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Prevalence of Diabetes in Smokers and Non Smokers Inmales and Its Associated Risk among Out Patients in Tertiary Care Hospital

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ABSTRACT: Smokingcigarettes and diabetes are major public health problems. Smoking is associated with insulin resistance and can be associated with type 2 diabetes. World Health Organization (WHO) says that smoking cigarettes significantly raises the risk of developing type 2 diabetes by 30-40 % compared with individuals who do not smoke. Many people with diabetes continue to smoke despite being at high risk (Cardiovascular disease, Pulmonary disease, Nephropathy, Neuropathy, Hypertension). The aim of the study was to investigate the "Prevalence of diabetes in smokers and non smokers in males and its associated risk among out patients in tertiary care hospital". We performed a cross-sectional observational study, includes 531 of participants based on a survey questionnaires. The survey was carried out in Arunai Medical College & Hospital at Tiruvannamalai (December 2024 – February 2025). As a result of the survey shows the prevalence of diabetes is significantly higher in smoker males compared to non smoker males as well as smokers are associated with high risk.

KEY WORDS: Smoking, diabetes, nicotine, reactive oxygen species, oxidative stress, risk factors, nerve damage, angiopathy, pneumonia, pancreatitis.

I. INTRODUCTION

SMOKING

- Smoking is a habit that involves burning and inhaling tobacco or other substances. It's a leading cause of preventable deaths worldwide, linked to various health issues like heart disease, stroke, lung cancer and chronic obstructive pulmonary disease (COPD).
- Smoking is the act of inhaling and exhaling the smoke produced by burning tobacco or other plant material, typically through a cigarette, cigar, pipe, or hookah.

TYPES

1. Cigarette smoking
2. Cigar smoking
3. Pipe smoking
4. Hookah smoking
5. Water-pipe smoking
6. E-cigarette smoking (vaping)
7. Second hand smoking (passive smoking)

COMPOSITION

1. Tobacco: Main psychoactive substance
2. Nicotine: Highly addictive alkaloid
3. Tar: Carcinogenic residue
4. Carbon monoxide: Toxic gas
5. Volatile organic compounds (VOCs): Harmful chemicals

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DANGER OF SMOKING

RISK FACTOR

Cancer Risk

1. Lung Cancer
2. Oral Cancer
3. Oesophageal Cancer
4. Stomach Cancer
5. Pancreatic Cancer
6. Bladder Cancer
7. Kidney Cancer
8. Cervical Cancer

Cardiovascular Risk

1. Heart Attack
2. Stroke
3. High Blood Pressure(HBP)
4. Atherosclerosis
5. Peripheral Artery Disease(PAD)

Respiratory Risk

1. Chronic Obstructive Pulmonary Disease (COPD): Smoking damages lung tissue.
2. Emphysema: Smoking destroys lung air sacs.
3. Chronic Bronchitis: Smoking inflames airways

Other Risk

1. Premature Aging
2. Infertility
3. Pregnancy Complications
4. Gum Disease
5. Tooth Loss
6. Blindness
7. Bone Loss

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DIABETES

- Diabetes Mellitus(DM) often known as Diabetes. It is a common endocrine disease characterized by sustained high blood sugar level. Diabetes is due to either the pancrease not producing enough insulin, or the cells of the body becoming unresponsing to the hormones effects. It is a group of disease that result in too much of sugar in the blood (high blood glucose). Diabetes also known as hyperglycemia.
- Diabetes is a chronic, metabolic disease characterized by elevated levels of blood glucose (or blood sugar); which leads over time to serious damage to the heart, blood vessels, eyes, kidneys and nerves. Diabetes is a common condition that affects people of all ages.

