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A STUDY ON FREQUENCY OF CONSUMPTION OF PURINE RICH FOODS BY THE PATIENTS SUFFERING FROM GOUT

Aabida bano*; Gazala Nisar**

*Researcher,
Institute of Home Science (Specialization Dietetics and Clinical Nutrition),
University of Kashmir, Hazratbal, Srinagar, J&K, INDIA
Email id: aabidarather814@gmail.com

**Assistant Professor,
(Institute of Home Science (Specialization food Science and Nutrition),
University of Kashmir, Hazratbal, Srinagar, J&K, INDIA
Email id: nisargazala@gmail.com

ABSTRACT

The present study was aimed to study frequency of consumption of purine rich foods by the patients suffering from gout. A total no of 60 patients were randomly selected. The sampling was conducted from OPD of Jawahar Lal Nehru Memorial (JLNM) hospital Rainawari Srinagar Kashmir. The study sample comprised 70% males and 30% females. Questionnaire cum interview schedule was used to collect desirable information from the respondents. The study revealed that gout is more commonly seen in males than females. The results of the study clearly indicated that gout is more prevalent in the age group of 50-60 and constituted 31% of the studied sample. The result also revealed that majority of urban as well as rural residents' i.e, 76% and 65.71% were having age of onset of disease in the age group of 40-60 years respectively. Overall majority of respondents' i.e, 81.7% were having primary type of gout and only 18.3% were suffering from secondary type of gout. All the studied sample were non vegetarian, who used to consume non vegetarian diet on daily basis. Non vegetarian diet was one of the main factors responsible for the gouty attacks leading to pain. Higher consumption of meat and sea foods are also associated with an increased risk of gout.

KEYWORDS: *Gout, Vegetarian, Dietary Management, Pain, Consumption.*

INTRODUCTION:

Gout describe a group of metabolic disorders where crystals of sodium urate (the sodium salt of uric acid) deposit in tissue. This usually follows a prolonged period where uric acid levels in blood are raised (**Rodriguez et al., 2010**). Gout may also be defined in terms of raising serum uric acid levels, i.e., hyperuricemia with levels as high as 6.8mg/dl. The increase in serum uric acid levels causes the creation of urate crystals that is quickly followed by the formation of renal stones. Urate crystals can also collect outside of the joints called ***tophi***, most common areas for tophi are: over the top of the toes , back of the heel ,front of the knee ,backs of the fingers and wrists, around the elbow, the ears. *"**podagra**"* is the term related to when urate crytals affects the typically first metatarsophalangeal joints (toe joint). Gout can characterize clinically by various

signs and symptoms as gout patients wakeup in the middle of night with hot, swollen and tendered big toe joint even the weight of a blanket on it seems intolerable.

There are two different types of gout. When you have it and there is no single cause, or caused by hereditary error of purine metabolism which leads to over production or retention of uric acid in blood it is called ***primary gout***. ***Secondary gout*** can be caused by either chronic kidney disease, long-term use of medications that affect how well your kidneys can remove urate from your body. Gout is best managed by diet control by excluding of foods extremely high in purines may be helpful. All type of meat, fish, and poultry contains moderate to high amount of purines, pulses and lentils also needed to be avoided. Intake of fluids should be encouraged to assist with the excretion of uric acid and to minimize the possibility of renal calculi formation. Thumb rule for dietary management is to advice the patient to try to cut down or avoid: Red meat, Organ meat, Shellfish (mussels, oysters, Sea egg) Peas and beans, Alcohol especially beer and wine.

Objectives

1. To find out the types of gout present among the selected patients.
2. To study the frequency of consumption of purine rich foods by the patients.

Review of literature

Gout (also known as podagra when it involves the big toe) is a medical condition usually characterized by recurrent attacks of acute inflammatory arthritis are tender, hot, swollen joint. The metatarsophalangeal joint at the base of the big toe is the most commonly affected (approximately 50% of cases).

Schumacher (2005,) defined gout as an incident and common form of inflammatory arthritis, and is the most common inflammatory arthritis among men. Gout is a chronic disease caused by an uncontrolled metabolic disorder, hyperuricemia, which leads to the deposition of monosodium urate crystals in tissue. According to **Mahajan (2007**), the incidence of gout in India varies in population with an overall prevalence of less than 1 to 15.3%. Gout once called the “disease of kings” is also seen in women, especially after menopause.

