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Research Article

Knowledge and Factors Influencing on Gastritis among Distant Mode Learners of Various Universities at Selected Study Centers Around Bangalore City With a View of Providing a Pamphlet

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Abstract: Gastritis occur suddenly (acute gastritis) or gradually (chronic gastritis) and caused by the risk factors like smoking, alcohol consumption, tobacco use, spicy food, drugs, stress, swallowed foreign bodies and bacterial infection such as *Helicobacter pylori* will affect the normal lining of the stomach produce inflammation, irritation of gastric mucosa and excessive gastric secretion leads to manifestations like abdominal pain, indigestion, loss of appetite, nausea, vomiting and burning pain in epigastric region. Presently, the study was undertaken to determine the level of knowledge by structured knowledge questionnaire, factors influencing by a rating scale, relationship of knowledge and influencing factors, knowledge score with selected demographic variables and association of influencing factors with selected demographic variables regarding gastritis among distant mode learners. A descriptive survey design was used for the study. The sample consisted of 100 distant learner's age group of 17-25years and data was analyzed by using descriptive and inferential statistics. The study revealed that majority of the subjects (60%) have moderate/ average knowledge scores and the majority of the subjects (88%) had less risk score for gastritis. There was a positive correlation between the knowledge score and factors influencing scores. There was a significant association between the knowledge scores, factors influencing scores with selected demographic variables. It is to conclude that the knowledge and risk factors are inversely proportional and subsequently motivated to prepare a pamphlet on gastritis and distributed to subjects, this may helps the learners to gain knowledge regarding gastritis.

Keywords: Knowledge; gastritis; factors influencing; pamphlet, *Helicobacter pylori*

INTRODUCTION

Gastritis is more common among the adolescents, but it can affect anyone at any age. A variety of mild to severe stomach symptoms may indicate gastritis. Gastrointestinal system is one of the systems of our body which deals with Diet-its intake, absorption, metabolism and elimination. Upper gastrointestinal inflammatory process is exceedingly common and has a wide spectrum of causes and manifestations. Gastric disorders are common; unless treated promptly and completely, they can continue to cause problems throughout the person's life. Clients need assistance to learn modified eating habits in order to achieve and maintain health and to make necessary lifestyle changes [1]. Gastritis caused by Helicobacter pylori (H. pylori) and the risk factors like smoking, alcohol consumption, tobacco use, spicy food, drugs, stress, swallowed foreign bodies, and infections which leads to excessive inflammation, irritation of mucous membrane and excessive gastric secretion that rupture and inflame the stomach mucosal lining and affected person will get abdominal pain, indigestion, nausea, vomiting, diarrhoea, bad taste in the mouth, loss of appetite burning pain in epigastric region and other tract dysfunctions [2,3].

The mucosal lining of the stomach is normally protects it from the action of gastric acid (hydrochloric acid) and the gastric acid may protects the stomach from bacterial infection. H.pylori is normal flora of the gastrointestinal system. Increased secretion of Hcl in the stomach occurs with consumption of tobacco, alcohol, spicy food, and emotional disturbance disrupts the normal lining of stomach[2].Once the mucosal barrier of the stomachs penetrated by inflammation and necrosis, infection with H.pylori occurs, with resultant injury to the mucosa. When the Hcl acid comes in to contact with the irritated mucosal lining of the stomach, abdomen and epigastric discomfort or pain occurs which leads to gastritis [3].

Adolescence is the time of transition from childhood to adulthood. During this period lots of physical and psychological changes take place. As a

result the blooming buds of future face a dilemma in their life. Moreover, this brings stress and tension. While majority of youngsters overcome their problems, others attempt lifestyle modification. The factors like peer group pressure and excess freedom give a gate to achieve lifestyle changes through alcoholism, smoking, tobacco, fast and spicy food which influence the occurrence of gastritis [4]. 'Not choice, but habit rules the unreflecting herd.' Habits are funny things which can affect one's life positively or negatively. Young people search for them unknowingly, which sticks on their life style. In the ever-changing 21st century, even the word 'habit' carries a negative connotation [5].

