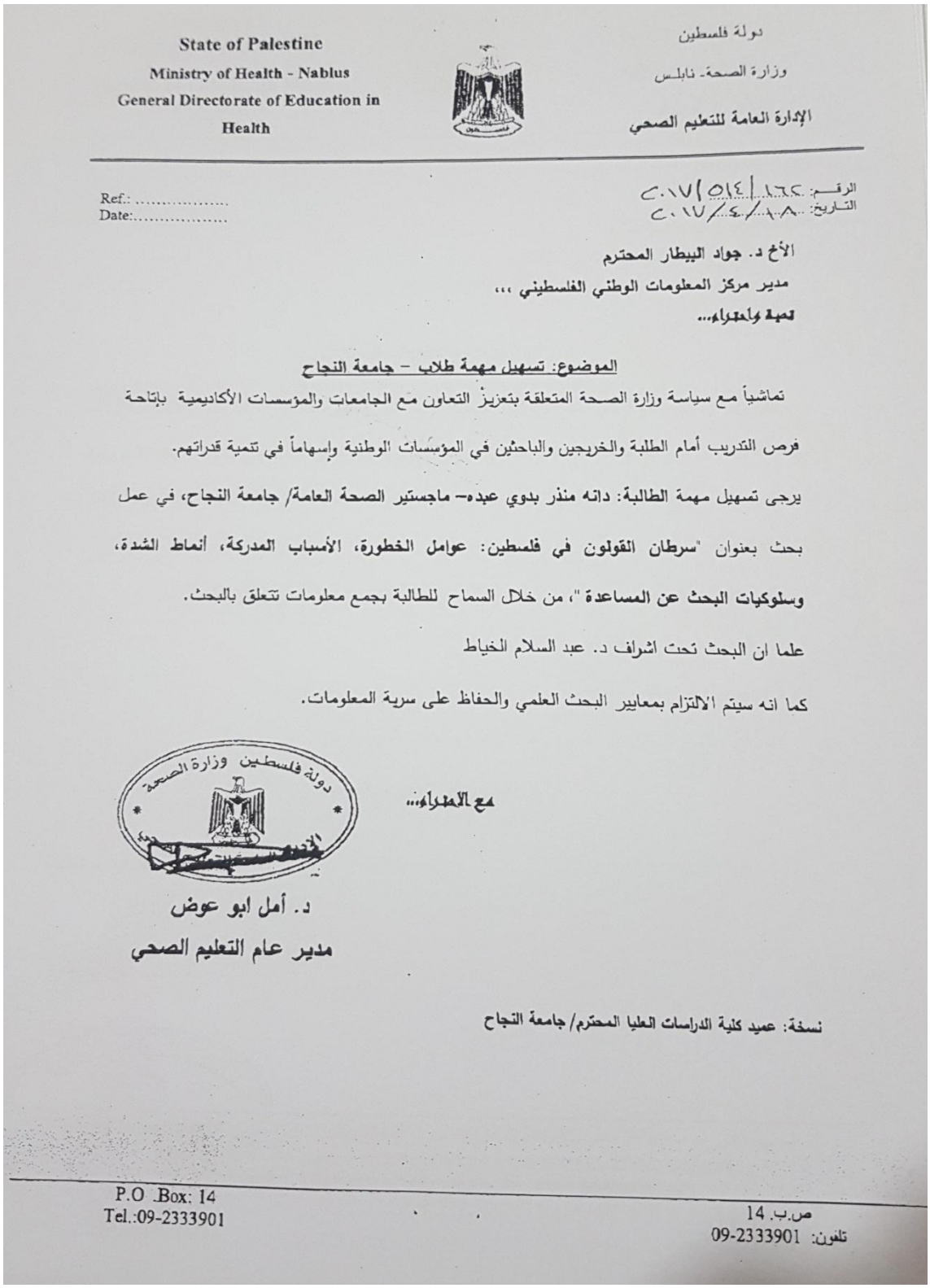
عميد كلية الدراسات العليا

د. محمد سليمان شتيه

جامعة النجاح الوطنية

فلسطين، نابلس، ص.ب 7،707 هاتف:/2345115، 2345114، 2345113 (09)(972)* فاكسميل:2342907(09)(972)
3200 (5) هاتف داخلي Nablus, P. O. Box (7) *Tel. 972 9 2345113, 2345114, 2345115
* Facsimile 972 92342907 *www.najah.edu - email fgs@najah.edu

F. Letter to the directorate of Palestinian health information center



State of Palestine
Ministry of Health - Nablus
General Directorate of Education in Health

دولة فلسطين
وزارة الصحة- نابلس
الإدارة العامة للتعليم الصحي

Ref.: .....
Date:.....