Types

- Type 1
- Type 2
- Type 3 (Gestational)

Symptoms

Causes

- Family history
- Obesity
- Drinking alcohol/Smoking
- Age
- Insulin resistance
- Heart disease
- Autoimmune disease
- Hormonal Imbalance
- pancreatic damage
- Genetic Mutation**.**

Complication

- Eye disease
- Foot problems
- Heart disease
- Kidney disease
- Nerve problems
- Cancer
- Depression

SMOKING INDUCE DIABETES

- Smoking has been shown to increase the risk of developing Type 2 diabetes mellitus (T_2DM) and can make managing diabetes more challenging. The harmful chemicals in cigarettes can lead to inflammation and insulin resistance, making it harder for the body to regulate blood sugar levels.
- World health organization (WHO) says that smoking cigarettes significantly raises the risk

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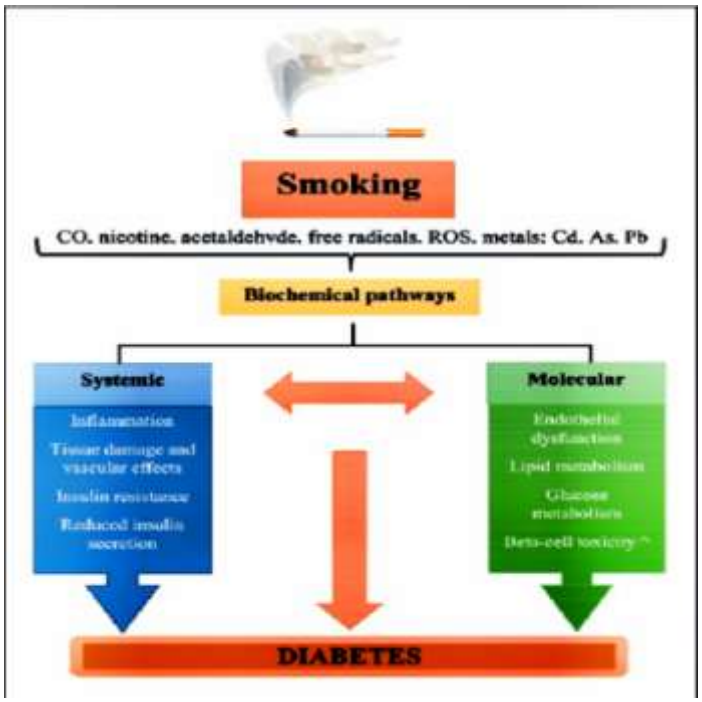
of developing type 2 diabetes by 30% - 40% compared with individuals who do not smoke.



MECHANISM OF ACTION ON SMOKING INDUCE DIABETES

- When chemicals from cigarette smoke meet oxygen in the body, this process can also cause cell damage, called oxidative stress. Both oxidative stress and inflammation may increase the risk of developing diabetes.
- Smoking mechanism in diabetes involves multiple factors:

Direct Mechanism

1. Insulin Resistance: Smoking damages cell membranes, reducing insulin receptor sensitivity.
2. Pancreatic Damage: Smoking harms pancreatic beta-cells, decreasing insulin production.
3. Nicotine's Impact: Nicotine increases glucose levels, reduces insulin sensitivity and damages pancreatic cells.
4. Oxidative Stress: Smoking generates free radicals, damaging cellular components.

Indirect Mechanism

1. Weight Gain: Smoking cessation often leads to weight gain, increasing diabetes risk.
2. Vascular Damage: Smoking damages blood vessels, reducing circulation and glucose delivery.
3. Inflammation: Smoking causes systemic inflammation, contributing to insulin resistance.
4. Genetic Predisposition: Smoking interacts with genetic factors, increasing diabetes risk.

PREVALENCE OF DIABETES AMONG SMOKERS

- Diabetes rates among smokers reveal a concerning trend. Smokers have a higher prevalence of diabetes compared to non-smokers, highlighting the detrimental impact of smoking on metabolic health.

PREVALENCE OF DIABETES AMONG NON-SMOKERS

- Comparing diabetes rates between smokers and non-smokers underscores the importance of lifestyle choices in disease prevention. Non-smokers generally have lower rates of diabetes, showcasing the protective effects of avoiding smoking.