Gastric disorder is a common medical problem in India [2]. The incidence of gastritis in India is approximately 3 in 869 that is about 12, 25,614 people suffering from gastritis out of the total 1,06,50,70,607 population. Frequency of gastritis is decreasing in the developed world but increasing in developing countries. Male-to-female ratio of gastritis is approximately 1:1. Bacterial infection with Helicobacter pylori is a common cause of gastritis. About 35% of adults are infected with H. pylori, but the prevalence of H. pylori infection in minority groups and in immigrants is much higher. Children age 2 to 8 and adolescent age 12-17 in developing nations acquire the infection at a rate of 10% per year; the rate of yearly infection is less than 1%[6]. Nine out of 10 cases of gastritis is caused by bacterial invasion with H. pylori.

The studies among adults conducted in Bangalore have shown high prevalence of H. pylori (78%) and similar study conducted in Allahabad has shown a 77.2% of prevalence of H. pylori among adults aged 19-26 years [7]. The sero-prevalence studies from Delhi, Hyderabad and Mumbai have shown that by ten years of age more than 50% and by 20 years more than 80% of population is infected with gastritis [6]. All the studies have shown that H. pylori infection is very common in India and most of the adult population is infected. The incidence rate of gastritis in USA is 313,000. The prevalence of gastritis is 2.7 million people. Up to 10% of people, who come to a hospital emergency department with an abdominal pain, have gastritis.

From the above literature, it is clearly evident that most of the changes in lifestyle patterns are adopted during the period of adolescence. Gastritis can be cured with appropriate antibiotic treatment. However, many healthcare providers do not treat gastritis patient with antibiotics rather than by lifestyle modification. As a part of global health programme in the 21st century, it is necessary to explore alternative approaches to provide better health services to people[5]. Hence, the investigator was motivated to carry out a study on the assessment of knowledge and factors influencing gastritis among distant mode learners, as most of the distant mode learners will be engaged in part time or full time jobs to look after the livelihood or to fulfil the basic requirements of the family as such there may be chances of more stress towards the balancing of the education, working conditions and food timings and food patterns may occur during the course of study and job. Hence, they may be more prone to have the risk of Gastritis. The focus of nursing intervention is education and modification of client's behaviours to promote health and lifestyle pattern with a view of providing a pamphlet.

MATERIALS AND METHODS

A descriptive survey approach is used to assess the knowledge and factors influencing gastritis [8].

A descriptive correlative design is adopted for the present study to find out the relationship between, factors influencing score and knowledge score regarding gastritis [9].

Reserach variables in this study are Knowledge and Factors influencing gastritis.

Extraneous variables are age, gender, religion, educational status, health risk, behaviour, dietary pattern, use of counter medication and source of information regarding Gastritis.

In the Setting of the study, the investigator has selected Sri Seshasai Educational society, the authorised study centre for Alagappa, Kuvempu, Periyar, Dravidian and Vinayaka Mission universities to conduct the study with adequate availability of participants and feasible for conducting the study [10].

Population is the entire aggregation of cases that meet a designed set of criteria[10].The population of study are distant learners, studying in Sri Seshasai Educational society, in the age group of 17-25 years at Bangalore.

Sample comprises of 100 distant learners in the age group of 17-25 years around Bangalore.

Inclusion criteria are of distant learners studying in selected University study centres at Seshasai Education society, Bagepalli near Bangalore, in the age group of 17-25 years studying University level of education who are willing to participate in study.

Exclusion criteria are of distant learners of Biological sciences and Paramedical courses.

In Simple random sampling technique, 100 distant learners are chosen after having a sample frame of students using lottery method.

In Development and description of the tool, the data from sample is collected by a structured knowledge questionnaire and by rating scale which is prepared by the investigator on the basis of the objectives of the

study. The extensive review of literature on relevant topics, discussion with experts, self-experience of the investigator helped for data collection in developing the tool. Tool consisted of two parts;

Tool I: Structured knowledge questionnaire to assess the knowledge of gastritis among distant learners. It consisted of 2 parts: Part I-consists of Personal Performa comprised of 8 items and Part II- consists of Knowledge questionnaire comprised of 38 items.