الرقم: ٢٠١٧/٥١٤/١٦٦
التاريخ: ٢٠١٧/٤/١٨

الأخ د. جواد البيطار المحترم
مدير مركز المعلومات الوطني الفلسطيني ،،،
تحية واحترام...

الموضوع: تسهيل مهمة طلاب – جامعة النجاح

تماشياً مع سياسة وزارة الصحة المتعلقة بتعزيز التعاون مع الجامعات والمؤسسات الأكاديمية بإتاحة فرص التدريب أمام الطلبة والخريجين والباحثين في المؤسسات الوطنية وإسهاماً في تنمية قدراتهم.

يرجى تسهيل مهمة الطالبة: دانه منذر بدوي عبده– ماجستير الصحة العامة/ جامعة النجاح، في عمل بحث بعنوان "سرطان القولون في فلسطين: عوامل الخطورة، الأسباب المدركة، أنماط الشدة، وسلوكيات البحث عن المساعدة "، من خلال السماح للطالبة بجمع معلومات تتعلق بالبحث.

علما ان البحث تحت اشراف د. عبد السلام الخياط

كما انه سيتم الالتزام بمعايير البحث العلمي والحفاظ على سرية المعلومات.

مع الاحترام...

دولة فلسطين وزارة الصحة

د. أمل ابو عوض
مدير عام التعليم الصحي

نسخة: عميد كلية الدراسات العليا المحترم/ جامعة النجاح

P.O .Box: 14
Tel.:09-2333901

ص.ب. 14
تلفون: 09-2333901

G. The Arabic version of the case's questionnaire

جامعة النجاح الوطنية

قسم الدراسات العليا

ماجستير الصحة العامة

سرطان القولون في فلسطين: عوامل الخطورة، والاسباب المدركة، وانماط الشدة، وسلوكيات البحث عن المساعدة

مقدمة:

يشرفني أن أضع بين يديكم هذه الاستمارة التي تندرج في إطار بحث لنيل ماجستير صحة عامة من جامعة النجاح الوطنية حول سرطان القولون بهدف معرفة عوامل الخطورة التي تزيد من احتمالية الاصابة بالمرض.لذا أرجو منكم أن تملؤوا كافة بنود هذه الاستمارة بصدق وأمانة، فمصداقية وصلاحية نتائجها تتوقف علىمدى مطابقة أجوبتكم لحقيقة واقعكم.

اود شكركم على موافقتكم على المساعدة واخذكم الوقت لملء الاستمارة. او اعلامكم ان هذه الاستمارة لاهداف تعليمية فقط و انه سيتم التعامل مع المعلومات بحرص بسرية التامة.

الاستمارة تتكون من ثلاثة اقسام:

- القسم المعلومات الشخصية.
- قسم سرطان القولون.
- قسم التردد الغذائي.

ولكم جزيل الشكر والتقدير

دانة عبده

القسم المعلومات الشخصية

رقم الهاتف:.....					
1. العمر:					
2. الجنس:	• ذكر	انثى			
3. الحالة الاجتماعية :	• اعزب	• متزوج/ة	• مطلق/ة	• ارمل/ة	
4. مكان السكن:					
5. عدد افراد العائلة:					
6. مستوى التعليم:	• غير متعلم	• مدرسة	• بكالوريوس	• ماجستير او دكتوراة	
7. العمل:					
8. الدخل الشهري للعائلة كلها (بالشيقل)					

قسم سرطان القولون

9. هل احد افراد عائلتك مصاب بالسرطان؟ • نعم • لا
اذا كان الجواب نعم، كم عدد الافراد المصابين؟ .....

10. هل كنت تفحص/ين لوجود ورم بشكل دوري؟ • نعم • لا
11. هل لديك تاريخ بالاصابة بالسرطان؟ • نعم • لا
اذا كان الجواب نعم، ما نوعه؟ .....

