

Assessment of the Factors Contributing to Gastric Carcinoma among Patients at Baghdad Educational Hospitals

تقييم العوامل المساهمة للإصابة بسرطان المعدة بين المرضى في مستشفيات بغداد التعليمية

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الخلاصة

الخلفية: سرطان المعدة يشير إلى أي ورم خبيث ينشأ من المنطقة الممتدة بين البوابة والتقاطع المعدي المريئي، ما يقارب 95 ب(%) من أورام المعدة هي خلايا طلائية في الأصل وتعرف باسم الأورام الغدية. على الرغم من ذلك، نادراً ما تكون هناك سرطانات حرشفية أو غير متميزة.⁽¹⁾

الهدف: تهدف الدراسة الحالية إلى تحديد العوامل المساهمة للإصابة بسرطان المعدة بين المرضى في مستشفيات بغداد التعليمية.

المنهجية: تم إجراء دراسة وصفية من الأول من تشرين الأول 2015 حتى نهاية شهر أيار 2016، على عينة عشوائية تكونت من (30) مريض مصابين بسرطان المعدة، تم تحليل البيانات من خلال تطبيق الإحصاء الوصفي (التكرارات، والنسب المئوية، والمتوسط الحسابي)، والتحليل الاستدلالي (تحليل التباين) وتم استخدام الحقيبة الإحصائية الإصدار رقم 20 لإدخال البيانات لغرض تحليلها. وقد تم جمع البيانات من خلال استخدام استبيان مؤلف من جزئين، الجزء الأول يتكون من 8 بنود والجزء الثاني يتكون من (12) فقرة. تم إجراء الدراسة في (4) مستشفيات (مستشفى الجهاز الهضمي التعليمي، مستشفى الإمامين التعليمي، مستشفى الكندي التعليمي، ومستشفى بغداد التعليمي).

النتائج: أظهرت نتائج الدراسة إلى أن أكثر من نصف العينة كانوا من الذكور، ضمن الفئة العمرية من 50 إلى 59 سنة معظمهم متزوجين. كان 7.36 لديهم مستوى تعليمي ابتدائي ومتوسط، وأشارت الدراسة إلى أن المرضى الذين يشكون من (كثرة استخدام مضادات الالتهابات، يعانون من الإجهاد والقلق، ويشكون من قرحة المعدة، وارتفاع استهلاك الطعام الحار، واستهلاك الوجبات السريعة) هؤلاء لديهم عوامل خطورة أكبر للإصابة بسرطان المعدة في حين أن العوامل الأخرى (كالمعمل مع المواد الكيميائية في الأماكن ذات الصلة بالمخاطر الصحية مثل المطاط والفحم...) والمرضى الذين يعانون من زيادة الوزن، أو استهلاك الكحول) كانت عوامل الخطورة لديهم أقل للإصابة بالمرض.

الاستنتاج: استنتجت الدراسة بأن العوامل المساهمة بين المرضى الذين يعانون من سرطان المعدة ترتبط بشكل أكثر تواتراً مع الفئة العمرية (50-59) سنة، وأن عوامل الخطر بين المرضى الذين يعانون من سرطان المعدة ترتبط بشكل ملحوظ في كثير من الأحيان مع انخفاض المستوى التعليمي.

التوصيات: توصي الدراسة بالتنسيق مع المتخصصين في وزارة الصحة على إقامة مراكز للكشف المبكر عن سرطان المعدة والعلاج والمتابعة ومجهزة بأحدث المعدات التشخيصية للكشف عن السرطان كذلك الحث على مواصلة الدراسات الأخرى في هذا المجال.

ABSTRACT:

BACKGROUND: Stomach cancer refers to any malignant neoplasm that arises from the region extending between the gastro-esophageal junction and the pylorus. Approximately 95 % of stomach tumors are epithelial in origin and designated as adenocarcinomas. Adeno-squamous, squamous, and undifferentiated carcinomas are however rare ⁽¹⁾.

Aim of the study: Assessment of the factors contributing to gastric carcinoma among patients at Baghdad educational hospitals.

METHODOLOGY: A descriptive design of study was carried out from the period of 1st October 2015 until, the end of May 2016, to a purposive random sample consist of (30) patients with gastric carcinoma. The instrument questionnaire tool consist of two parts, First part consist of (8) items & second part consist of (12) items. The study was conducted in (4) setting; Digestive system teaching hospital, Al-Emamain teaching hospital, Al kindy teaching hospital and Baghdad teaching hospital. The data have been analyzed through the application of: descriptive and the inferential analysis, and the researcher used the SPSS version 20 to analysis of data.