Tool II: Rating scale for identifying the factors influencing gastritis among distant learners. Rating scale on factors influencing gastritis comprised of 38 items. According to the scoring criteria it is rated using four categories of responses as 'always,' 'sometimes,' 'rarely' and 'never' the statements were scored 3, 2, 1, 0 respectively.

A Pamphlet is developed as a learning device for distant learners to understand gastritis, factors influencing, signs, symptoms and tips on prevention of gastritis.

In Testing of the Tool, Criteria checklist for validation of both the tools and pamphlet was prepared. "Agree", "Disagree" and "Remarks" columns for validation to place a tick mark depending on the appropriateness or relevance of each item. The prepared tools and pamphlet along with the objectives, blueprint, answer key, and criteria checklist, were given to 9 experts to infer content validity. There is 100% agreement on all 8 items of demographic data. In the structured knowledge questionnaire, out of 38 items, 100% agreement was obtained on 37 items. In the rating scale, out of 38 items, 100% agreement obtained on 36 items. There was 100% agreement for the content of the pamphlet.

In Protection of Human Rights, the proposed study was conducted after the approval of Dissertation committee of the college. The permission was obtained from the authorities of the university study centres. The written consent of the participants was obtained before the data collection. Assurance was given to the participants regarding the confidentiality.

The tool was pre-tested on 8 subjects from 6th to 13th Jan 2012 in one of the randomly selected Distance Education University Study Centres. The subjects found the tool easy to understand. The average time taken to complete the tool is 30 minutes.

The pilot study was conducted 10 subjects who fulfilled the inclusion criteria from 20th Jan to 27th Jan 2012. The pilot study was found feasible and practicable.

The reliability of the knowledge questionnaire and rating scale is established by split half method using Spearman-Brown Prophecy formula. The reliability is 0.81 and 0.77 for the knowledge questionnaire and factors influencing by rating scale respectively. Hence the tool is found to be reliable.

Data collection period is extended from 10th Feb to 7th Mar 2012. From two selected University Study centres, 100 distant learners were randomly selected by lottery method. The selected subjects are asked to complete the knowledge questionnaire and rating scale. The subjects took 30 minutes to complete the tool. After data collection, the Pamphlet on gastritis was distributed to the subjects.

The data obtained was analysed by both descriptive and inferential statistics based on objectives and hypotheses of the study. To compute the data a master data sheet was prepared.

RESULTS AND DISCUSSION

Section I: Demographic characteristics

The above Table:1 shows that; Majority of the sample 53% are in the age group of 20 – 22 years and remaining 47% are in the age group of 23-25 years; Majority of the subjects (56%) are males; Highest percentage of subjects (66%) are Hindus; Half of the subjects (50%) are post graduate students; Majority of the subjects (81%) are consuming mixed diet; Majority of the subjects (59%) have no specific health risk behaviour; Most of the subjects (53%) are not using counter medication and most of the subjects (47%) have received previous information regarding gastritis from mass media.

Section II: Description of knowledge of distant learners regarding gastritis

This section deals with the analysis and interpretation of the data to describe the level of knowledge among distant learners regarding gastritis. A structured knowledge questionnaire is used to collect the data.

Section III: Description of factors influencing gastritis among distant learners

The scores on rating scale of factors influencing gastritis obtained by the college students are arbitrarily categorized into 4 levels as given below. Level of Factors influencing score and percentage.

Section IV: Relationship of the knowledge scores with factors influencing scores of gastritis

The correlation of the knowledge score and factors influencing score is found using Karl Pearson's correlation formula. To find the significant correlation between the knowledge score and factors influencing score of gastritis among college students, the following null hypothesis is formulated. H1:There will be no significant relationship of the knowledge scores with scores of factors influencing gastritis.