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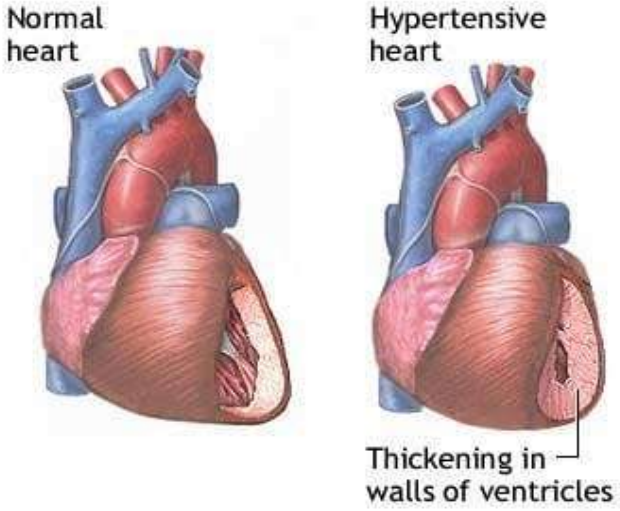
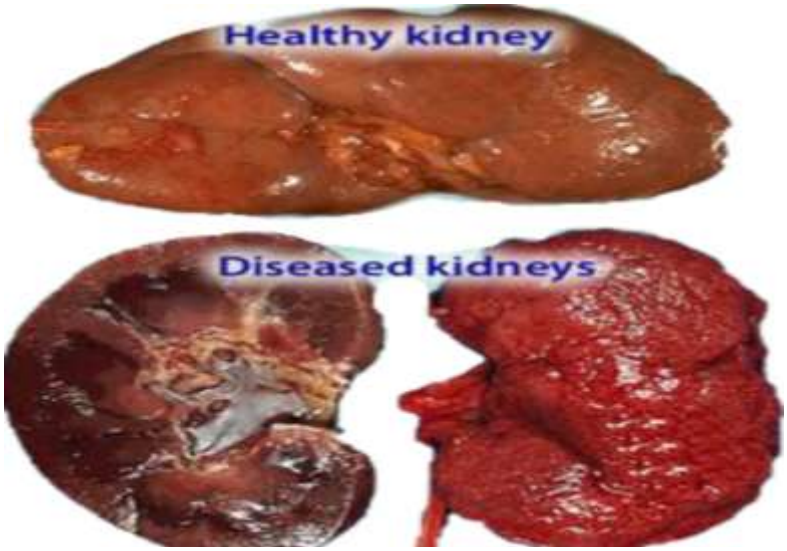
ASSOCIATED RISK FACTORS
HYPERTENSION



- Hypertension or high blood pressure. Hypertension in smokers with diabetes is a condition where a person's blood pressure is consistently too high, defined as a systolic blood pressure (SBP) of 140 mm Hg or higher and/or a diastolic blood pressure (DBP) of 90 mm Hg or higher individuals who smoke and have diabetes.
- Hypertension in non-smokers with diabetes is defined as a systolic blood pressure (SBP) of 130 mmHg or higher, or a diastolic blood pressure (DBP) of 80 mmHg or higher, in individuals with diabetes who do not smoke.

KIDNEY DAMAGE



- Compared to people who don't smoke, people who smoke and have diabetes are more likely to develop protein in their urine and subsequent terminal renal failure.

Smoking and diabetes can damage the kidney in several ways including

i. Reducing blood flow to the kidney, which can damage the filtering units of the kidney.
ii. Causing inflammation in the kidney, which can lead to scarring and damage.

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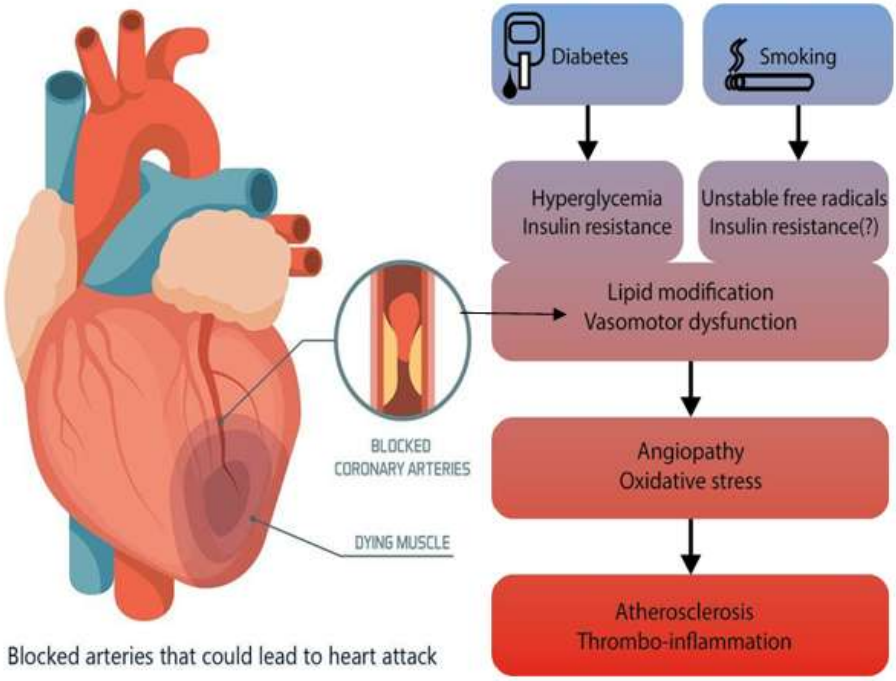
iii. Increasing blood pressure, which can put a strain on the kidney.
iv. Promoting the development of kidney stones.
v. Diabetic nephropathy, which is a type of kidney disease that is caused by diabetes.
vi. End-stage renal disease (ESRD), which is a condition in which the kidney are no longer able to function properly.
vii. Kidney failure, which is a condition in which the kidney stop working completely.

