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Clinical Evaluation of Side Effects Resulting from the Use of Aspirin Cardio

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Abstract. One of the most well-known and commonly used medications is aspirin, also known as salicylic acid. In the past century, Aspirin Cardio100 mg has been used to treat fever and rheumatic pain, and reducing the risk of major adverse cardiovascular events. The current study aims to learn about the side effects of Aspirin Cardio100 mg on different body organs because we did not find a study in Iraq that explained the adverse effects of Aspirin Cardio 100 mg. The ongoing review included a diagnosis and questionnaire for 240 people who took Aspirin Cardio 100 mg according to the doctor's instructions their ages ranged from 15 to 90. Some patients had an endoscopic examination of their stomach ulcers because a number of tests were done to look for digestive problems, like finding *Helicobacter pylori (H. pylori)* by looking at b1ood, stoo1, and exha1ation.. Echo and ECG for detection heart activity were also carried out. In order to determine the severity of asthma or breathing problems, a spirometer was used. Our results showed that most of the patients (59%) and of different ages (15-70 years) did not appear to have health complications, although most of them continued to take Aspirin Cardio 100 mg. On the other hand, 41% of patients suffer from complications and side effects represented by GIT disorders, Haemophilia, Palpitations, Hypotension, Weight loss, Headache, RT disorders by 13%, 10%, 5%, 3%, 2%, 2%, 6% respectively so the average age of people with these diseases, 52.33, 23.9, 33.72, 46.35, 69.90, 62.14, 57.52 years respectively. The difference in the distribution of health problems resulting from the use of aspirin according to the duration of treatment showed statistical differences represented by P = 0.0011, X2 = 22.73, DF = 21. In conclusion, aspirin is a treatment that assumes a critical part in bringing down the gamble of numerous illnesses, especially heart sicknesses. Nonetheless, Aspirin Cardio should be taken by the specialist's guidelines to screen the beginning or improvement of aftereffects that could endanger the patient's life, like stomach ulcers, hemophilia, asthma, sinusitis and palpitations..

Keywords: Aspirin Cardio, Peptic Ulcer, Health Complications, Bleeding

INTRODUCTION

A nonsteroidal anti-inflammatory drug (NSAID) as aspirin or salicylic acid prevents platelets from carrying out their normal functions [1,2]. During the past century, it has gained popularity as a treatment for clotting, fever, and pulmonary pain symptoms and continues to stand out from other options. The study also showed that aspirin typically had an effect on pain or fever within 30 minutes and that patients who remained taking aspirin after the clinical trials decreased their likelihood of developing certain malignant tumors [3-5]. Acetylsalicylic acid was first sold under the trade name Aspirin more than a century ago by the German Bayer AG, making it the medicine with the biggest production and sales globally. Researchers have recently given aspirin additional consideration. Other chemists devised chemical synthesis and created the most efficient processes for aspirin production today (Aspirin Cardio) during the course of the following 50 years[6-8].

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Aspirin was the 42nd most commonly prescribed drug in the United States in 2017, with over 17 million prescriptions filled. The World Health Organization's list of essential medications includes aspirin. Long-term aspirin use is also used to lower the risk of heart attacks, strokes, and blood clots in high-risk individuals [9,10]. Additionally, it may reduce the risk of certain cancers, particularly colon cancer. Patients who took aspirin had 36% fewer cancer metastases, according to the researchers, which may explain the lower mortality rate. This decline is more pronounced in cases of cancer originating from glandular tissue, such as the lungs, stomach, colon, or other organs [11–13] or a single gland, such as the breast or thyroid. Additionally, taking aspirin for an extended period of time in particular has the potential to cause undesirable side effects. Ulcers in the stomach, bleeding in the stomach, and worsening asthma are the most severe side effects. Due to the risk of Reye's syndrome and the possibility of ringing in the ears from taking large amounts of aspirin, it is typically not recommended to use aspirin in children with infections. Aspirin should not be used during the last stages of pregnancy because older women, people who drink alcohol, people who take other nonsteroidal anti-inflammatory medications, and people who take other blood thinners are more likely to bleed [14,15].

