

# Statistical Modelling of Awareness on Risk Factors of Gastric Cancer : A Study on Youngsters in Melaka

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## ARTICLE HISTORY

## ABSTRACT

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*In Malaysia, gastric cancer (also known as stomach cancer) is diagnosed at a complex stage and has poor prognosis. Most mortality cases due to gastric cancer diseases are potentially preventable. Thus greater efforts are needed for gastric cancer awareness to give adequate knowledge for Malaysians in order to be more cautious or alert in diagnosing the ailment much earlier. After all, early detection is the key towards improving the survival rate in gastric cancer patients. Hence, the aim of this study is to assess the youngsters' awareness on the risk factors of gastric cancer. A survey using online forms was conducted on 350 students of UiTM Melaka, Alor Gajah Campus, to assess their awareness of risk factors regarding gastric cancer. Based on the regression analysis conducted, it can be highlighted that attitudes, knowledge, medication, education level and faculty (dummy) are some of the variables that were found to be the risk factors of the awareness on gastric cancer among these selected youngsters in the 21<sup>st</sup> century.*

**Keywords:** *gastric cancer; awereness; risk factors*

## 1. INTRODUCTIONS

As an indispensable part amongst the most crucial organs in our body other than our heart and brain, our stomach is also not excepted from being affected by any diseases. Any medical problems that are connected with stomach will hence influence our digestive systems [1,2]. Typically, every human body will produce another cell that will supplant the old cells. Notwithstanding, at times, the procedures of cell development are unusual and unneeded new cells structure in human body, will at that point build up another undesirable mass tissue called a lump, growth, or tumor [3]. Stomach cancer which otherwise is called gastric cancer is triggered when cells in the stomach lining start to develop uncontrollably [4]. The cancer may grow from the stomach to different pieces of the body, for the most part in our lungs, liver, bones, abdomens and lymph nodes. When the cancerous cells start to affect different pieces of the body and begin harming different tissues and organs, patients are said to be in a cutting edge phase of gastric cancer [5]. There are a few kinds of the gastric cancers which are known as Adenocarcinoma, Lymphoma, Gastrointestinal stromal tumor (GIST), Carcinoid tumor, Squamous cell carcinoma, small cell carcinoma and leiomyosarcoma.

According to recent studies, stomach cancer is found to be as one of the most widely recognized cancers or malignancies among individuals around the world. Despite the fact that the rate of patients determined to have this disease is declining every year for specific parts of the world, it keeps on showing a noteworthy clinical challenge because most cases are being recognized

in complex stages with poor situations and constrained treatment alternatives [6]. Contrasted with other nations, Japan and Korea have the most elevated danger of having gastric cancer [7].

In Malaysia, the statistics show that hundreds of citizens are suffering from this gastric cancer each year which has also led to fatal cases [8]. It is the 6th mainstream cancer among males and the tenth prominent disease among females in Malaysia [9]. Past studies found that gastric cancer is one of the main factors of death among patients with malignancies [10].

### ***1.1 Youngsters***

Youngsters are characterized as people ranging from 10 to 24 years of age. The United Nation, for factual purposes, however decreases the scope of youngsters, to those between the ages of 15 and 24 years [11]. Gastric happens regularly in the age between 50–70 years [12,13,14]. Be that as it may, more than past 50 years, various research have passed on the medicinal and compulsive characteristics of gastric cancer in youngsters in the scope of 2%–8% in various arrangements [15]. Gastric cancer's mindfulness mediations focusing on each youngsters from parts of Malaysia are fundamental in light of the fact that there is a recent pattern of analysis of this cancer among youngsters in the country [16,17].

### ***1.2 Gender***

Gender is known to be one of the hazard factors that is accounted for to expand the danger of gastric cancer [18,19]. Prior research demonstrated that the onset of the gastric cancer might be connected with some clinicopathological qualities. Females are progressively more frequent among more young patients; where the female to male proportion is 2:1, and diffused and undifferentiated histologic sorts are more as often as possible analyzed in younger patients than in senior citizens (in whom the intestinal kind is increasingly more common) [20, 21, 22]. In addition, youngsters are normally present with this disease at a further developed stage.

