Knowledge and Attitude towards Gout and its Management: A Cross - Sectional Study

Parshant Thakur[1], Clarice Adeline Lyngdoh[2]

[1]Assistant Professor, Metro College of Nursing

[2]Sr. Nursing Tutor, Metro College of Nursing

Abstract: *Gout incidence and prevalence have surged in recent years, reflecting population risk factors and the cultural transmission of predisposing habits of diet and behavior. Fortunately, the rising prevalence of gout has brought a renewed interest in its biology, diagnosis, and treatment. A cross - sectional, descriptive study was conducted to assess the knowledge and attitude towards gout and its management among the general population residing in Bhuri Village, Gautam Budh Nagar, UP. Sampling technique was convenience sampling and sample size was 200. Subjects above 18 years of age and those willing to participate in the study were considered as inclusion criteria. An online semi - structured questionnaire was developed via Google forms, Likert scale was used to assess the attitude level. Data was analysed by using descriptive statistics. Results: Amongst the subjects 75% belonged to the age group 18 - 30 years, 69% were females and 31% were males. Majority of subjects (34 %) were graduates.81 % were unmarried and 71 % belonged to nuclear family. Total knowledge score was calculated and secured 1792 out of 3000, overall mean knowledge score was 8.9 and standard deviation was ±2.8. Majority of subjects i. e.; 57% had average knowledge, 32% had very good knowledge and whereas 11% had poor knowledge. Majority 42% of the subjects agreed that ayurvedic medicine is the best treatment for gout as compared to allopathic medicine.50.5% agreed that people with high blood pressure or kidney disease are at a higher risk for developing gout flare.56.5% agreed that mild exercise reduces the risk of gout. About 38.5% had neutral attitude that gout re - occurs within 8 days after gout surgery. According to 40.5% agreed that tophi are developed if uric acid crystals formation is increased in joints. It is concluded that health program measures should be carried out to increase the awareness regarding gout.*

Keywords: knowledge, attitude, gout, management

1. Introduction

Gout is the most common form of inflammatory arthritis and is characterized by acute intermittent episodes of synovitis presenting with joint swelling and. It has been described as a disease of the foot since antiquity. [1]

Gout incidence and prevalence have surged in recent years, reflecting population risk factors and the cultural transmission of predisposing habits of diet and behavior. [2] Notwithstanding refined management guidelines, multiple effective medications, and improved physician understanding of treatment protocols, too many patients are still not meeting therapeutic goals. [3] Fortunately, the rising prevalence of gout has brought a renewed interest in its biology, diagnosis, and treatment

In India, approximately 0.12 - 0.19% population is affected by gout, and its prevalence is more in men aged above 50 years. Gout is caused when excess urate in the body crystallizes (as monosodium urate [MSU]) in joint fluid, cartilage, bones, tendons, bursas, or other sites. These crystals can directly stimulate an acute inflammatory attack. In some patients, acute gout attacks become progressively more frequent, protracted, and severe, and may eventually progress to a chronic inflammatory condition. Additionally, in some patients, the deposits of urate crystals grow into larger collections, called tophi (singular tophus) when clinically apparent. Based on data from the 2007 - 2008 National Health and Nutrition Examination Survey (NHANES), the prevalence of gout among adults in the United States was estimated to be 3.9 percent (8.3 million individuals), ranging from 2.0 percent in women to 5.9 percent in men. [4]

Comparing the most recent figures for the prevalence of gout to those of previous cycles of NHANES shows that the prevalence of gout appears to be increasing. The rise in the prevalence of gout has paralleled the increase in prevalence of conditions associated with hyperuricemia, including obesity, hypertension, hypertriglyceridemia, hypercholesterolemia, type 2 diabetes and metabolic syndrome, and chronic kidney disease. [5] Certain dietary factors and medications also may increase the risk for developing gout (e. g., thiazide diuretics).

In a proof - of - concept study of a nurse - led package of care for gout, involving individualized patient education and engagement, individualized lifestyle advice and a treat - to - target (T2T) strategy for urate - lowering treatment (ULT), it was demonstrated that >90% participants reduced their serum urate (SU) levels to <360 μmol/l at 1 year. [6]

Thus, this study is being conducted with the objectives to assess the knowledge that people have about gout and its management and to assess the attitude towards gout and its management.

2. Methodology

A cross - sectional, descriptive design study was carried out among the general population residing in Bhuri Village, Gautam Budh Nagar, UP. A convenience sampling technique was used for the study and the sample size was 200. An online semi - structured questionnaire (both Hindi and English) was developed by using Google forms, with a consent form attached to it. The data collection was started from 27th to 31st July 2021. The inclusion criteria for the

study were subjects above 18 years of age and those willing to participate in the study. Participants not giving consent to participate were excluded from the study.

The socio - demographic variables included age, gender, education, marital status and type of family. The online self - reported questionnaire was designed to capture two important sections. In section A, there were 15 questions to assess the knowledge on gout and its management. Section B contained 5 questions to assess the attitude by using a 5 - point Likert scale ranging from strongly agree, agree, neutral, disagree and strongly disagree.

Statistical Analysis

Completeness and consistency of the complete questionnaires were checked. Collected data were entered in the MS Excel spreadsheet, coded appropriately. Descriptive statistics have been used in the study to analyse the findings. Frequency, percentage, mean and standard deviation have been used to estimate the results of the study.