12. متى تم تشخيصك بسرطان القولون؟ .....

13. في اي مرحلة من السرطان كنت عند التشخيص؟ .....

❖ **الاسئلة القادمة ل5 سنوات قبل تشخيصكم بسرطان القولون**

14. كم كان طولك بالمتر؟ .....

15. كم كان وزنك بالكيلوغرام؟ .....

مؤشر كتلة الوزن(هذا السؤال للباحث) .....

16. هل كنت من المدخنين/نات؟ • نعم • لا

اذا كان الجواب نعم،ما هي الكمية في اليوم؟ .....

اذا كان الجواب نعم، ما هي المدة؟ .....

17. هل كنت بتعرض دائم للتدخنين؟ • نعم • لا

اذا كان الجواب نعم، ما هي المدة؟ .....

18. هل كنت تشرب/ين الكحول؟ • نعم • لا

اذا كان الجواب نعم،ما هي الكمية في اليوم؟ .....

اذا كان الجواب نعم، ما هي المدة؟ .....

19. هل كنت تمارس/ين التمارين الرياضية؟ • نعم • لا

كم مرة/اسبوع كنت تمارس/ين الرياضة؟ .....

20. هل تعاني من السكري؟ • نعم • لا
اذا كان الجواب نعم، ما نوعه؟ .....
اذا كان الجواب نعم، ما هي المدة؟ .....
انسولين ام حبوب؟ .....

21. هل تعاني من أمراض الأمعاء الالتهابية؟ • نعم • لا

اذا كان الجواب نعم، ما نوعه؟* .....
اذا كان الجواب نعم، ما هي المدة؟ .....

22. هل كنت تُخرج اقل من 3 مرات في الاسبوع؟ • نعم • لا

اذا كان الجواب نعم، ما هي المدة؟ .....

23. هل كنت تعاني من الام الظهر قبل التشخيص؟ • نعم • لا

اذا كان الجواب نعم، ما السبب؟ .....

اذا كان الجواب نعم، ما هي المدة؟ .....

قسم التردد الغذائي

التعليمات:

- هذا القسم يستفسر عن العادات الغذائية **قبل** التشخيص بسرطان القولون
- اجب على السؤال بافضل تقدير لكن حاول عدم ترك السؤال فارغ
- اذا كنت ترغب بتغيير الاجابة ضع اشارة X على الاجابة الخاطئة

1. **كم مرة تناولت الحبوب المطبوخة كالشوفان؟**
   - ابدا
   - مرة في الشهر او اقل
   - 3-2 مرات في الشهر
   - 2-1 مرات في الاسبوع
   - 4-3 مرات في الاسبوع
   - 6-5 مرات في الاسبوع
   - مرة في اليوم
   - 3-2 مرات في اليوم
   - 5-4 مرات في اليوم
   - 6 مرات او اكثر في اليوم
2. **كم مرة تناولت الحبوب الجاهزة للافطار ؟**
   - ابدا
   - مرة في الشهر او اقل
   - 3-2 مرات في الشهر
   - 2-1 مرات في الاسبوع
   - 4-3 مرات في الاسبوع
   - 6-5 مرات في الاسبوع
   - مرة في اليوم
   - 3-2 مرات في اليوم
   - 5-4 مرات في اليوم
   - 6 مرات او اكثر في اليوم
3. **ما كان نوعها؟**
   - حبوب قمح كامل ك fitness
   - حبوب غير صحية ك Trix
4. **كم مرة تناولت الفاكهة؟**
   - ابدا
   - مرة في الشهر او اقل
   - 3-2 مرات في الشهر
   - 2-1 مرات في الاسبوع
   - 4-3 مرات في الاسبوع
   - 6-5 مرات في الاسبوع
   - مرة في اليوم
   - 3-2 مرات في اليوم
   - 5-4 مرات في اليوم
   - 6 مرات او اكثر في اليوم
5. **كم مرة تناولت الخضر ؟**
   - ابدا
   - مرة في الشهر او اقل
   - 3-2 مرات في الشهر
   - 2-1 مرات في الاسبوع
   - 4-3 مرات في الاسبوع
   - 6-5 مرات في الاسبوع
   - مرة في اليوم
   - 3-2 مرات في اليوم
   - 5-4 مرات في اليوم
   - 6 مرات او اكثر في اليوم
6. **كم مرة تناولت بقوليات؟**
   - ابدا
   - مرة في الشهر او اقل
   - 3-2 مرات في الشهر
   - 2-1 مرات في الاسبوع
   - 4-3 مرات في الاسبوع
   - 6-5 مرات في الاسبوع
   - مرة في اليوم
   - 3-2 مرات في اليوم
   - 5-4 مرات في اليوم
   - 6 مرات او اكثر في اليوم
7. **كم مرة تناولت لحوم حمراء كالعجل و البقر و الخروق؟**
   - ابدا
   - مرة في الشهر او اقل
   - 3-2 مرات في الشهر
   - 2-1 مرات في الاسبوع
   - 4-3 مرات في الاسبوع
   - 6-5 مرات في الاسبوع
   - مرة في اليوم
   - 3-2 مرات في اليوم
   - 5-4 مرات في اليوم
   - 6 مرات او اكثر في اليوم