HEART DISEASE



Blocked arteries that could lead to heart attack

- Smoking is a major risk factor for heart disease.
- Smoking increases bad cholesterol level (LDL - Low Density Lipoprotein) slower good cholesterol level (HDL-High Density Lipoprotein).Over time, high cholesterol increases the risk of heart disease. The chemicals you inhale when you smoke cause damage to your heart and blood vessels that makes you more likely to develop, coronary heart disease (CHD), stroke, artherosclerosis, heart attack etc. People with diabetes the linings of blood vessels may become thicker, making it more difficult for blood to flow through the vessels, diabetic patients experience more changes in the blood vessels that can lead to cardio vascular disease(CVD). Smokers with diabetes have higher risk of heart disease than non-smokers with diabetes.

LUNG DISEASE

- Smoking and diabetes can increase the risk of developing several lung disease including,

Asthma

- People with diabetes are twice as likely to have asthma as people without diabetes
- Smoking can make asthma worse, causing more frequent and Severe asthma attacks

COPD

- Smoking is the leading cause of (COPD), which can cause breathing problems

Lung infections

- People with diabetes and lung disease are at higher risk of developing lung infection, Such as pneumonia.PNA is dangerous for people with diabetes.

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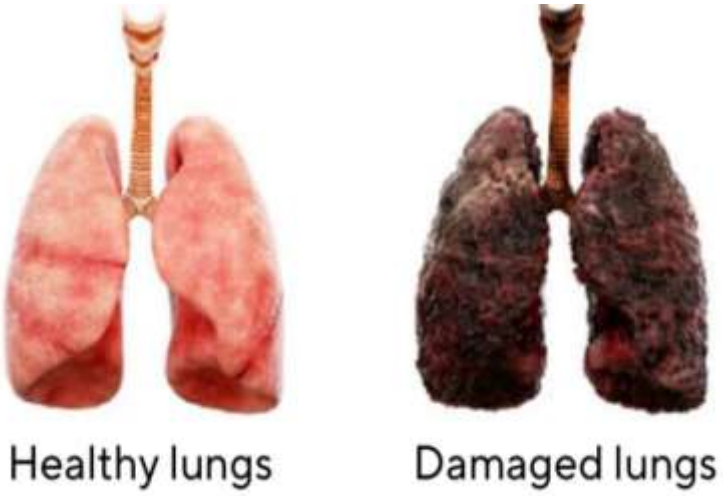
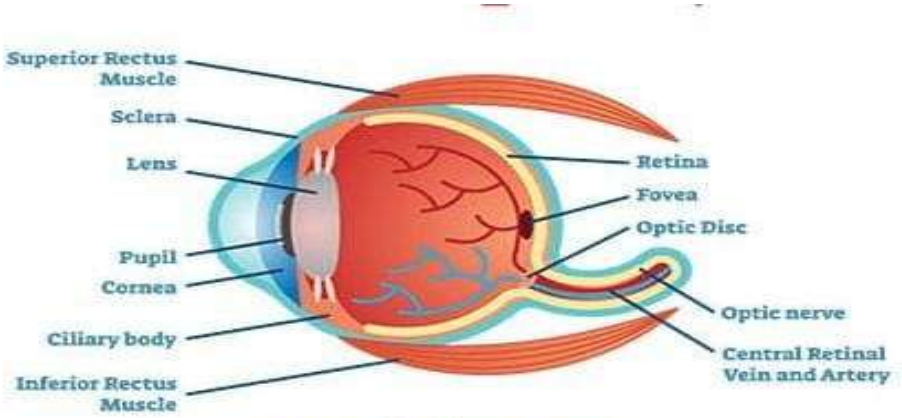
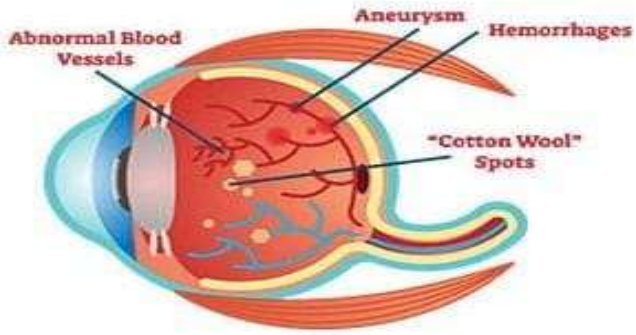