A cross-sectional study was carried out at the medical and surgical department of Sir Ganga Ram Hospital and University of Lahore Hospital, Lahore during Dec-2017 to March-2018. There findings revealed that gout was more prevalent among 51 to 60-year old patients in both males and female. 50% patients were overweight, 74% were lightly active with 56% having low socio-economic status and 33% belonged to rural areas. Signs and symptoms observed were body pain, inflammation, pale skin and eyes. It was concluded that long term medication intake, complication like diabetes, hypertension, kidney disease and heart disease, absence of physical activity, dehydration were risk factors of gout.

According to **Wallace (2004),** prevalence of gout/ or hyperuricemia in the overall population has increased during the last 10 years period. When stratified by age there were increases in prevalence among groups over the age of 65 years in both the sexes.

Choi et al (2004) studied diets in 730 cases and actually broke down the different types of protein. They found that meat, specifically beef, pork, and lamb showed an increase in association with gout. Sea food intake including all individual sea food items, also showed an

increase in association**.** Increased alcohol intake was also reported to be a risk factor for gout (a dose response relationship). Compared with men who did not drink alcohol, the gout increased from 1.25 for alcohol consumption to 2.53 (>50g/day). The incidence of gout decreased with increasing intake of dairy products, consumption of purine rich vegetables and the total protein intake were not associated with an increased risk of gout. The risk of gout raise with BMI (1.19%), alcohol intake (1.19%) meat consumption (1.45%) and decreased with consumption of fruit (0.73%). Elevated level of BMI increases risk of gout while lower BMI decreases risk of gout, while compared with less active with highly active individual who run more than 8km a day had 50 to 65% decreased risk of gout (**William et al., 2008**).

METHODOLOGY

A total number of 60 gout patients from both urban and rural areas were selected by simple random sampling technique. The sample was collected from OPD of JLNM hospital Rainawari Srinagar Kashmir.

During the study, a structured questionnaire cum interview schedule was used to collect information from the patients. After the required information was gathered, the data was carefully analyzed and interpreted.

In designing questionnaire simple language was used but still in some cases questions had to be explained in a local (Kashmiri) language in order to obtain appropriate information from the respondents. The questionnaire included various sections.