### ***1.3 Awareness***

Albeit most of the contributing factors of gastric cancer are identified with food intake and way of life, public mindfulness towards the disease itself may likewise be the reason that the individual has a higher likelihood in getting the disease. The facts confirm that lifestyle and food intake influence stomach the most, however without the awareness, the counteractive action will never prevail at the primary spot. To decrease gastric cancer's mortality, reversible hazard components ought to be adjusted and regular screening ought to be performed [23]. To accomplish this objective, educating the public ought to be embraced as a high state of public's consciousness of those contributing factors is required. There are research on the contrasts between the cancer risk perceptions by the all inclusive community and their conduct towards the counteractive action of the disease [24, 25, 26]. In this manner, it is critical to decide current dimensions of risk factor awareness and perceptions of screening projects proposed for the overall public.

#### ***1.4 Risk Factors***

There are a plenty of factors that can be considered as risk factors that may activate gastric cancer including smoking, tainted by the H. pylori microorganisms, and certain hereditary conditions. The most widely recognized reason is contamination by the bacterium *Helicobacter pylori*, which has been recorded in 60% of cases [27]. Starting signs incorporate acid reflux or heartburn, upper abdominal pain, nausea, loss of appetite, difficulty in swallowing, and blood in the stool. Usually, a diagnosis is directed by doing biopsy during endoscopy, trailed by medical imaging and medicines which may contain a blend of medical procedures, chemotherapy, radiation treatment, and targeted therapy.

#### ***1.5 Attitudes/Lifestyle***

Researchers have affirmed that nutritional factors have for quite some time been the most compelling variables that lead to gastric cancer particularly are preserved food and low intake of fruits. Dietary factor plainly expresses that high admission of salts, meats and processed meat will boost up the risk of developing the cancer [28]. Be that as it may, with sound eating routine and sufficient intake of fruits, the risk of an individual to have the disease will be lower than the people with an undesirable diet [29]. Other than that, dietary factors likewise may clarify the disparity in the risk of stomach cancer in every person. The agent that commonly affects gastric cancer patients is called *Helicobacter Pylori* which goes about as the substance that can cause malignant growth in living tissues. To exacerbate the condition, individuals who smoke will have a high danger of gastric cancer as research found that each 6th case of gastric cancer is brought about by patients smoking cigarettes [30].

#### ***1.6 Knowledge***

Gastric cancer has an extremely high plausibility of treatment rate on the off chance that it is seen and treated early. Unfortunately, patients ordinarily came in late because of its unobtrusive side effects. It will be hard to fix gastric cancer once it has spread to different organs of the patients' body. The degree of endurance of gastric cancer patients is exceptionally reliant on the stage at which analysis is made and a few past research have reported this to be certain [31]. Primary diagnosis is an indispensable factor in influencing the result of surgical treatment. Most youngsters have insignificant or are lacking of learning of the risk factors, symptoms and strategies for early detection of gastric cancer, prompting towards the appearance and future inclination of deaths as gastric cancer is inevitable without early detection and no ideal access to treatment is carried out [32]. In addition, having sufficient information of gastric cancer enables youngsters and urges them to partake in prevention and screening projects identified with this deadly illness.

#### ***1.7 Medication***

Next, in medical world, research found that pernicious anemia will always correspond to gastric cancer as patients with pernicious anemia have lower immunity, dietary lack, intestinal bacterial development and terminal ileum pathology. Patients with pernicious anemia will undoubtedly have the triple times higher tendency to be determined as having gastric cancer [33]. Essentially, individuals that experience the ill effects of pernicious anemia have low vitamin 12 ingestion and numerous different elements that are connected with one another organically. Notwithstanding, dose dependent intakes of non-steroidal anti-inflammatory drugs such as

aspirin will help in preventing this cancer. Other than that, they experience cancer fatalism, trust the alternative of traditional treatments and have the absence of self-rule in decision making in looking for or shirking of scientific-based prescriptions.

The main purpose of this research is to evaluate on the youngsters' mindfulness on the risk factors that trigger the gastric cancer where we were attempting to educate individuals at the beginning period so as to increase the gastric cancer's survival rate. This study likewise aims to ascertain the connection between risk factors (attitude/lifestyles, knowledge and medication) with mindfulness on gastric cancer among youngsters.