8. كم مرة تناولت اللحوم الباردة كاحبش و الهوت دوغ و السوسج و المتديلا وغيرها؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

9. كم مرة تضيف الدهون الى الوجبة او الطبيخ ؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

10. ما نوع الدهون المضافة غالبا؟

- صلبة كالزبدة و السمنة
- سائلة كزيت الزيتون و دوار الشمس و كانولا

11. كم مرة تناولت الطعام المقلي كالبطاطا و الباذنجان المقلي؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

12. كم مرة تناولت الاكل السريع كالشاورما و الفلافل و البيتزا و KFCو غيرها؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

13. كم مرة تناولت الوجبات الخفيفة المملحة كالشيبس و البامبا و غيرهم؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

14. كم مرة تناولت الحلويات كالشوكلاتة و الكعكة والمعجنات و علكة السكر و غيرها؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

H. The Arabic version of the control's questionnaire

جامعة النجاح الوطنية

قسم الدراسات العليا

ماجستير الصحة العامة

سرطان القولون في فلسطين: عوامل الخطورة، والاسباب المدركة، وانماط الشدة، وسلوكيات البحث عن المساعدة

مقدمة:

يشرفني أن أضع بين يديكم هذه الاستمارة التي تندرج في إطار بحث لنيل ماجستير صحة عامة من جامعة النجاح الوطنية حول سرطان القولون بهدف معرفة عوامل الخطورة التي تزيد من احتمالية الاصابة بالمرض.لذا أرجو منكم أن تملؤوا كافة بنود هذه الاستمارة بصدق وأمانة، فمصداقية وصلاحية نتائجها تتوقف علىمدى مطابقة أجوبتكم لحقيقة واقعكم.

اود شكركم على موافقتكم على المساعدة واخذكم الوقت لملء الاستمارة. او اعلامكم ان هذه الاستمارة لاهداف تعليمية فقط و انه سيتم التعامل مع المعلومات بحرص بسرية التامة.

الاستمارة تتكون من ثلاثة اقسام:

- القسم المعلومات الشخصية.
- قسم القولون.
- قسم التردد الغذائي.

ولكم جزيل الشكر والتقدير

دانة عبده

القسم المعلومات الشخصية

رقم الهاتف:.....				
24.العمر:	.....			
25.الجنس:	• ذكر	انثى		
26.الحالة الاجتماعية :	• اعزب	• متزوج/ة	• مطلق/ة	• ارمل/ة
27.مكان السكن:	.....			
28.عدد افراد العائلة:	.....			
29.مستوى التعليم:	• غير متعلم	• مدرسة	• بكالوريوس	• ماجستير او دكتوراة
30.العمل:	.....			
31.الدخل الشهري للعائلة كلها (بالشيقل)	.....			

قسم القولون

32. هل احد افراد عائلتك مصاب بالسرطان؟ • نعم • لا
اذا كان الجواب نعم، كم عدد الافراد المصابين؟ .....

33. هل كنت تفحص/ين لوجود ورم بشكل دوري؟ • نعم • لا

34. هل لديك تاريخ بالاصابة بالسرطان؟ • نعم • لا
اذا كان الجواب نعم، ما نوعه؟ .....

❖ الاسئلة القادمةارجع بالذاكرة ل 5 سنوات قبل تاريخ تعبئة الاستبيان

35. كم كان طولك بالمتر؟ .....