VISION LOSS OR BLINDNESS



Healthy Eye



Diabetic Eye

- When you smoke cigarettes, you can damage important parts of your eyes necessary for maintaining clear eyesight and vision.
- Diabetic patients who also smoke are at a significantly increased risk of developing vision problems, primarily due to a condition

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called diabetic retinopathy(DR), where the blood vessels in the retina become damaged, leading to blurry vision, spots, and potential vision loss if left untreated; smoking further exacerbates this risk by worsening blood sugar control and damaging the delicate blood vessels in the eye.

NERVE PROBLEMS

- Smoking significantly increase the risk of nerve damage, particularly in individuals with diabetes, these condition is known as Diabetic peripheral neurophathy (DPN), smoking causes inflammation and oxidative stress, which damages the tissues of the nerves.
- Nicotine constricts blood vessels, reducing blood flow to nerves and existing nerve damage this leading to symptoms like numbness, tingling and pain in the hands and feet.
- Nerve damage related to non-smoker with diabetic patients also called as diabetic neuropathy(DN), which is a complication of diabetes where high blood sugar levels can damage nerves throughout the body .
- Mostly it affects the nerve in the feet and legs.
- Some common condition are Diabetic Foot Ulcer (DFU),Gangrene, swollen legs, amputation etc.

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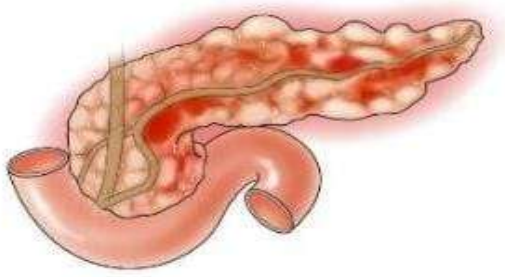
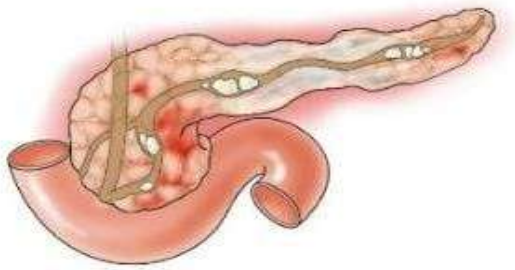
PANCREATIC DAMAGE



Acute pancreatitis



Chronic pancreatitis

- When a smoker inhales, nicotine and other toxic chemicals enter the bloodstream.
- These chemicals travel to the pancrease and cause inflammation and oxidative stress, this damage the pancreatic cells including islet cells and beta cells.
- Damaged beta cells impairs insulin production, making it harder for the body to regulate blood sugar levels.

METHODOLOGY

STUDY DESIGN:

Cross – sectional Survey study using questionnaire.

STUDY PERIOD:

The study was conducted during the month of December (2024) to February (2025).

STUDY PLACE:

The study was conducted in ARUNAI MEDICAL COLLEGE & HOSPITAL, Tiruvannamalai, Tamil Nadu.

STUDY REQUIREMENT:

- For the survey study we require a well designed& validated questionnaire form.
- The questionnaire form includes the details of the patient name, age, IP/OP number.
- Subjects were selected based on inclusion & exclusion criteria.