RESULTS: the characteristics of present study were male, their age group was 50 – 59 year old most of them were married. The study indicated that patients with changes factors complained of (using too many anti-inflammatory, stress and anxiety, complaining of stomach ulcers, high consumption of hot food or spicy and salty food, and consuming junk food). Smoker or patients with diabetes, hypertension, heart disease and cancer were at high risk and a large proportion of them had no family history of stomach cancer, while other factors (such as working with chemicals in places related to health hazards such as rubber and coal, or patients with overweight, or alcohol consumption) were low risk.

CONCLUSION: The study concluded that the risk factors among patients with gastric cancer more common age group of (50 – 59) years old and the study showed that risk factors among patients with gastric cancer are associated significantly more frequently with low educational level.

RECOMMENDATION: The study recommends coordination with specialists from the Ministry of Health to establish centers for cancer of the stomach for the early detection of cancer and treatment and for the purpose of follow-up and equipped with all new technological machinery to examine cancer and motivate further studies in this aspect.

Keywords: Assessment, Contributing factors, Gastric Carcinoma.

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INTRODUCTION

Stomach cancer refers to any malignant neoplasm that arises from the region extending between the gastro-esophageal junction and the pylorus, about ninety five percent of stomach tumors are epithelial in origin and exact as adenocarcinomas. Adeno-squamous, squamous, and undifferentiated carcinomas are however uncommon ⁽¹⁾. stomach cancer is characterized by means of an increase of cancer cells in the lining of the stomach, Stomach cancer tend to expand slowly over many years, before a true cancer develops, pre-cancerous exchange regularly takes place in the inner lining (mucosa) of the stomach, these early changes rarely cause symptoms and there regularly cross untreated. Stomach cancer can spread (metastasize) in different ways. They are able to develop through the wall of stomach and invade close by organs; they can also spread to the lymph vessels and nearby lymph nodes. Lymph nodes are bean sized structures that assist combat infection, the stomach has a very rich network of lymph vessels and nodes, because the stomach cancer become more advanced it can travel through the blood and flow spread to organs such as the liver, lungs and bones ⁽²⁾. The prognosis is generally poor, the diagnosis is commonly made late because most patients are a symptomatic during the early stage of the disease most reason of gastric cancer are found most effective after local invasion has advanced or metastases are present ⁽³⁾. The development of gastric cancer is a multifactorial process and lots of conditions have an effect on the probability of occurrence, of them, family history of gastric cancer, Helicobacter pylori infection (a common bacteria that can also cause stomach ulcers), history of an adenomatous gastric polyp larger than two centimeters, history of chronic atrophic gastritis, history of pernicious anemia, obesity, alcohol, smoking, red meat and low socioeconomic status are all believed to be important ⁽⁴⁾. Helicobacter pylori infection is an important and well-established an etiologic factor for stomach cancer in all populations worldwide, and the infected individuals by means of H. pylori display about (3 to 6) fold extended danger of developing stomach cancer ⁽⁵⁾. Other risk factors for gastric cancer include chronic gastritis; older age; male sex; a diet high in salted, smoked, or poorly preserved foods and low in fruits and vegetables; tobacco smoking; pernicious anemia; a history of stomach surgery for benign conditions; and a own family history of stomach cancer ⁽⁶⁾. Gastric cancer is one of the most common cancers worldwide ⁽⁷⁾. Approximately 22,220 patients are diagnosed annually in the United States, of whom 10,990 are expected to die ⁽⁸⁾.

METHODOLOGY

DESIGN OF THE STUDY: Descriptive design of study was carried out for the period of First of October, 2015 until the end of May, 2016 to assess of the factors contributing to gastric Carcinoma among patients at Baghdad Educational Hospitals

SETTING OF THE STUDY: The present study is carried out at following Hospitals.

Setting	No. of samples
Digestive system teaching hospital	15
AL-Emamain AL-Kadimain medical city	8
AL-kendi teaching hospital	5
Baghdad teaching hospital	2
Total	30

SAMPLE OF THE STUDY: A purposive sample was applied consist of (30) patients who diagnosed with gastric carcinoma after endoscopy procedure.

INSTRUMENT: the Questionnaire format of study consists of two parts:

Part I: The demographic data of the sample of the study & which consist of (8) items which included the clients characteristic, such as age, gender, level of education, marital status, and employment.