Table 1: Distribution of sample characteristics in terms of Frequency and percentage (N = 100)

Sl No	Characteristics	Variable	Frequency	Percentage
1	Age in years	17-19	-	-
		20-22	53	53
		23-25	47	47
2	Gender	Male	56	56
		Female	44	44
3	Religion	Hindu	66	66
		Muslim	7	7
		Christian	27	27
		Others	-	-
4	Educational Status	1st Year Degree	-	-
		2nd Year Degree	25	25
		3rd Year Degree	25	25
		Past Graduation	50	50
5	Dietary Pattern	Vegetarian	10	10
		Non-vegetarian	9	9
		Mixed	81	81
6	Specific Health Risk Behaviour	Smoking	5	5
		Alcohol	18	18
		Pan Chewing	5	5
		Smoking and Alcohol	7	7
		Alcohol and Pan Chewing	1	1
		Smoking and Pan chewing	3	3
		Smoking, Alcohol and Pan Chewing	2	2
		Nil	59	59
7	Frequent use of counter medications	Yes	47	47
		No	53	53
8	Previous information about gastritis	Mass media	47	47
		Journals	25	25
		Health professionals	28	28

Table 2: Distribution of subjects according to the level of knowledge scores (N = 100)

Level of Knowledge	Score	Percentage	Frequency	Percentage
Poor knowledge	< 15	< 40%	34	34%
Moderate/ average knowledge	15 - 22	41 – 60%	60	60%
Good knowledge	22 -29	61 – 80%	6	6%
Very good / excellent knowledge	29-37	81 – 100%	-	-

Maximum score = 37

Table-2 shows that; Majority of the subjects have (60%) moderate/ average knowledge scores, where as 34% and 6% of the subjects have poor knowledge scores and good knowledge scores respectively.

Table 3: Range, mean, median, and standard deviation of knowledge score of Distant Learners (N =100)

	Range	Mean	Median	SD
Knowledge	11- 27	17.62	17	3.369

Maximum score: 37

Table-3shows that: The knowledge scores are ranged in 11- 27.The mean± SD of knowledge score is 17.62± 3.369.

Area-wise assessment of knowledge scores of the subjects

Table 4: Area-wise - mean, standard deviation and mean percentage of knowledge score of subjects in gastritis (N = 100)

Sl. No.	Area	Max score	Mean	SD	Mean % score	Level of knowledge
	Definition and meaning	5	2.74	1.079	54.80	Moderate
	Causes/etiology	1	0.36	0.482	36	Poor
	Risk factor	12	5.82	2.007	48.50	Moderate
	Sign and symptoms	8	3.76	1.596	47	Moderate
	Diagnosis	1	0.47	0.502	47	Moderate
	management	4	2.03	0.904	50.75	Moderate
	Prevention	4	1.62	1.042	40.50	Moderate
	Complication	2	0.82	0.702	41	Moderate
	Total	37	17.62	3.369	47.62	Moderate

Table-4 shows that: The subjects have moderate/ average knowledge in the areas of definition with mean ± SD as (54.8%, 2.74 ± 1.079), risk factor (48.5%, 5.82 ± 2.007), signs and symptoms (47%, 3.76 ± 1.596), diagnosis (47%, .47 ± .502), management (50.75%, 2.03 ± .904), prevention (40.5%, 1.62 ± 1.042) and complication (41%, .82 ± .702) except in the area of etiology (36%, 0.36 ± 0.482) where the subjects have poor knowledge. The overall knowledge score of the subjects are with mean percentage score of 47.62 and (mean±SD: 17.62 ± 3.369).

Level of Factors influencing	Percentage of score
Less risk	<25%
Moderate risk	25 – 50%
High risk	50 – 80 %
High risk	>80%

Table 5: Distribution of subjects according to the level of factors influencing scores (N = 100)

Categories	Score	Percentage	Frequency	Percentage
Less risk	< 27	< 25%	88	88%
Moderate risk	27 - 54	25 – 50%	12	12%
High risk	54 - 81	51 – 75%	-	-
Very high risk	81- 108	75 – 100%	-	-

Maximum score = 108

Table-5 shows that: Majority of the subjects (88%) have less risk; where as 12% of the subjects have moderate risk for gastritis.