Results

Figure 1.1: Sex wise distribution of respondents

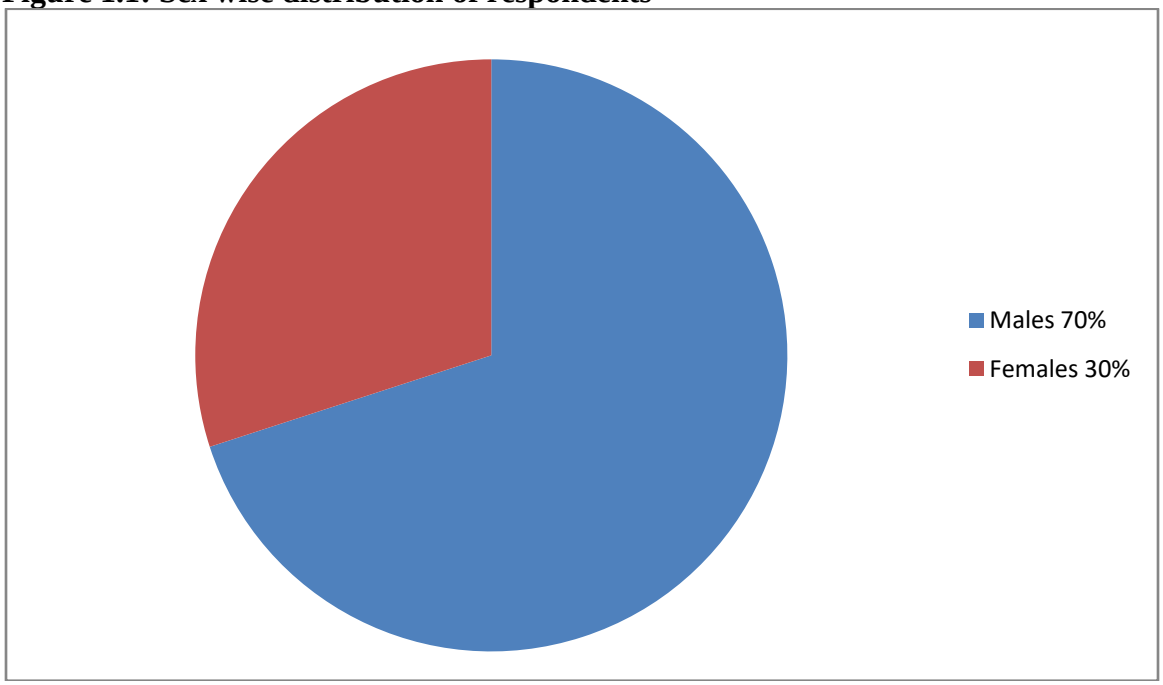

Figure1.1 shows the distribution of respondents as per sex in which 70% were males and 30% were females.

Figure1.2: Distribution of respondents as per residence

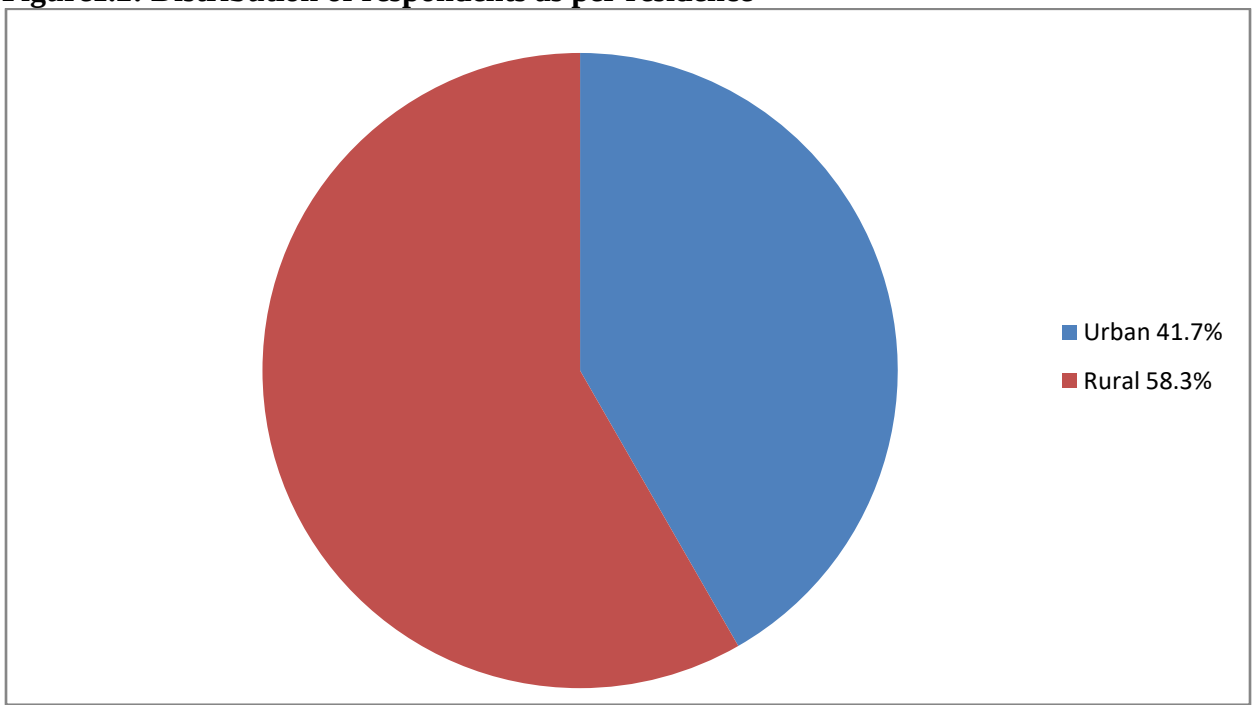

Figure 1.2 shows the distribution of respondents as per residence. The figure shows that majority of respondents were belonging to rural area i.e, 58.3% and 41.7% were from urban areas.