Part II: Include the risk factors, which consist of (13) items (such as Taken up repetitively anti-Inflammation Drugs, Radiation Exposure, Gastric Ulcer, Immunity Lack,...).

VALIDITY AND RELIABILITY: The instrument of the study was constructed by the researcher, after reviewing related books and literature to initiate the instrument format, then it was presented to the panel of (12) experts from college of nursing at Baghdad University for the validity, and all the comments was considered. The reliability of the items was based on the internal consistency of the questionnaire was assessed by calculating Cronbach s' Coefficient alpha which as= 0.80.

STATISTICAL ANALYSIS: The data have been analyzed through the application of: descriptive frequency, percentages; mean of scores; and the inferential analysis that include: Analysis of variance and the researcher used the SPSS version 20 to analysis of data.

DATA COLLECTION: The date has been collected through the utilization of the self-administrative questionnaire as a mean of data collection, the date was collected through the utilization of structured interviewing of subjects, and all of the respondents were cooperative with the investigators. Data collection tool was a multi section questionnaire; the first sector consists of eight items about demographic information such as age, gender, education level, marital status, medical history, family history, blood group, and smoking. The second part consists of thirteen items close-ended questions to evaluate the factors contributing to gastric carcinoma, the participant should be marked for one of the possible alternatives, (yes), (no) (yes it was considered has risk factors, no it was considered hasn't risk factors) question answered. Filling the questionnaire takes approximately 20-30 min. The level of the factors contributing to gastric carcinoma was ranked into three levels; (0-0.33) are low score, (0.34-0.67) are moderate score, and (0.68-1.00) are high score.

RESULTS:

Table (1): The distribution of the sample according to their socio-demographic characteristics

No.	Characteristics		F	%
1	Gender:	Male	20	66.7
		Female	10	33.3
		Total	30	100
2	Age:	40 – 49 year	8	26.7
		50 – 59 year	16	53.3
		60 ≤ year	6	20
		Total	30	100
3	Marital status:	Married	17	56.7
		Single	5	16.7
		Widowed	7	23.3
		Divorced	1	3.3
		Total	30	100
4	Educational level:	Primary	11	36.7
		Intermediate	11	36.7
		Secondary	3	10
		College	5	16.7
		Total	30	100

5	Chronic disease:	Heart disease (yes: no)	(9:21)	(30:70)
		Diabetes mellitus (yes: no)	(12:18)	(40:60)
		Hypertension (yes: no)	(21:9)	(70:30)
		Cancer (yes: no)	(3:27)	(10:90)
		Total	30	100
6	Family history of gastric cancer:	None	21	70
		Father	5	16.7
		Mother	2	6.7
		Other	2	6.7
		Total	30	100
7	Blood group:	A	8	26.7
		B	7	23.3
		AB	4	13.3
		O	11	36.7
		Total	30	100
8	Smoking:	Yes	22	73.3
		No	8	26.3
		Total	30	100
9	No. of smoked packet/day	None	7	23.3
		1 – 2	18	60
		Three and more	5	16.7
		Total	30	100
10	No. of smoked cigarette/ day:	None	7	23.3
		10 – 19	6	20
		20 – 29	10	33.3
		30 ≤	7	23.3
		Total	30	100
11	Duration of Smoking:	None	7	23.3
		≤ 10	12	40
		11 – 20	6	20
		21- 30	5	16.7
		Total	30	100

No: Number, F: Frequency, %: Percentage

This table indicated that more than half of the sample was male (66.7%), at age group was 50 – 59 year old (53.3%), 56.7% of them were married. 36.7% of them were having primary and intermediate educational level. The more frequently chronic diseases were hypertension (70%), diabetes mellitus (40), heart disease (30%), and cancer (10%). 70% of the patients have no family history of gastric cancer. 36.7% of the patients were with O blood group type while 13.3% of them were with type AB. More of the patients were smokers (73.3%) who are smoke 1-2 packet/day (60%), 20 -29 cigarette/day (33.3%). 40% of them are smoking for the period of ten years or less.