Table 6: Range, mean, median, and standard deviation of factors influencing scores of Distant Learners N=100

	Range	Mean	Median	SD
Factors influencing	10- 42	22.72	21	6.047

Maximum score: 108

Table-6 shows that: The factors influencing are ranged in 10- 42. The mean± SD of factors influencing is 22.72± 6.047

Table 7: Area-wise mean, Standard Deviation and mean percentage of factors influencing score of subjects in gastritis (N = 100)

Sl. No.	Area	Max score	Mean	SD	Mean % score	Risk of gastritis
1.	Alcohol	27	1.71	1.370	6.33	Less
2.	Tobacco	27	1.70	1.839	6.30	Less
3.	Dietary pattern	33	11.81	2.714	35.79	Moderate
4.	Stress and tension	12	5.54	2.231	46.17	Moderate
5.	Medication	9	1.96	1.435	21.78	Less
	Total factor score	108	22.72	6.047	21.04	Less

The data in Table-7 shows that: The subjects have moderate risk in the areas of dietary pattern, stress and tension with Mean ± SD as (35.79%, 11.81± 2.714), (46.17%, 5.54 ± 2.231) respectively whereas the subjects have less risk in the areas of alcohol (6.33%, 1.71 ± 1.370) and in tobacco (6.30%, 1.70 ± 1.839) and medication (21.04%, 1.96 ± 1.435). The overall factors influencing score of the subjects are with mean percentage score of 21.04 and (mean±SD: 22.72 ± 6.047).

Table 8: Correlation of mean and standard deviation of knowledge and factors influencing scores of subjects

Area	Max. Score	Min. score	Mean	SD	P value	r value	df	Inference
Knowledge	27	11	17.62	3.369				
Factors influencing	42	10	22.72	6.047	0.05	0.345	98	S

Table value = .200 S= Significant

Table-8 shows that: The Mean knowledge score of the subjects is 17.62±3.369, and the mean factors influencing score of the subjects is 22.72±6.047 respectively. The calculated 'r' value shows that there is positive correlation between knowledge scores and factors influencing scores (r=0.345, P=0.05). The calculated "r" value is found significant at .05 level of significance. Hence it is concluded that there is significant correlation between knowledge scores and factors influencing scores. It reveals that the level of knowledge scores of college students significantly correlates with factors influencing scores. Hence the null hypothesis is rejected and the research hypothesis H_1 is accepted at 0.05 level of significance.

Section V: Association of selected demographic variables with the knowledge scores and factors influencing scores

Association of knowledge scores with selected demographic variables

The association of knowledge scores with selected demographic variables is found using Chi-Square test. To find the association of knowledge scores with selected demographic variables like age, gender, religion, educational qualification, dietary pattern, specific health risk behaviour, frequent use of counter medication and previous information about gastritis, the following research hypothesis is formulated. H2: There will be a significant association of knowledge score with selected demographical variables at .05 level of significant.

Table 9: Chi- square test showing the association of knowledge scores with selected demographic variables (N = 100)

Sl. No.	Demographic variables	χ^2 value	'p' value	df	Significance
	Age	.023	.879	1	N A
	Gender	13.949	.000	1	A
	Religion	5.154	.023	1	A
	Educational qualification	7.890	.019	2	A
	Dietary pattern	.072	.789	1	N A
	Specific health risk behaviour	9.282	.010	2	A
	Frequent use of counter medication	.023	.879	1	NA
	Previous information about gastritis	4.495	.106	2	NA

χ^2 =3.84, P<0.05 A = Association; NA = No association

Table-9 shows that: The association between knowledge score and gender (χ^2 = 13.949, P = 0.000), religion (χ^2 = 5.154, P = 0.023), educational qualification (χ^2 = 7.890, P = 0.019), and specific health risk behaviour (χ^2 = 9.282, P = 0.010) are highly significant. However there is no association of knowledge score with other demographic variables like age, dietary pattern, frequent use of counter medication and previous information on gastritis at .05 level of significance.