Low-dose aspirin and other nonsteroidal anti-inflammatory medications are, according to other studies, the most common cause of upper gastrointestinal bleeding worldwide. In fact, despite its increasing use for cardiovascular prophylaxis [16,17], low-portion anti-inflammatory medications replicate the risk of draining ulcers even at daily doses as low as 75 mg. The risk of ulcer complications has been linked to nonsteroidal anti-inflammatory medications by fourfold. When taking low-dose aspirin or other nonsteroidal anti-inflammatory medications, a history of bleeding from the upper gastrointestinal tract is a significant risk factor for recurrent bleeding [18,19]. There are presently couple of choices for successfully keeping ulcers from draining for individuals who take ibuprofen or other nonsteroidal mitigating meds and are at high gamble for dying. Due to the increased risk of cardiovascular disease, aspirin's potential benefits may also be greater in older populations than in younger ones. However, bleeding is also more common in older people. The risk-to-benefit ratio in this age group is unknown because only a small number of older people have participated in primary prevention trials in the past [19-21].

The purpose of this study was to investigate the emergence or risk of adverse symptoms in some individuals who take aspirrin. Aspirin Cardio 100 mg is one of the most commercial types of aspirin used at the present time to treat angina pectoris, in addition to diseases of the circulatory system associated with blood clotting. Despite this, we did not find sufficient studies to evaluate the health problems associated with its utilize in a variety of age groups for this we try research carefully on this topic.

PATIENTS AND SAMPLES COLLECTION

Study Design and Sample Collection

The present study is a cross-sectional project that looked at 240 people between the ages of 15 and 90 who took Aspirin Cardio 100 mg as prescribed by a doctor. 80 of these patients came from outpatient clinics, 160 of whom were seen at Al-Diwaniyah Teaching Hospital. Laboratory and clinical tests were carried out in the Al-Diwaniyah Teaching Hospital's care units and laboratories from 3/1/2021 to 6/9/2022 following the collected samples of blood, urine, and stool. All of the participants, who were all of the same Arab ancestry, gave their consent. The poll incorporated all the accompanying data:

i. Participants' names, sexes, and ages.

ii. Justification for taking Aspirin Cardio 100 mg.

iii. The time when you took Aspirin Cardio 100 mg.

iv. Effects that come with consuming Aspirin Cardio 100 mg

v. Other details, like kind of aspirin and how much was taken, were also recorded.

Clinical Examinations

The specialist doctor's diagnosis for pathological symptoms one of the steps relying on in our study. where the attending physician inquires about the symptoms of a suspected peptic ulcer, pain, palpitations, headache, ect.. The following clinical and lab examinations where performed to confirm physicians opinions:

1. Diagnosis of peptic ulcers: In this study, blood, stool, and breathing tests were performed on patients who suffers from ulcer symptoms or another disease with symptoms similar to those of peptic ulcers, such as indigestion or irritation of the mucous layer of the stomach. During the blood test, antibodies against *H. pylori* are recognized utilizing the AimStep H. Pylori unit/AMAZON. The Pylori Antigen Rapid Test Kit/USA is used in the OneStep H. pylori Antigen Rapid Test, an in vitro qualitative immunochromatographic assay for the rapid detection of *H. pylori* antigens in human stool samples. The Urea 13C Breath Test Kit is also based on gastric *H. pylori's* ability to break down urea into carbon dioxide (CO2) and ammonia.
2. Endoscope-based biopsy: A biopsy of the stomach lining is taken in a hospital or outpatient center to accomplish stomach disorders if present. In comparison to direct examination and culture, the endoscopic test is the most accurate method for detecting *H. pylori* infecti0n.
3. ECG, or electrocardiogram: Leads that record the electrical signals that cause the heart to beat are inserted into the patient's chest during this noninvasive (non-surgical) test. Any irregularities in the heart's rhythm or structure that could cause palpitations can be detected with the aid of an electrocardiogram. This test (stress ECG) can be performed at rest or while exercising.
4. Monitoring the holter: Heart palpitations that can't be recognized by an ordinary ECG are distinguished utilizing a Holter screen. Some personal devices, like smart watches, offer ECG monitoring. It keeps a continuous record of the heart's electrical activity for at least 24 hours.
5. Non-invasive procedure known as echocardiography (echo) uses sound waves to produce moving images of the heart. This test typically identifies issues with the heart's structure and blood flow.
6. Spirometer: A device used to measure the air inhaled into and exhaled from the lungs. It is used to measure pulmonary ventilation. It is the basic device used to diagnose asthma in patients who use aspirin.
7. Diagnostic tests for headaches: In the current study, three tests are used to identify the tissues that were affected by aspirin. Sometimes taking aspirin causes headaches. During the current study, the following tests were carried out:

i. A comprehensive count of the blood.
ii. investigation of the eye and its fundus.
iii. brain procedures in sections.