36. كم كان وزنك بالكيلوغرام؟ .....

مؤشر كتلة الوزن(هذا السؤال للباحث) .....

37. هل كنت من المدخنين/نات؟ • نعم • لا

اذا كان الجواب نعم،ما هي الكمية في اليوم؟ .....

اذا كان الجواب نعم، ما هي المدة؟ .....

38. هل كنت بتعرض دائم للتدخنين؟ • نعم • لا

اذا كان الجواب نعم، ما هي المدة؟ .....

39. هل كنت تشرب/ين الكحول؟ • نعم • لا

اذا كان الجواب نعم،ما هي الكمية في اليوم؟ .....

اذا كان الجواب نعم، ما هي المدة؟ .....

40. هل كنت تمارس/ين التمارين الرياضية؟ • نعم • لا

كم مرة/اسبوع كنت تمارس/ين الرياضة؟ .....

41. هل تعاني من السكري؟ • نعم • لا
اذا كان الجواب نعم، ما نوعه؟ .....
اذا كان الجواب نعم، ما هي المدة؟ .....
انسلين ام حبوب؟ .....

42. هل تعاني من أمراض الأمعاء الالتهابية؟ • نعم • لا

اذا كان الجواب نعم، ما نوعه؟* .....

اذا كان الجواب نعم، ما هي المدة؟

.....

43. هل كنت تُخرج اقل من 3 مرات ف الاسبوع؟ • نعم • لا

اذا كان الجواب نعم، ما هي المدة؟ .....

44. هل كنت تعاني من الام الظهر قبل التشخيص؟ • نعم • لا

اذا كان الجواب نعم، ما السبب؟ .....

اذا كان الجواب نعم، ما هي المدة؟ .....

قسم التردد الغذائي

التعليمات:

- هذا القسم يستفسر عن العادات الغذائية **قبل** 5- 10 سنوات
- اجب على السؤال بافضل تقدير لكن حاول عدم ترك السؤال فارغ
- اذا كنت ترغب بتغيير الاجابة ضع اشارة X على الاجابة الخاطئة

15. كم مرة تناولت الحبوب المطبوخة كالشوفان؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

16. كم مرة تناولت الحبوب الجاهزة للافطار ؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

17. ما كان نوعها؟

- حبوب قمح كامل ك fitness
- حبوب غير صحية ك Trix

18. كم مرة تناولت الفاكهة؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

19. كم مرة تناولت الخضر ؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

20. كم مرة تناولت بقوليات؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

21. كم مرة تناولت لحوم حمراء كالعجل و البقر و الخروق؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

22. كم مرة تناولت اللحوم الباردة كاحبش و الهوت دوغ و السوسج و المتديلا وغيرها؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

23. كم مرة تضيف الدهون الى الوجبة او الطبيخ ؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

24. ما نوع الدهون المضافة غالبا؟

- صلبة كالزبدة و السمنة
- سائلة كزيت الزيتون و دوار الشمس و كانولا

25. كم مرة تناولت الطعام المقلي كالبطاطا و الباذنجان المقلي؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

26. كم مرة تناولت الاكل السريع كالشاورما و الفلافل و البيتزا و KFC و غيرها؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

27. كم مرة تناولت الوجبات الخفيفة المملحة كالشيبس و البامبا و غيرهم؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

28. كم مرة تناولت الحلويات كالشوكلاتة و الكعكة والمعجنات و علكة السكر و غيرها؟

- ابدا
- مرة في الشهر او اقل
- 3-2 مرات في الشهر
- 2-1 مرات في الاسبوع
- 4-3 مرات في الاسبوع
- 6-5 مرات في الاسبوع
- مرة في اليوم
- 3-2 مرات في اليوم
- 5-4 مرات في اليوم
- 6 مرات او اكثر في اليوم

جامعة النجاح الوطنية

كلية الدراسات العليا

سرطان القولون في فلسطين: عوامل الخطورة، والاسباب المدركة، وانماط الشدة، وسلوكيات البحث عن المساعدة

اعداد

دانة عبده

اشراف

د. عبد السلام الخياط

قدمت هذه الأطروحة استكمالاً لمتطلبات الحصول على درجة الماجستير في برنامج الصحة العامة، بكلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس- فلسطين.

