

Dietary Intake and Nutritional Status of Patients with Cholelithiasis

Jyoti Yadav*, Prof. S. J. Gupta**

Abstract-The disease cholelithiasis is common in the northeastern Indian states. While a number of ideas have been proposed to explain the occurrence of gallbladder stones (GBS), none of them have been able to explain the role of industrial pollution, dietary habits, lifestyle choices, gallstones, socioeconomic status, etc. A closed-ended questionnaire was used to interview GBS patients receiving treatment at Sur Sundarlal Hospital, BHU, Varanasi, India, in order to learn more about their dietary habits, nutritional status, way of life, and non-dietary activities. Women were impacted by GBS at a ratio of 1:3 more than males. Of the patients, one-third came from a lower socioeconomic background. 33.32% of the patients were overweight. Dietary habits revealed a link between a higher risk and consuming less fruits and vegetables. Mustard oil was utilized by 68.9% of the patients in their cooking.

Keywords: Gall Bladder Stone, Nutrition, Dietary, Lifestyle.

Introduction- Gallstones develop when there is an imbalance in the bile's chemical composition, causing one or more of the ingredients to precipitate. It is unclear why this happens, even though there are certain identified risk factors. All age groups experience gallstones, however as people age, their frequency rises. The proverb "female and forty, fat and fertile" only partially describes the situation. It is true that estrogen increases the amount of cholesterol released into bile, and obesity (body mass index >30) increases this risk. But genetics also contributes; it accounts for 25% of the variation in phenotype between twins, which adds a fifth "f" to the proverb (family history).(1) Pregnancy, fast weight reduction (such as following obesity surgery), parenteral nutrition, and bile loss are additional risk factors. Because gallstones were thought to be primarily caused by cholesterol, gallbladder problems were thought to be exclusively associated with the West. Gallstones are thought to be present in 17% of deaths in the UK at the time of death and may be on the rise. The projected 3-5% rate for Indian and African women is a little lower. However, the prevalence of gallstones is rising in India due to the westernization of lifestyle, both in urban and rural areas.(2, 3) In India's north, gallstones are seven times more common than in the south. Ninety percent of instances of acute calculus cholecystitis and ninety-five percent of cases of chronic calculus cholecystitis are thought to be caused by gallstones.

* Ph.D. Scholar, Department of Shalya Tantra, Faculty of Ayurveda, Institute of Medical Sciences; BHU, Varanasi, Email-itsjyoti638@gmail.com.

** Department of Shalya Tantra, Faculty of Ayurveda, Institute of Medical Sciences; BHU, Varanasi, Email-sjguptabh@bhu@gmail.com.

According to population-based data, women are more likely to contract GBS in northern Indian cities than in southern Indian cities. GBS is more prevalent in northern Indian states including Uttar Pradesh, Bihar, Orissa, west Bengal, and Assam than it is in southern ones. According to the distribution of the aforementioned research, key environmental factors, cultural variances, ethnic differences, and geography may all have an impact on the occurrence of GBS.(3) (4) Many theories have been put out to explain the ethology of GBS. The epidemiological changes in our country have been attributed to a number of factors, including urbanization, industrialization, changes in lifestyle, poor dietary habits, and aging.(3, 5)

Obesity-It has been suggested that obesity and excessive calorie intake pose serious risks. Foods high in fat and carbohydrates have been linked to the development of gallstones . Malnutrition in cancer patients is known to be facilitated by a number of causes. The quality of life is directly impacted by malnutrition, which lowers the survival rate.(6) The majority of epidemiological studies carried out globally indicate that certain dietary factors may have an impact on the development of gallbladder stones (GBS).(7) Furthermore, ecological evidence points to a significant spatial variance. In 2007, Miyasaka K, Kanai S,et.al suggested that lipid peroxidation, genetic vulnerability, and chronic infections such as Helicobacter infections or typhoid carrier condition could be risk factors for GBS.(8)

Frequent and consistent mealtimes- Try your best to eat on a regular schedule and minimize the amount of time that passes between meals. Another option is to try eating several smaller meals spaced apart during the day. After a meal, your gallbladder empties, and if this occurs frequently, you may be less prone to acquire gallstones. Gallstones may become more likely to occur if you regularly fast for longer than 16 to 18 hours a day.