Analyses of the Statistic

The Statistical Package for Social Analysis, version 19, and Excel 2010 were used to analyze the current study's findings. The results were deemed truly significant if the P-estimation was less than 0.05.

RESULTS

Present study involved 240 patients their ages ranged between 15 to 90, with age's mean equal to 48 ± 7.22 year as shown in TABLE 1. FIGURE 1 shows that the majority of the participants were women, with a number of 134 (56%). According to doctors' orders, each of these subjects took Aspirin Cardio 100 mg. As shown in FIGURE 2, the top reasons for taking Aspirin Cardio 100 mg were to treat high blood pressure (20%), blood viscosity (17%), and myocardial infarction (13%), stroke (11%) and headache (10%).

TABLE 1. Age properties of ASPIRINE CARDIO100 mg taking patients

Patients ages (year)	
Range	15 - 90
Mean ± Standard deviation	48 ± 7.22
Standard Error	2.6
Total number of patients	240

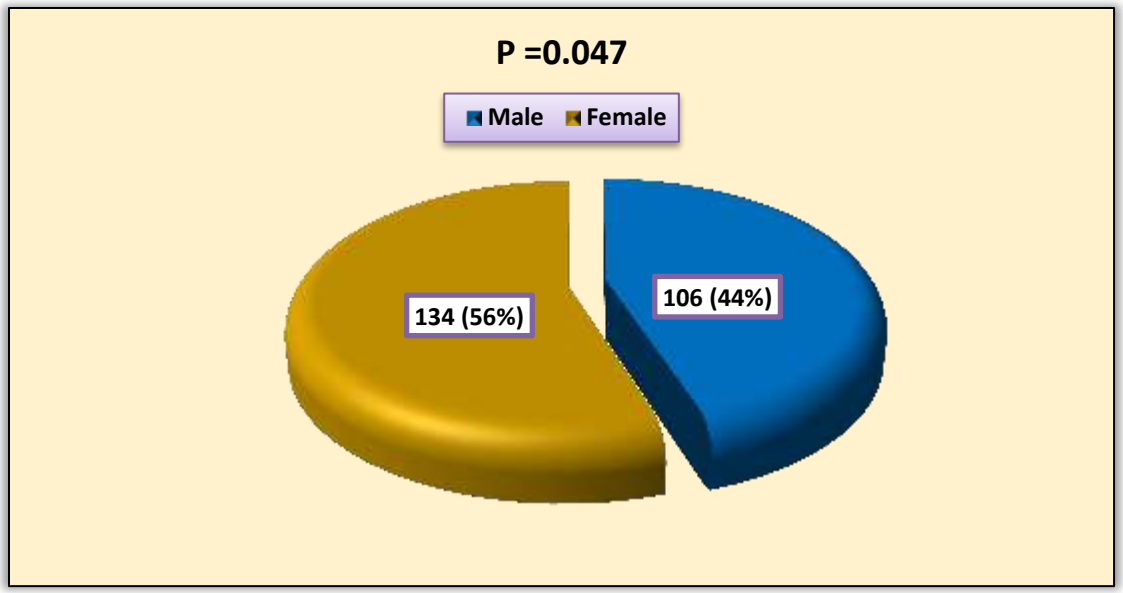

FIGURE 1. Proportion of Aspirin Cardio 100 mg taken by gender of patients

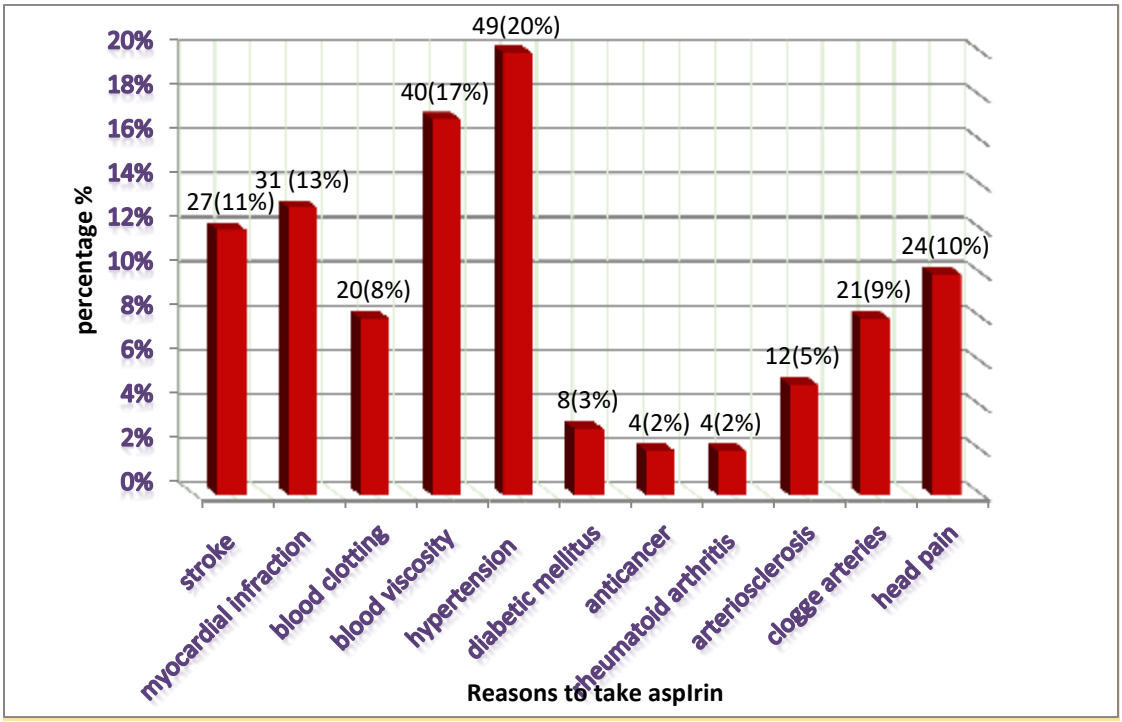

FIGURE 2. Diseases for which Aspirin Cardio 100 mg was prescribed

The current statistics in TABLES 2,3,4 showed that most of the patients (59%) and of different ages (15-70 years) did not appear to have complications or health problems, although most of them continued to take aspirin. On the other hand, 41% of patients suffer from complications and side effects represented by GIT disorders, Haemophilia, Palpitations, Hypotension, Weight loss, Headache, RT disorders by 13%, 10%, 5%, 3%, 2%, 2%, 6% respectively. The average age of people with these diseases, 52.33, 23.9, 33.72, 46.35, 69.90, 62.14, 57.52 years respectively.