Association of factors influencing scores with selected demographic variables

To find the association of factors influencing scores with selected demographic like age, gender, religion, educational qualification, dietary pattern, specific health risk behaviour, frequent use of counter medication and previous information about gastritis, the following research hypothesis is formulated. H3:There will be a significant association of factors influencing scores with demographical variables at .05 level of significance.

Table 10: Chi- square test showing the association of factors influencing scores with selected demographic variables (N = 100)

Sl. No.	Demographic variables	χ^2 value	'p' value	d. f.	Significance
	Age	.088	0.766	1	NA
	Gender	2.738	.098	1	NA
	Religion	2.860	.091	1	NA
	Educational qualification	3.100	.212	2	NA
	Dietary pattern	3.863	.049	1	A
	Specific health risk behaviour	9.885	.007	2	A
	Frequent use of counter medication	3.026	.082	1	NA
	Previous information about gastritis	2.541	.281	2	NA

χ^2 =3.84, P<0.05 **A = Association; NA = No association**

Table-10 shows that: That there is an association of factors influencing score of the subjects with selected demographic variables like dietary pattern (χ^2 = 3.863, P = 0.049) and specific health risk behaviour (χ^2 = 9.885, P = 0.007) at .05 level of significant. However there is no association of factors influencing score with other demographic variables like age, gender, religion, educational qualification, frequent use of counter medication and previous information on gastritis at .05 level of significance.

The study was designed for the assessment of knowledge and factors influencing gastritis among distant mode learners of various universities at selected study centres around Bangalore city with a view of providing a pamphlet. The findings of the study have been discussed with reference to the objectives and hypothesis stated and the findings are compared with other studies.

Section I: Demographic characteristics

1. Majority of the subjects (53%) are in the age group of 20 -22 years: This finding is consistent with the findings of a cross-sectional study conducted to examine the association between lifestyle factors and development of gastritis among H. pylori-seropositive Japanese in Brazil, which revealed that majority of the subjects aged between 18- 25 years [16]. A contradictory to the finding of a descriptive study conducted to study the Atrophic gastritis in young children and adolescents from countries with high gastric cancer incidence in Korea and Colombia, which revealed that majority of the subjects aged between 14-19 years [11, 12].
2. Majority of the subjects (94%) are males: The above finding is consistent with a cross-sectional study conducted to find the relationship between H. pylori infection and nutritional indicators among adolescence from a rural village in the Colombian Andes, which revealed that majority of the subjects are males [13].
3. Majority of the subjects (66 %) are Hindus.
4. Majority of the subjects (50%) are post graduate students: The above finding is consistent with a study conducted in Japanese to explore the level of awareness about gastritis, 617 subjects with more than 12 years of formal education are more likely to have better knowledge [14].
5. Majority of the subjects (81%) are taking mixed diet.
6. Majority of the subjects (59%) have no specific health risk behaviour; however 18% and 5% of subjects have the habits of alcohol and smoking respectively. In that 7% are smoking and alcohol consuming, 5% are pan chewing, 1% are pan chewing and alcohol, 3% are smoking and pan chewing and 2% have habits of smoking, pan chewing and alcohol habits. This finding is supported by a study conducted to find out the relationship of smoking with H. pylori incidence in gastritis patients at Indira Gandhi Medical College in North India. The study concluded that the incidence of H. pylori positivity is high among smokers than non-smokers [15].
7. The above findings of the study are on par with a cross-sectional study conducted to examine the association between lifestyle factors and development of gastritis among H. pylori-seropositive Japanese in Brazil. The

study concluded that frequent rice intake is a risk factor for developing gastritis among the H. pylori infected Japanese[16]. Similar findings are noted in a prospective study conducted to find out the effect of smoking, alcohol and diet on the development of gastritis among American men of Japanese ancestry in Hawaii. The study concluded that the risk of gastritis is positively associated with use of alcohol, table salt/soy sauce and smoking [17, 18].

8. The above findings are supported by a study conducted to find out the association of H. pylori infection with lifestyle, chronic disease, body indices and age in Danish adults. The study concluded that the seroprevalence of H. pylori infection is increased in people with alcoholic, smoking people and with high BMI, in Danish people [19]. The above findings, it is evident that gastritis is common among smokers, alcoholic people and obesity people.
9. Majority of the subjects (53%) are not using counter medication.
10. Majority of the subjects (47%) have previous information regarding gastritis from mass media and 25%, 28% of subjects have previous information from journals and health professionals respectively.