3. Results

Table 1: Frequency and percentage distribution of people by their demographic characteristics, n=200

S. No	Sample Characteristics	Frequency (F)	Percentage (%)
1	**Age**		
	a) 18 - 30	150	75
	b) 31 - 60	30	15
	c) Above 60	20	10
2	**Gender**		
	a) Male	62	31
	b) Female	138	69
3	**Educational Qualification**		
	a) Primary education	4	2
	b) Secondary education	15	7.5
	c) Diploma	60	30
	d) Graduate	68	34
	e) Postgraduate	53	26.5
4	**Marital Status**		
	a) Unmarried	162	81
	b) Married	38	19
5	**Type of Family**		
	a) Nuclear family	142	71
	b) Joint family	58	29

Data presented in table 1, a total of 200 participants responded. Amongst all the participants 75% belonged to the age group 18 - 30 years, 69% were females and 31% were males. Majority of the population, i. e., 34 % were graduates. About 81 % were unmarried and 71 % belonged to nuclear family.

The total knowledge score was calculated and secured 1792 out of 3000, overall mean knowledge score was 8.9 and standard deviation was ±2.8.

Table 2: Frequency and percentage distribution according to the level of knowledge regarding gout and its management, n=200

Range of Scores	Knowledge Score	Frequency (F)	Percentage (%)
0 - 5	Poor	22	11
6 - 10	Average	114	57
11 - 15	Very Good	64	32

Data presented in the table no.2, concluded that, majority of people i. e.; 114 (57%) had average knowledge, 64 (32%) had very good knowledge and whereas 22 (11%) had poor knowledge on gout and its management as depicted in Fig.1
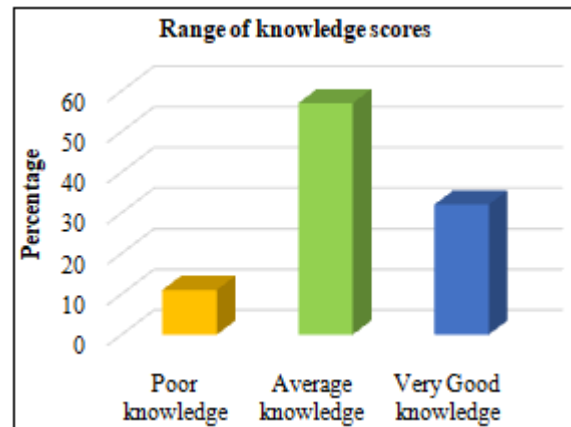

Figure 1: A 3 - D Column diagram showing the percentage distribution of range of knowledge score

Table 3: Percentage distribution of attitude towards gout and its management, n=200

S. No.	Statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1.	Ayurvedic medicine is the best treatment for Gout as compared to Allopathic medicine.	18%	42%	33%	7%	0%
2.	People with high blood pressure or kidney disease are at a higher risk for developing Gout flare.	27.5%	50.5%	17.5%	4%	0.5%
3.	Mild exercise reduces the risk of Gout.	27%	56.5%	11%	5.5%	0%
4.	Gout re - occurs within 8 days after gout surgery.	11%	25%	38.5%	23.5%	2%
5.	White chalky nodules "Tophi" are developed if uric acid crystals formation is increased in joints.	37%	40.5%	19.5%	2%	1%

Data presented in the table no.3, showed that majority (42%) of the samples agreed that ayurvedic medicine is the best treatment for gout as compared to allopathic medicine.50.5% of the samples agreed that people with high blood pressure or kidney disease are at a higher risk for developing gout flare. According to 56.5% of the samples agreed that mild exercise reduces the risk of gout. About 38.5% of the samples had neutral attitude that gout re - occurs within 8 days after gout surgery. According to 40.5% of the samples agreed that White chalky nodules "Tophi" are developed if uric acid crystals formation is increased in joints.

4. Discussions

The present study assessed the knowledge that people had about gout and its management and also had assessed the attitude towards gout and its management among the general population residing in Bhuri Village, Gautam Budh Nagar, UP. The findings of the present study were found consistent with the findings of the studies mentioned below. A study titled "Patients' knowledge and beliefs concerning gout and its treatment: a population - based study" conducted by Harrold LR, Mazor KM, Peterson D, Naz N, Firneno C, Yood RA (2012) among 1346 gout patients with an aim to examine patients' knowledge and beliefs concerning gout and its treatment in order to identify barriers to optimal patient self - management. The results of the study highlighted that, 240 patients responded to survey out of 500, who were electronically communicated. Out of all responded, Majority were male (80%), white (94%), and aged 65 and older (66%). Only 14 (6%) patients were treated by a rheumatologist. It had also been seen that only a minority of patients were aware of common foods known to trigger gout (e. g., seafood [23%], beef [22%], pork [7%], and beer [43%]). Of those receiving a urate - lowering medication, only 12% were aware of the short - term risks of worsening gout with initiation. These deficits were more common in those with active as compared to inactive gout. And thus made a conclusion that there were knowledge deficits about dietary triggers and chronic medications were common, but worse in those with active gout. More attention is needed on patient education on gout and self - management training. [7]

Since the findings of the present study also highlighted that majority of the participants were having average knowledge (57%) and (32%) contributed to had a poor knowledge. Thus, it clearly emphasizes the need of strong strengthening of knowledge in general population regarding the gout and its management. It has also prompted the desire of immediate actions needed to merge the attitude of people and to build a strong knowledge in order to identify the community burden of gout and actions demanded to encounter it.

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