Table (2): Contributing factors among patients with gastric cancer (N=30)

No.	Factor	Yes		No		M.S	Sig.
		F	%	F	%		
1	Frequent use of anti-inflammatory drugs	23	76.7	7	23.3	0.77	S
2	Frequent infections of H-pylori bacteria	11	36.7	19	36.3	0.37	N.S
3	Exposure to radiation	8	26.7	22	73.3	0.27	N.S
4	Working with chemicals in health hazards related places such as rubber and coal	6	20.0	24	80.0	0.20	N.S
5	Gastric ulcer	26	86.7	4	13.3	0.87	S
6	Suffering from stress and anxiety	30	100	0	0.0	1.00	S
7	Suffering from overweight	6	20.0	24	80.0	0.20	N.S
8	Consume alcohol	8	26.7	22	73.3	0.27	N.S
9	Consume salty food	17	56.7	13	43.3	0.57	S
10	Consume spicy food	24	80.0	6	20.0	0.80	S
11	Consume fast food	24	80.0	6	20.0	0.80	S
Total of M.S (0.55)							
M							

No: Number, L: Low (0-0.33), M: Moderate (0.34-0.67), H: High (0.68-1.00)

This table demonstrates that the mean of score is significant in all items except item (2, 3, 4, 7, and 8).

Table (3): Association of risk factors with some of socio-demographic characteristics of the patients

Risk factors Characteristics	Chi-square	D.F	P-Value ≤ 0.05	Significance
Gender	2.932	5	0.710	N.S
Age	5.241	10	0.874	N.S
Marital status	12.336	15	0.653	N.S
Educational level	15.680	15	0.404	N.S
Chronic diseases	6.324	10	0.787	N.S
Family history of gastric cancer	17.419	15	0.294	N.S
Blood group	7.832	15	0.930	N.S
Smoking	5.320	10	0.869	N.S

D.F: degree of freedom, P: Probability, N.S: Not significant

This table indicated that there are no significant association between risk factors and socio-demographic characteristics of patients with gastric cancer at p-value= 0.05.

Table (3): Associated risk factors among patients with gastric cancer regarding their age group (N=30)

Risk factors Age group	Low	Moderate	High	Total
40 - 49 year	0	6	2	8
50 - 59 year	0	13	3	16
60 ≤ year	0	5	1	6
Total	0	24	6	30
$\chi^2 = 0.182$ D.F=2 p-value= 0.913 Sig.= N.S				

χ^2 : Chi-square, D.F: Degree of freedom, P: Probability, Sig.: Significance, NS: Not significant

This table shows that risk factors among patients with gastric cancer are associated more frequently with age group of 50 - 59 years old.

Table (4): Associated risk factors among patients with gastric cancer regarding their educational level (N=30)

Risk factors Education	Low	Moderate	High	Total
Primary	0	8	3	11
Intermediate	0	10	1	11
Secondary	0	3	0	3
College	0	3	2	5
Total	0	24	6	30
$\chi^2 = 3.182$ D.F=3 p-value= 0.04 Sig.= S				

χ^2 : Chi-square, D.F: Degree of freedom, P: Probability, Sig.: Significance, NS: Not significant

This table shows that risk factors among patients with gastric cancer are associated significantly more frequently with intermediate educational level.

DISCUSSION

Gastric cancer is the most common cancer with high mortality worldwide. High rate of GC deaths reported in China, Japan, and Korea. The common causes of GC include helicobacter pylori infection which accounts for 60% of cases, pickled vegetables, smoking, alcohol intake and genetics. GC is often asymptomatic or nonspecific symptoms. Early symptoms are

associated with indigestion, heartburn, abdominal discomfort, loss of appetite, nausea, vomiting, diarrhea or constipation, blood in the stool (melena), and weight loss⁽⁹⁾.

Throughout the course of the data analysis of present study, shows the socio- demographic characteristics of sample was more than half of the sample was male, half of the participants age group was (50-59) years old And so on 56.7% of them were married. 36.7% of them were having primary and intermediate educational level. The more frequently chronic diseases were hypertension (70%), diabetes mellitus (40), heart disease (30%), and cancer (10%). 70% of the patients have no family history of gastric cancer. 36.7% of the patients were with O blood group type while 13.3% of them were with type AB. More of the patients were smokers (73.3%) who are smoke 1-2 packet/ day (60%), 20 -29 cigarette/day (33.3%). 40% of them are smoking for the period of ten years or less, the findings of present study is agree to result of the study done which by Lorenzo, which indicated in their study that the disease affect men twice than in women at age over 55 years old, and there is evidence linking cigarette smoking to many types of cancer, including stomach cancer, smokers have been found to be at greater risk of developing cancer more than non-smoker⁽¹⁰⁾.