Our study showed that the complications resulting from the use of aspirin usually determine the duration of its use, as we found that most of the patients who treated by aspirin have problems in the digestive system, high blood pressure, and headache that led to stop using it during a period less than 7 months .We also found most patients treated by aspirin for a period of 3-8 years have clinical complications represent by palpitations, hemophilia, and weight loss .While aspirin caused complications in the respiratory system in 57% of patients as a result of its use for a period from 7 months to 3 years.

The difference in the distribution of health problems resulting from the use of aspirin according to the duration of treatment showed statistical differences represented by P = 0.0011, X2 = 22.73, DF = 21.

TABLE 2. Health risks associated with the use of Aspirin Cardio 100 mg

Effects of Aspirin Cardio 100 mg.	Total Number	%
G1T disorders	32	13
Heamophilia	24	10
Pa1pitations	12	5
Hypotension	8	3
Weight loss	4	2
Headache	4	2
RT disorders	14	6
Total number of adverse effects	98	41
Without side effects	142	59

TABLE 3. Age range, mean and groups of patients who have adverse effects of Aspirin Cardio 100 mg taking

Consequences of Taking Aspirin	Ranges of ages(Year)	Age-Mean(Year)
G1T disorders	5I to 55	52.33
Haemophilia	15 to 67	23.9
Palpitations	31 to 35	33.72
Hypotension	45 to 53	46.35
Weight loss	37 to 42	69.90
Headache	70 to 90	62.14
RT disorders	25 to 88	57.52
Without side effects	15 to 77	56.9

TABLE 4. The relationship between the duration of Aspirin Cardio 100 mg use and the emergence of side effects resulting from its use