Section II: Description of knowledge of distant mode learners regarding gastritis

1. The knowledge score of the subjects ranged from 15 – 22 with mean percentage of 47.62. Majority of the subjects (60%) have moderate/ average knowledge scores, where as 34% and 6% of the subjects have poor knowledge scores and good knowledge scores respectively.
2. The above findings are consistent with the findings of a study conducted to assess the knowledge regarding gastritis among healthy persons in Indira Gandhi Medical College in North India. This study highlighted that the sample consisted inadequate knowledge regarding gastritis [15].
3. Similar findings are noted in a cross-sectional study conducted to examine the association between lifestyle factors and development of gastritis among H. pylori-seropositive Japanese in Brazil. This study showed that the sample have inadequate knowledge regarding gastritis [16].

Section III: Description of factors influencing gastritis among distant mode learners

1. The factors influencing score of the subjects ranged from 27 – 40 with mean percentage of 21.04. Among the subjects, majority of the subjects (88%) have less risk, where as 12% of the subjects have moderate risk for gastritis.
2. The above finding are supported by a prospective study conducted to find out the effect of smoking, alcohol and diet on the development of gastritis among American men of Japanese ancestry in Hawaii. The study concluded that the risk of gastritis is positively associated with use of alcohol, table salt/soy sauce and smoking [17].
3. Similar findings are noted in a study conducted to find out the relationship of smoking with H. pylori incidence in gastritis patients at Indira Gandhi Medical College in North India. The study concluded that the incidence of H. pylori positivity is high among smokers than non-smokers [15].
4. A similar finding is noted in a cohort study conducted to find the Prevalence and Risk Factors of Atrophic Gastritis and Intestinal Metaplasia in a Korean Population. The study concluded that H. pylori infection was most important risk factor of Atrophic Gastritis and Intestinal Metaplasia. Bacterial factors are found to be important risk factor for Atrophic Gastritis but environmental and host factors are more important for Intestinal Metaplasia [20].

Section IV: Correlation of the knowledge scores with factors influencing scores of gastritis

1. Karl Pearson's correlation formula is used to find out the relationship between the knowledge scores and factors influencing scores of gastritis among college students, there is positive correlation between knowledge scores and factors influencing scores ($r=0.345$, $P=0.05$). The calculated "r" value is found significant at .05 level of significance. There is significant correlation between knowledge scores and factors influencing scores. It reveals that the level of knowledge scores of college students significantly correlates with factors influencing scores. 6% of the subjects had good knowledge on gastritis with less risk whereas 60% of subjects had moderate knowledge with 52% less risk and 8% moderate risk respectively while 34% of subjects had poor knowledge of which 30% is at less risk and 4% at moderate risk.
2. The above findings are supported by a cross-sectional study conducted to examine the association between lifestyle factors and development of gastritis among H. pylori-seropositive Japanese in Brazil [21]. The study concluded that frequent rice intake is a risk factor for developing gastritis among the H. pylori infected Japanese [22]. The result revealed that there is significant relationship between knowledge and life style factors [16].

Section V: Association of the knowledge scores and factors influencing scores with selected demographic variables

1. The Chi square test is used to find out the association between knowledge scores of the subjects with selected demographic variables. The association between knowledge score and gender ($\chi^2 = 13.949$, $P = 0.000$), religion ($\chi^2 = 5.154$, $P = 0.023$), educational qualification ($\chi^2 = 7.890$, $P = 0.019$), and specific health risk behaviour ($\chi^2 = 9.282$, $P = 0.010$) are highly significant. However the association between knowledge score and other demographic variables like age, dietary pattern, frequent use of counter medication and previous information of gastritis are not significant at .05 levels.