Based on figure below, this study proposed the following hypotheses based on the above past studies:

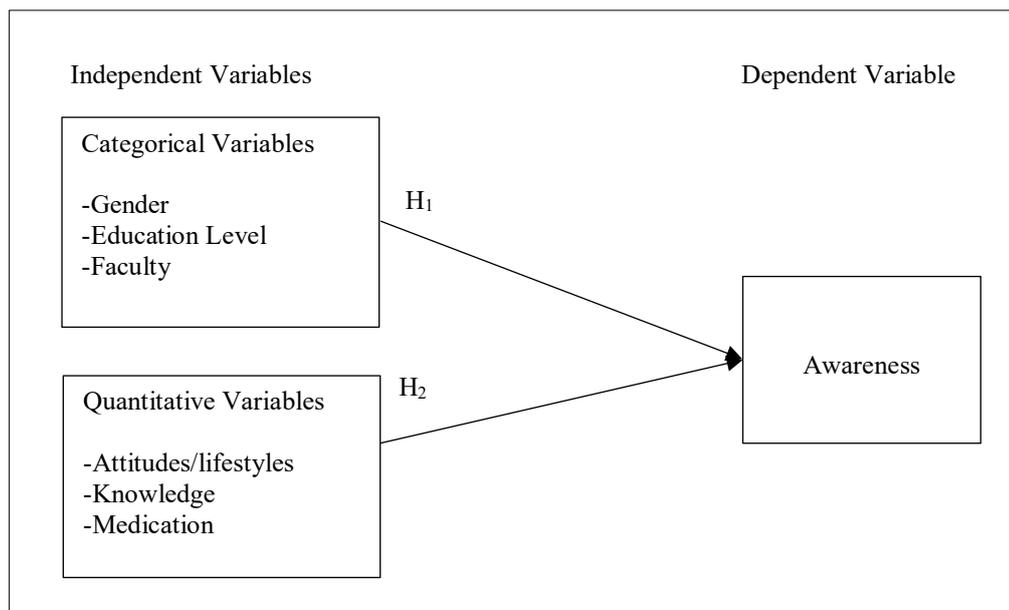


Figure 1: Proposed Research Model

H<sub>1</sub>: There is a relationship between gender, education level and the faculty of the respondents towards awareness of gastric cancer among youngsters.

H<sub>2</sub>: There is a relationship between attitudes/lifestyles, knowledge and medication of respondents towards awareness of gastric cancer among youngsters.

## 2. METHODOLOGY

### 2.1 Data Collection

A survey form was used and distributed via the online platform during the July - December 2018 semester at Universiti Teknologi Mara (UiTM) Melaka, Alor Gajah Campus. Since the population of diploma and degree students in this campus is 4876 students, Sekaran [34] proposes that the samples comprising of 350 students ought to be taken. The data were then examined utilizing the IBM SPSS Statistics 22 (SPSS 22) so as to acquire the outcomes and

present the discoveries in accordance with the objectives of the investigation. In this research, stratified sampling was utilized where all respondents were separated into their respective faculties (strata) namely the Faculty of Communication and Media Studies, Faculty of Art and Design, Faculty of Hotel and Tourism, Faculty of Education and Faculty of Business and Management. The number of respondents selected in every faculty was proportionate to the overall number of respondents in the faculty which is 4876; hence the appropriate proportion used is 7.2% from each faculty.

### **2.1 Data Analysis**

The descriptive statistics explain the respondents in terms of frequency and percentage of the responses collected. Then, two inferential analyses were carried out namely, Pearson's Correlation and Multiple Linear Regression (MLR). The bivariate analyses analyzes the relationship between the awareness of gastric cancer among teenagers and independent variables which were attitudes/lifestyles, knowledge and medication. MLR has been used to determine the best predictor in explaining dependent variable. The procedures involved the F-test, coefficient of determination, and test on regression coefficients.

The survey instrument was developed into four major sections of their awareness and some items on the demographic data. Section A contained three questions using nominal scale focused on respondents' background. Section B focused on determining the attitudes/lifestyles (5 items), while Section C was concerned with the knowledge of respondents (5 items), and Section D examined the medication part (5 items). Section E required the respondents to rate statements about the awareness of gastric cancer among teenagers (5 items). The pilot study was initially conducted to verify reliability and validity of the item used.

## **3. RESULTS AND DISCUSSION**

### **3.1 Demographic Profile of Respondents**

Table 1 shows the demographic profile of the respondents. It shows that there were 246 female respondents (70.3%) compared to 29.7% (104 respondents) male respondents. In terms of education level, 66.3% (232 respondents) of the respondents were diploma students while 33.7% (118 respondents) were bachelor degree students. It was revealed that half of the total respondents were from the Faculty of Business and Management by 52.6% (184 respondents), followed by the Faculty of Communication and Media Studies 20.6% (72 respondents) and the Faculty of Art and Design by 11.4% (40 respondents). The rest of the respondents were from the Faculty of Accounting, Faculty of Hotel and Tourism Management and Faculty of Education with 7.1% (25 respondents), 4.6% (16 respondents) and 3.7% (10 respondents) respectively.