Side effects of aspirin	Total number	> 7 months	7 months-3 years	3 to 8 years	Today use aspirin	Degree of freedom	Chi square	P Value
		N (%)	N (%)	N (%)	N(%)			
GIT disorders	32	26 (81)	6 (19)	0 (0)	0 (0)			
Haemophilia	24	8 (33)	6 (25)	10 (42)	0 (0)			
Palpitations	12	0 (0)	4 (33)	6 (50)	2 (17)			
Hypotension	8	4 (50)	2 (25)	0 (0)	2 (25)	21	22.73	0.0011
Weight loss	4	0 (0)	0 (0)	3(75)	1(25)			
Headache	4	2 (50)	0 (0)	0 (0)	2 (50)			
RT disorders	14	0 (0)	8 (57)	4 (29)	2 (14)			
Without side effects	142	0 (0)	2 (1.4)	8(5.6)	132 (93)			

*142 of participants (59%) not have any abnormal health conditions when took Aspirin Cardio 100 mg while the remaining cases 98 (41%) have health problems as mentioned in this table

According to FIGURE 3, gastric ulcers account for 66% of aspirin-related digestive disorders, followed by colon irritation (22%), and duodenal ulcers (12%). These adverse effects or consequences of Aspirin Cardio 100 mg differ in their distribution that linked to statistical differences (P=0.009).

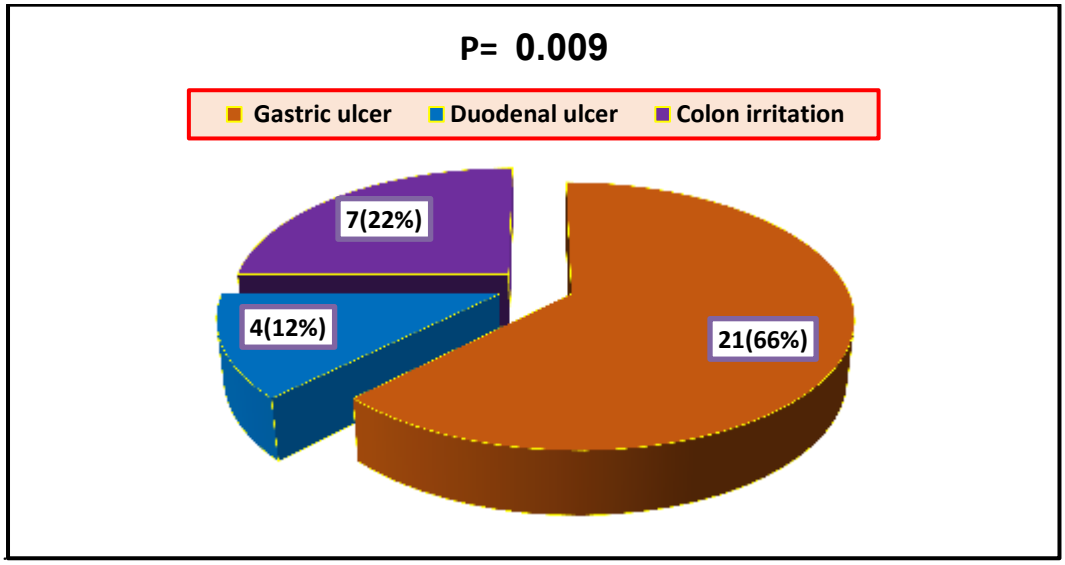

FIGURE 3. Side effect of Aspirin Cardio 100 mg on GIT

We also found, FIGURE 4, that there are respiratory effects or complications resulting from the use of aspirin, such as sinusitis (43%) and aspirin-induced respiratory disease (AIRD), also known as Sumter's triad or aspirin-induced asthma (21%). We also found respiratory allergies (36%) such as itchy nose, coughing and sneezing.