2018

سرطان القولون في فلسطين: عوامل الخطورة، والاسباب المدركة، وانماط الشدة، وسلوكيات البحث عن المساعدة

اعداد

دانة عبده

اشراف

د. عبد السلام الخياط

الملخص

خلفية الدراسة: يعتبر السرطان المسبب الثاني للوفاة في الضفة الغربية، ويعتبر سرطان القولون ثاني اكثر سرطان شائع في فلسطين، هذا يشدد على اهمية توجيه الجهود لفهم هذا المرض جيدا من جميع النواحي الطبية والعمل ايضا على فهم الصعوبات التي يمربها مريض سرطان القولون لتكثيف الجهود في توفير افضل خدمة صحية لهم.

الاهداف:

- تحديد عوامل الخطورة المتصلة بسرطان القولون في فلسطين.
- فهم الخبرات التي يمر فيها مريض سرطان القولون فيما يتعلق بالاسباب المدركة، والصعوبات المدركة، وسلوكيات البحث عن المساعدة.

المنهجية: تم استخدام الاستراتيجية المندمجة لهذا البحث. في المرحة الاولى من الدراسة تم جمع 103 حالة و116 شاهد للمشاركة في دراسة الحالات والشهود حيث تم طلب منهم تعبأة استبيان يتكون من ثلالة اقسام: قسم المعلومات الاجتماعية، وقسم سرطان القولون، وقسم التردد الغذائي. في المرحلة الكمية من الدراسة تم اجراء مقابلات مسجلة مع 20 مريض سرطان قولون فيما يتعلق بالاسباب المدركة، والصعوبات المدركة، وسلوكيات البحث عن المساعدة.

نتائج المرحلة الكمية: مرحلة التحليل الاولية اظهرت ارتباط كا من التاريخ العائلي للسرطان، والتاريخ الشخصي للسرطان، والفحص الدوري للأورام، والسكري، والامساك، ومدة الامساك،

والحبوب المطبوخة، والحبوب الجاهزة، والفاكهة، والخضار، واللحوم الحمراء، واللحوم الباردة، والدهون، والوجبات السريعة بسرطان القولون ولكن بعد اجراء الانحدار اللوجستي، تم الايجاد ان التاريخ العائلي للسرطان، والامساك، والحبوب المطبوخة، والدهون، والاكل السريع مربوطين بشكل كبير باحتمالة الاصابة بسرطان القولون مع العلم ان الحبوب المطبوخة هو العامل الوحيد الحامي ضمن العوامل المذكورة مسبقا.

نتائج المرحلة الكيفية: لقد مر مرضى سرطان القولون بالكثير من الصعوبات ولكن تم الاجماع على ان العلاج الكيميائي هو اصعب محنة مرت عليهم تتبعها المحن النفسية. الاقلية كانوا على علم بمسببات السرطان لديهم، الا ان الاغلبية اظهروا جهلهم فيما يتعلق بهذا الموضوع. مع اختلاف قصص المرضى خلال المرض الا انهم اجمعوا على ان العملية الجراحية كانت افضل ما حصل لهم لما تبعها من زوال الالام والعودة الى القدرة على الحركية حيث ان هذه القدرة هي المبلورة لتعريفهم للصحة العامة لديهم.

الاستنتاج: اوجدت الدراسة ان كل من التاريخ العائلي للاصابة بالسرطان، والامساك، وتناول الدهون والوجبات السريعة يزيد من احتمالية الاصابة بسرطان القولون، اما تناول الحبوب الساخنة كالشوفان يعمل على الحماية من الاصابة بسرطان القولون.

مرضى سرطان القولون كانوا على غير علم بالاسباب التي ادت الى تطور المرض لديهم، الالم الجسدي والنفسي كان سبب للمعاناة لدى المرضى حيث اعتبر العلاج الكيماوي اصعب محنة مروا بها. تم ايجاد تناقض عند المرضى من حيث زيادة استخدام العبارات القدرية رغم انهم اظهروا علامات التوتر العالية. اما من ناحية سلوكيات البحث عن المساعدة، تم ايجاد ان العملية الجراحية، وايمان المريض، والدعم العائلي كان لهم دور ايجابية في الصحة العامة لدى المرضى.