Figure 1.3: Distribution of respondents as per monthly income of the family(rupees)

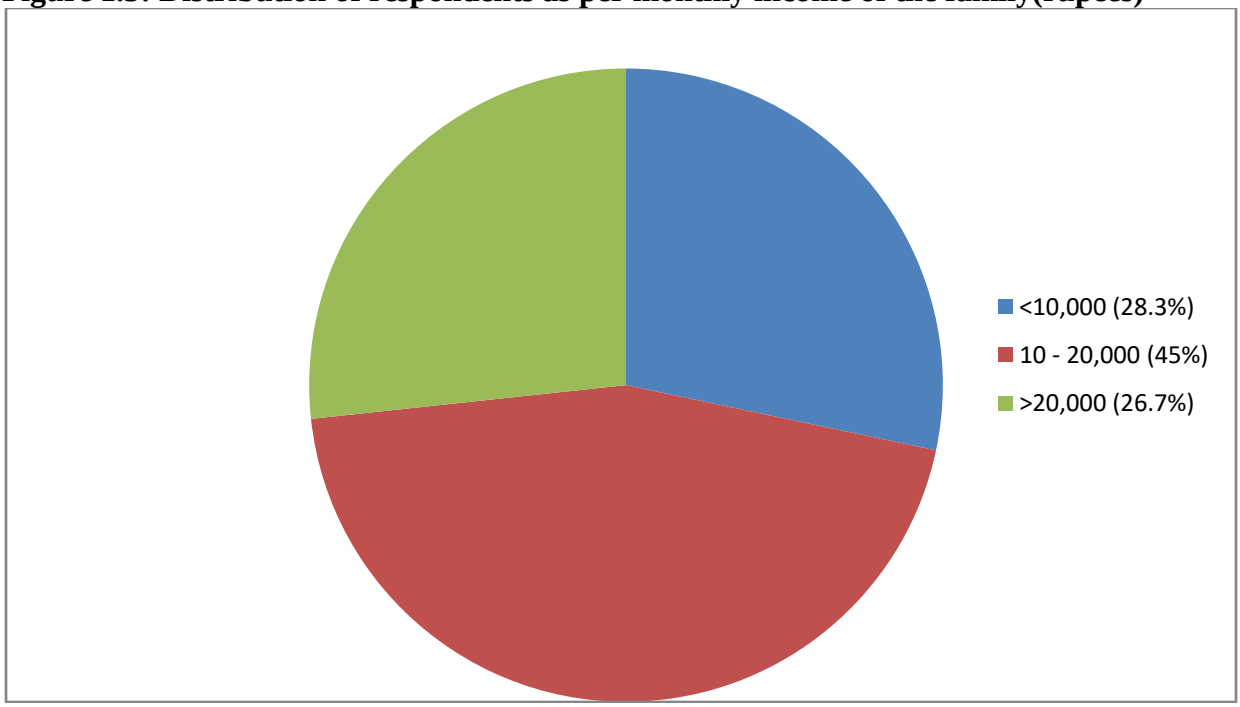

Figure1.3 reveals the distribution of respondents as per monthly income of the family.
It reveals that majority of respondents i.e, 45% belonged to family having monthly income between Rs 10,000-20,000 and 26.7% and 28.3% belongs to the family having monthly income >20,000 and <10,000 respectively.

TABLE 1.1: DISTRIBUTION OF RESPONDENTS AS PER RESIDENCE AND TYPE OF GOUT

Type of gout	Residence				Overall	
	Urban		Rural			
	N	%	N	%	N	%
Primary	19	76.0	30	85.7	49	81.7
Secondary	6	24.0	5	14.3	11	18.3

Table1.1 shows the distribution of respondents as per residence and type of gout. The table reveals overall majority of respondent's i.e, 81.7% were having primary type of gout and only18.3% were having secondary type of gout.