Results of table (2) demonstrate that the mean of score is significant in items (frequent use of anti-inflammatory drugs, Consume salty, spicy, fast food, and Gastric ulcer). In other study similar to result of the study done which by Ngoan, showed that the gastric carcinoma affected people having an eating routine which is high in salt, pickled foods or smoked, and low in fruits and vegetables may increase the danger of gastric cancer⁽¹¹⁾. Most of the sample in present study having frequent use of anti-inflammatory drug this results not agree with Xuan-zhang, showed that individuals who frequently take non-steroidal anti-inflammatory drugs appear to have a slightly lower risk of stomach cancer; these drugs are referred to as NSAIDs. Examples: aspirin, ibuprofen, nurofen. Researches in 2010 reviewed the trials looking at whether daily aspirin can protect against health conditions. The found that taking daily aspirin can also lessen the dying from stomach cancer this greater study even though, and regular use of NSAIDs can increase the chance of developing stomach and duodenal ulcer⁽¹²⁾

Most of the sample in present study complaining of gastric ulcer this results agree with Hansson, showed that the relation between peptic ulcer and stomach cancer has lengthy been disputed, but there is accumulating evidence that gastric ulcer disease is definitely associated and duodenal ulcerations negatively associated related to the risk of developing stomach cancer. As *Helicobacter pylori* infection is associated with both kinds of ulceration and stomach cancer, the varying outcomes of the infection indicate that factors other than the infection must be of importance. At present, there is no convincing evidence that pharmacologic inhibition of acid secretion for treatment of peptic ulcer increases the risk of stomach cancer. However, some recent studies indicate that prolonged treatment with proton pump inhibitors may accelerate the development of atrophic gastritis, a risk factor for stomach cancer, in individuals infected with *H. pylori*. It has repeatedly been proven that there is an at least twofold increased risk of stomach cancer (15) years after gastric resection for peptic ulcer disease, and that the risk increases with the passage of time. Whether vagotomy has the same threat-increasing impact remains unclear⁽¹³⁾.

Most of the sample in present study shows that the sample complaining of working with chemicals in health hazards related places such as rubber and coal were low risk of stomach cancer this results agree with Santibanez, showed that the people who working in coal, metal or

rubber industries; chemicals substances which might be are released in those environments have been linked to improvement of stomach cancer⁽¹⁴⁾.

Some of the sample in present study shows that the sample complaining of suffering from overweight being were low risk of stomach cancer this results agree with Berrington, showed that the overweight or obese is a possible reason of cancers stomach but, the strength of this link no longer yet clear⁽¹⁵⁾.

Most of the sample in present study shows no significant association between risk factors and socio-demographic characteristics of patients with gastric cancer, the findings of present study is disagree to result of the study done which by Praud, showed there's evidence linking cigarette smoking to many forms of cancer, including stomach cancer, smokers have been discovered to be at greater risk of developing cancer greater than non-smoker⁽¹⁶⁾.

Most of the sample in present study shows that risk factors among patients with gastric cancer are associated more frequently with age group of 50 - 59 years old. (table 4), the findings of present study is agree to result of the study done which by Lorenzo, who indicated in their study that the disease affect men twice than in women at age over 55 years old⁽⁷⁾.

CONCLUSION

Results of the current study indicated that patients having moderate risk factors. The analysis shows that sample complaining of (using too much antibiotic, Suffering from stress and anxiety, complaining of gastric ulcer, high consumption of spicy food, and consume fast food) were highly risk while factors (working with chemicals in health hazards related places such as rubber and coal suffering from overweight, consume alcohol) were low risk. They were frequently with chronic diseases such as hypertension, diabetes mellitus (heart disease, and cancer. Most of the patients have no family history of gastric cancer, other the patients were with O blood group type while, 13.3% of them were with type AB. More of the patients were smokers who are smoke (1-2) packet/day, (20 -29) cigarette/day, 40% of them are smoking for the period of ten years or less. The research showed that risk factors among patients with gastric cancer are associated more frequently with age group of (50 – 59) years old. The study showed that risk factors among patients with gastric cancer are associated significantly more frequently with low educational level.

RECOMMENDATION:

- Establish gastric cancer centers for early detection of carcinoma and treatment, equipped with all new technology machine of screening the cancer and specialists Provide specialist centers for education the patient of high risk for gastric carcinoma to flow up, continuous checking & apply preventable measures for cancer.
- To Awareness campaigns in mass media about risk factors for gastric cancer and its preventable measures.
- continue other studies in this field

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