2. The association between factors influencing scores and selected demographic variable showed no association between factors influencing score of the subjects with selected demographic variables. Only two significant association are found between factors influencing scores and dietary pattern (χ^2 = 3.863, P = 0.049) and specific health risk behaviour (χ^2 = 9.885, P = 0.007). However association between other demographic variables like age, gender, religion, educational qualification, frequent use of counter medication and previous information about gastritis are found not to be significant at .05 levels.
3. These findings are supported by a study conducted to find out the association of H. pylori infection with lifestyle, chronic disease, body indices and age in Danish adults [23]. The study concluded that the sero prevalence of H. pylori infection is increased in people with alcoholic, smoking people and with high BMI, in Danish adults [19].
4. A prospective study conducted to find out the effect of smoking, alcohol and diet on the development of gastritis among American men of Japanese ancestry in Hawaii. The study concluded that the risk of gastritis is positively associated with use of alcohol, table salt/soy sauce and smoking [15].

The result of the present study shows that distant mode learners have inadequate knowledge regarding gastritis and moderately risk chances to getting gastritis. Therefore, the investigator prepared a pamphlet on gastritis and its preventive practices and distributed to the subjects.

CONCLUSION

The following conclusions are drawn on the basis of the findings of the study:

1. Majority of the subjects have moderate knowledge score regarding gastritis.
2. Majority of the subjects have less risk for factors influencing score regarding gastritis.
3. There is positive correlation found between the knowledge scores and factors influencing scores of gastritis among distant mode learners.
4. There is significant association found between knowledge and gender, religion, educational qualification and specific health risk behaviour regarding gastritis.
5. There is significant association found between factors influencing score and dietary pattern and health risk behaviour.

RECOMMENDATIONS

Nursing implications: The findings of the study have implications for nursing education, service, administration and research.

Nursing education: The nursing education should focus its attention on motivating the nursing personnel is to educate people on prevention of illness rather than cure. Although studying about communicable and non communicable diseases is a part of nursing curriculum, nurses are need to be prepared with adequate knowledge about common disease like gastritis which have adverse effects on physical, mental and social health of the people. Students should be motivated to plan and actively participate in organizing workshops, seminars, role plays, debates, panel discussion etc. on topics like gastritis which will enable them to update their knowledge and help them to impart it to others effectively.

Nursing practice: The Health care provider like nurses plays a vital role in controlling gastritis by engaging oneself in rendering primary health care services to individual, family and community. Therefore, the nursing staff should plan health education programmes on gastritis in prevention and controlling aspects by distribution of information booklets, individual health teaching, posters, pamphlets, or any other learning material in the ward, outpatient departments or community which would reinforce the knowledge and preventive practices of gastritis.

Nursing administration: The Nursing administrators are the backbone of providing effective nursing care to the patients. They should make provision of continuing Education programmes for nurses about the common but, dreadful diseases like gastritis which will enable them to develop newer skills and knowledge and implement the same in practice.

Nursing research: Nurses play a key role in providing health care to patients and being close to patients, they can conduct projects and research studies in the hospital and community. The nursing research can be conducted in large scale with large and different samples to identify the prevalence of gastritis and its prevention and cure.

Limitations

- Study is restricted to only selected study centres of few universities.
- The study is limited to those distant learners who could speak in English.

Suggestions

In view of the results obtained from this study, several suggestions are made:

- Identify high risk behaviour and life style pattern of distant mode learners and screening for Helicobacter pylori and signs and symptoms of gastritis.
- Knowledge related to risk factors and its ill effects on health can be disseminated through organised campaigns in TV, radio, press and other media as a means of communication, visuals like wall paintings with community participation.
- The nursing personnel, in partnership with community agencies, can take up educational programmes to stop health risk behaviour like smoking, alcohol consumption, fast foods and spicy foods.

Recommendations for further research

- Similar study can be conducted with a larger sample and at different settings to aid in the generalization of the findings.
- A comparative study can be done to assess the knowledge and factors influencing gastritis among male and female distant learners.
- An observational study and interventional studies can be done about the risk factors on gastritis and care seeking behaviour of gastritis patients.
- A self instructional module in local languages can be prepared for educating the community people.

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