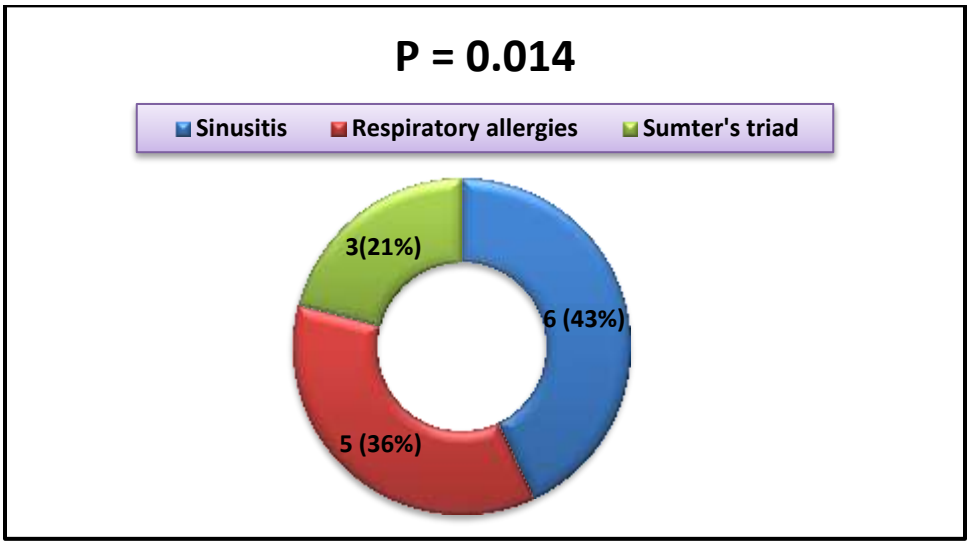

FIGURE 4. Side effect of Aspirin Cardio 100 mg on respiratory tract

DISCUSSION

For minor hurts, torments and fever decrease, headache medicine is often utilized. In addition, patients who are at a high risk for blood clots, stroke, and heart attack can benefit from its use as an anticoagulant. Studies [21,22] have not restricted its use. The current study found that taking 100 mg of Aspirin Cardio was significantly associated with the onset of side effects, as can be seen in TABLE 2. This result is in line with previous findings that age is a significant factor in weighing the advantages and disadvantages of aspirin. As a person approaches the age of 60,

there is a significant increase in the risk of aspirin-induced bleeding events, and there is a non-linear relationship between increased risk and subsequent age [23,24, 53].

The patients who were taking ibuprofen during the current review ranged in age from 8 to 88 years old, the majority of them were female, and the specialist was in charge of prescribing the anti-inflammatory medication [25]. In the United States, individuals between the ages of 50 and 59 who are at risk for heart disease, such as those with high blood pressure or cholesterol (provided that it is under control), are recommended to take a low dose of 100 mg of Aspirin Cardio daily. Aspirin, on the other hand, is only given to people in Britain who have already had heart problems and receive more circumspect medical advice [26,27].

The current study shows that 59 percent of patients who take aspirin do not experience any side effects. However, there were cases involving digestive system issues. Other studies showed that taking aspirin every day raises the risk of developing a stomach ulcer, which was supported by this finding [28,29]. In addition, taking aspirin may cause more severe bleeding, which could put the patient's life in danger, if the patient has previously had a hemorrhagic ulcer or gastrointestinal bleeding anywhere in the digestive tract. This is one of the aspirin side effects that puts the patient's life in danger [30,31]. In addition, ulcer risk was significantly increased by advanced age (>70 years) and H. pylori infection. According to other studies, H. pylori infection increased the risk of gastrointestinal bleeding in NSAID users by 2–2.5 times and the risk of uncomplicated peptic ulcer by 2–3.5 times. Prior to beginning ibuprofen for patients who have a background marked by ulcer illness, precise testing for and end of *H. pylori* is suggested in light of the fact that H. pylori is a critical gamble factor for ulcers and ulcer draining in low sickness movement patients [32,33]. In addition, the current findings demonstrated that taking aspirin can cause hypotension in some patients. Although high doses of aspirin have been linked to inhibition of the second analogue of cyclooxygenase COX-2, which decreases renal blood flow and glomerular filtration rate and has negative effects on the kidneys [34,36], some recent data indicate that aspirin improves blood pressure [34]. Even though most studies show that aspirin can be used in low doses, if you notice a change in your normal blood pressure after taking aspirin, you should see a doctor right away [35,37]. Aspirin's effect on blood pressure is not supported by any studies. In addition, the current study demonstrated that while acetylsalicylic acid has an analgesic and anti-inflammatory effect, it also causes blood to thin, even at low doses [37,38], and that 10% of aspirin users have blood hemophilia. At a daily dose of 100 milligrams, acetylsalicylic acid begins to thin the blood. After only a couple of moments, this impact goes on for about seven days. As a result, everyone who gives their consent to a surgical procedure, like a dental procedure, should tell the doctor how much and when he takes acetylsalicylic acid [38,39].