TABLE 1.2: CONSUMPTION OF HIGH PURINE FOODS BY THE RESPONDENTS

High Purine Foods	Daily Once	Weekly	Monthly	Occasionally	Never
Red Meat	N (%)	N (%)	N (%)	N (%)	N (%)
	-	5 (8.3)	21 (35)	28 (46.7)	6 (10)
Fish	-	-	4 (6.7)	22 (36.)	24 (40)
Organ Meat	-	2 (3.3)	14 (23.3)	22 (36.67)	20 (33.3)
Beans	-	12 (20)	25 (41.7)	25 (41.7)	6 (10)
Beer	-	-	-	5 (8.3)	55 (92)

Table 1.2 shows the distribution of respondents as per consumption of high purine food patterns by respondents. The table reveals that red meat was consumed by majority of respondents (46.7%) on occasionally basis and least (only 8.3%) consumed on weekly basis. While as fish was consumed by majority of respondents (36%) on occasionally basis, only 6.7% fish was consumed by respondents as per weekly basis. Organ meat was also consumed by majority of respondents (36.67) on occasionally basis. Beans were consumed by majority of respondents (41.7%) on monthly as well as occasionally basis. Majority of the patients never consumed beer, and only 8% respondents consumed beer on occasional basis.

TABLE 1.3: CONSUMPTION OF LOW PURINE FOODS BY THE RESPONDENTS

Low purine Foods	Daily once	Weekly	Monthly	Occasionally	Never
Tea	N (%)	N (%)	N (%)	N (%)	N (%)
	60(100)	-	-	-	-
Refined cereals		7 (11.7)	15 (25)	25 (41.7)	19 (31.7)
Eggs	13 (21.7)	15 (25.0)	29 (48.33)	11 (18.33)	2 (3.33)
Milk	22 (36.7)	18 (30)	15 (25)	5 (8.33)	-
Vegetables	60 (100)	-	-	-	-
Fruits	23 (38.3)	29 (48.33)	8 (13.33)	-	-
Milk Products (Curd cheese)	-	29 (48.33)	18 (30)	3 (5)	10 (16.7)

Table 1.3 shows the frequency of consumption of low purine food patterns by respondents. The table reveals that tea was consumed by respondents on daily basis i.e. 100% respondents consumed tea on daily basis. Total of 41.7% respondents consumed refined cereals occasionally, while as 11.7% and 25% consumed refined cereals on weekly and monthly basis respectively and 31.75% never consumed refined cereals at all.

Less than half of the respondent's i.e, 36.7% consumed milk on daily basis, followed by 30% respondents on weekly, 25% on monthly and only 8% on occasional basis. However some respondents were having lactose intolerance problem. Eggs were consumed by approximately half of the respondents i.e, 48.33% on daily basis, followed by 25% respondents who consumed eggs weekly and only 21% respondents were having eggs on daily basis whereas vegetables were consumed by all the (i.e., 100%) respondents on daily basis . Different fruits were consumed by approximately half of respondents' i.e, 48.3% on weekly basis, followed by 38% respondents on daily basis and only 13% on monthly basis.

The dairy products were also consumed by approximately half of the respondents i.e. 48.33% on weekly basis, 30% respondents on monthly basis and only 5% respondents consumed dairy products occasionally.

DISCUSSION:

Gout is a disease that results from an overload of uric acid in the body. This overload of uric acid leads to the formation of tiny crystals of urate that deposit in the body, especially the joints. Men are significantly at a higher risk for and can develop first attack between the age of 40 and 50. In women, gout attacks usually occur after menopause. The primary type of gout was more prevalent among patients and is more prevalent in Western world. In India, approximately

3,928,944 people are suffering from gout. It was concluded that among the study group, males formed the majority of the sample, whereas women suffering from Gout were low in number as compared to males. Majority of the patients were found in the age group 40- 60 years. Gout was found to be more common among elderly people. Consumption of meat & fried foods on daily basis was found to be one of the causes for gout.

Recommendations:

Following things are recommended to enhance knowledge of patients about gout management and dietary patterns among patients suffering from gout:

- A person should weight loss in case of obese or overweight, to achieve normal BMI that promote general health.
- A person should exercise daily to ensure overall health maintenance.
- A person should take low purine foods specifically vegetables and fruits.
- A low fat or non-fat dairy product is recommended for gout patients.
- Specifically organ meat, fish and red meat should be avoided.

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