Diagnose and clinical presentation-

1. An X-ray will make the stones and their location easier to see.
2. Ultrasonography:- As an alternative to X-rays, ultrasonography is preferable. It can assist in identifying the sort of stone in addition to aiding with visualization.
3. Magnetic Resonance Photoelectric Cholangiopancreatography:- This test uses magnetic energy and radio waves to take images of the gallbladder and liver.
4. The HIDA Scan, also known as cholescintigraphy , is a test that aids in assessing the gall bladder stones motility.
5. Endoscopic Retrograde Cholangiopancreatography, or ERCP:- This test has both therapeutic and diagnostic applications.(4, 9)

Aim and Objectives

To study risk factors of Dietary intake and nutritional status in cholelithiasis specimens.

METHODOLOGICAL CONSIDERATIONS :

Data on home's food consumption, food expenditure and related variables The food consumption check was carried out in June 2023 to July 2024. The check through the use of questionnaires, collected detailed information on ménage food using seven days memory recall as well as socio- profitable and demographic characteristics of ménage. The sample used in the study contains 30 ménage heads named through a arbitrary slice. The occurrence of gallbladder stones (GBS) varies across different groups, although dietary habits, significant environmental effects, ethnic distinctions, geographic location, and cultural variances may all be contributing factors. This research was observational and retrospective. Thirty GBS patients in all were selected from Sur Sundarlal Hospital, BHU, Varanasi, India. The study included a closed-ended questionnaire to collect data on demographic characteristics, medical history, and lifestyle factors. Non-dietary habits such as alcohol use, tobacco use, and smoking were observed. Using a food frequency questionnaire (FFQ), the frequency of consumption of cereals, pulses, fruits, vegetables, dairy products, nuts and oil seeds, fried meals, sweets, and beverages was determined. A three-day meal recall was conducted to evaluate the daily intake of nutrients.

Results and discussion

Numerous dietary factors have also been linked to gallbladder stones (GBS), either as a preventive factor or as a cause.(10) fruits and vegetables have a protective impact. Additionally, a negative correlation was identified between GBS and the consumption of fiber, vitamin C, and vitamin E. There aren't many Indian research that clarify the connection between food and GBS. In order to learn more about the food, lifestyle, nutrient intakes, and nutritional status of GBS patients, the current study was conducted. Gallbladder Stones (GBS) affects women two to six times more frequently than it does men.(11, 12)

Gallbladder-friendly foods

Along with other advantages and support for your general health, eating a diet that promotes health may help lower your chance of gallstones and gallbladder disease.

Mediterranean and DASH diets

A sizable 2018 study that only involved men found that certain diets may reduce your chance of having symptomatic gallstone disease. The modified Mediterranean diet, the DASH diet, and diets based on earlier iterations of the USDA Dietary Guidelines for Americans Trusted Source were found to reduce the risk of gallstone disease in participants. Both diets emphasize whole foods, such as fruits and vegetables, lean protein, and minimizing added sugars. The Mediterranean diet restricts processed foods and refined grains while promoting whole foods and healthy fats. While it also emphasizes whole foods, the DASH diet places restrictions on fat, fatty meats, and sodium.

Vegetables, fruits, and whole grains

The health of your gallbladder can be greatly enhanced and preserved by eating a nutritious, well-balanced diet rich in fruits, vegetables, and whole grains. Nutrients and fiber that are advantageous are found in fruits, vegetables, and whole grains. Fiber aids in digestion by reducing the amount of time food stays in your intestines, which may lower your risk of gallstone illness, according to a study on vegetarian diets and gallstone risk. Consuming a diet high in the following items may promote both your general and gallbladder health: Whole grains like brown rice, quinoa, oats, and whole wheat products; legumes like beans, lentils, and peas; and whole fruits and vegetables that are high in fiber, like cruciferous vegetables, berries, and citrus fruits.(12-15)

Healthy fats

Studies indicate that selecting foods high in good fats instead of bad fats may support the health of the gallbladder. This protective effect could be linked to: reducing triglyceride levels; enhancing bile quality; controlling contractions of the gallbladder, which facilitates normal emptying of the gallbladder. Some foods to think about are peanuts and nuts. omega-3 fatty acids from fish or fish oil supplementation in olive oil. Plant-based protein Consuming a diet higher in plant-based foods may also aid in the prevention of gallbladder disorders.(15)

You may need to make plans to make sure you're getting enough macronutrients, such as protein, in order to construct a balanced plant-based diet. Plant-based protein sources include lentils, beans, and nuts. Tofu and tempeh are examples of soy products that are plant-based meat substitutes. Coffee- Symptomatic gallstones may be prevented by regular coffee use. The researchers found that the incidence of gallstones was 23% lower in those who consumed more than 6 cups of coffee every day. However, even only one cup of coffee a day could help lower the risk. If you want to choose a drink, do so in moderation. Many research suggests that drinking alcohol may reduce the risk of gallstones.

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