In any case, in spite of shown benefits for patients have experienced a coronary episode or stroke, a new American review prompted sound older individuals not to take headache medicine consistently. The study [40,41] says that experiments didn't prove that taking aspirin helped healthy people over 70. On the other hand, these tablets increased the risk of fatal internal bleeding. Experts warned against self-treatment with aspirin and stressed the significance of the findings. Ibuprofen is given to individuals who have had a coronary failure or stroke since it diminishes the blood and forestalls thickening, which brings down the gamble of a repeat. Aspirin is being studied to see if it can lower cancer risk, and some healthy people choose to take it to lower future risks. However, the majority of studies on aspirin's benefits have been conducted on middle-aged individuals, and there is increasing evidence of its risks as we age [42,43,54]. Another study gave 19,114 healthy people over 70 years old in the United States and Australia, who had never had a heart attack, half a dose of aspirin every day for five years [44]. Aspirin's effects on the digestive system, including inf1ammation and heartburn, cause regular users to experience symptoms like abdominal pain, discomfort, nausea, and vomiting, according to the current study's findings. Accordingly, this shows that taking anti-inflamatory medicine raises the gamble of gastrointestinal dying. Despite claims that some enteric-coated aspirins are "gentle on the stomach," one study found that enteric-coated aspirins did not appear to lower this risk. In addition, a Japanese study found that a low aspirin dose of 100 mg significantly increased the risk of lower GI bleeding [46], despite the relatively low number of bleeding cases (n=44). A low aspirin dose was linked to a 2.7-fold increased risk of lower GI bleeding (including bleeding from the small and large intestines) in a Spanish case-control study with over 1,000 bleeding observations [47]. Additionally, a number of studies [48,49] investigated the connection between a low aspirin dose and the onset of diverticular bleeding and diverticulitis. Late planned research on diverticular disorders in Japan found a significant connection between low aspirin doses and diverticular bleeding [49]. Taking aspirin in low doses (between 5.9 and 325 mg per week) increased the risk of diverticular bleeding, according to a medical research study. 2.32 for the HR multivariate 95% CI, 1.34–4.02) in the absence of aspirin [50].

Aspirin Cardio 100 mg and other nonsteroidal calming drugs have additionally been displayed to build this gamble. Combining aspirin with warfarin or clopidogrel increases the risk of upper GI bleeding as well. Ibuprofen's inhibition of COX-1 clearly causes an increase in COX-2 expression as part of gastric protection, and the combination of COX-2 inhibitors with headache medications increases gastric mucosal disintegration [51,52]. As a

result, taking aspirin in conjunction with any "natural" supplement that inhibits COX-2, such as curcumin, bilberry, pine bark, ginkgo, fish oil, resveratrol, genistein, or quercetin, should be avoided. "Buffering" has also been a primary approach taken by businesses to deal with gastrointestinal bleeding [55,56]. Despite the fact that buffered aspirin's benefits are disputed, buffering agents are intended to prevent aspirin from concentrating in the stomach walls. Antibiotics can contain almost any buffering agent, such as magnesium oxide. Vitamin C and calcium carbonate are used in other products to protect the stomach lining [57,58]. When compared to taking aspirin on its own, taking equal amounts of vitamin C and aspirin may lessen stomach damage. Studies in the past have demonstrated that it is preferable not to take aspirin when starving. This is because numerous studies have shown that taking aspirin on an empty stomach is likely to cause irritation in the stomach, which could affect the lining of the stomach and cause ulcers. In addition, the maximum daily dose ought to be reduced to no more than 6000 mg [59,60]..

The current study showed that the use of Aspirin Cardio 100 mg leads to multiple disorders in the respiratory system, including exacerbation of asthma, allergy, and sinusitis, especially in people who used aspirin for a period of more than 3 years. Studies have differed on the effect of aspirin on the respiratory system, some of which confirmed that aspirin is a treatment for AIRD, while other studies suggested that aspirin is one of the causes of AIRD [61-64].

CONCLUSIONS

The results of our study showed that 59% of the patients who used Aspirin Cardio 100 mg as a treatment did not suffer from complications or side effects as a result of its use, although they continued to take it, while we found 41% of the aspirin users suffered from health problems that limited the duration of its use, and the most prominent of these adverse effects are gastric ulcer, hemophilia and sinusitis. We also found that the effects of aspirin appeared in all ages of adults, which in turn determined the duration of its use. In any case, aspirin should be used under the supervision of a specialist doctor to monitor if there are side effects that coincide with the use of Aspirin Cardio 100 mg.

ETHICS ACCEPTANCE AND IMPERMISSIBLE INTERESTS

The local ethics committee approved the study protocol. So we unknown conflicts of interest exist.

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