INCLUSION CRITERIA:

- Selected only male patients.
- Conducted this on smokers & non-smokers.
- Patients from age group above 30 years

EXCLUSION CRITERIA:

- Omitting female patients.
- Patient who are not interested in taking the survey.

STUDY METHOD:

- Interacting with patient regarding the diagnosis & explaining briefly about our survey informations.
- To the willing participants we asking & providing the questionnaire form & the data was collected.
- Other information such as risk factors was collected in the same questionnaire form.
- Mean time for taking survey was 15 mins to 20 mins.
- Analyze and interpret the collected data.
- Report submission.

STUDY TOOLS USED:

- Consent form (Annexure I)
- Survey questionnaire form (Annexure II)

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DESIGNING OF QUESTIONNAIRE FORM:

- ICMR - Indian Council of Medical Research
- WHO – World Health Organization
- ADA – American Diabetic Association
- TDT – Tobacco Dependent Treatment

OBSERVATION

Totally 531 participants were enrolled in this study based on the inclusion and exclusion criteria.

GENDER WISE DISTRIBUTION:

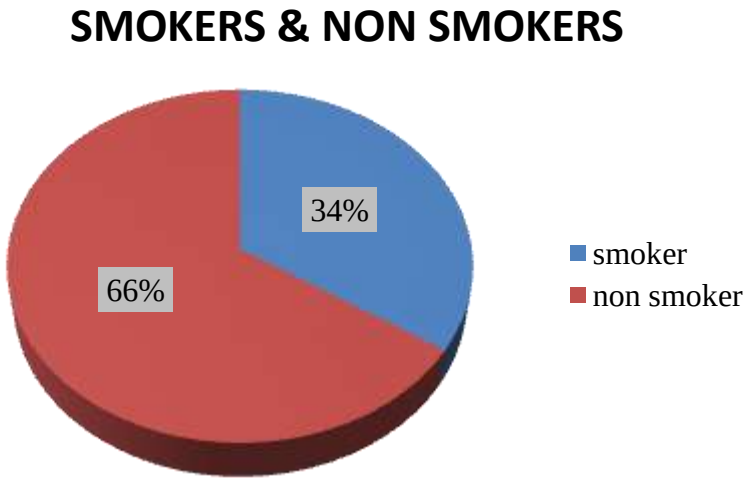
The study population consisting of 531 male out patients in tertiary care hospital.

AGE WISE DISTRIBUTION:

Majority of the patients were in the age group of above 30 years.

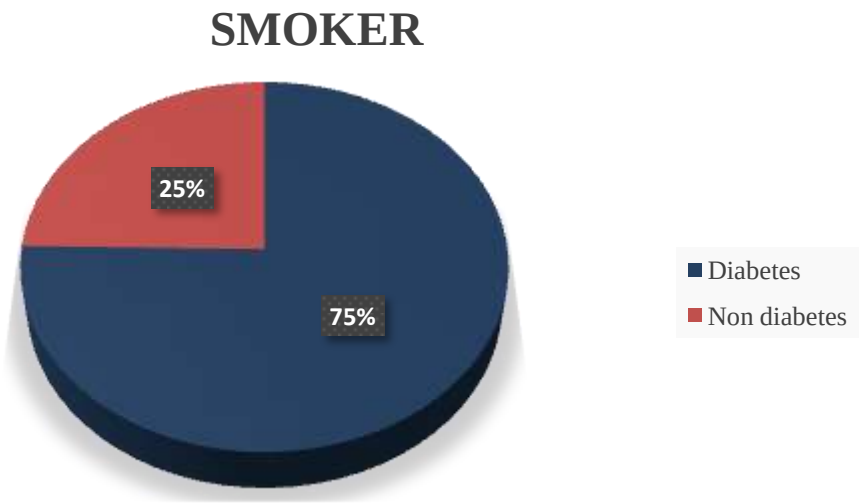
SMOKERS AND NON SMOKERS:

The data were collected from out patients in ARUNAI MEDICAL COLLEGE & HOSPITAL. Totally 531 responses were collected, in which out patients who are smokers (34%) &non smokers (66%).



PREVALENCE OF DIABETES IN SMOKERS:

Out of 182 patients 137 were smoker with diabetes (75%) & remaining 45 were smoker without diabetes (25%).



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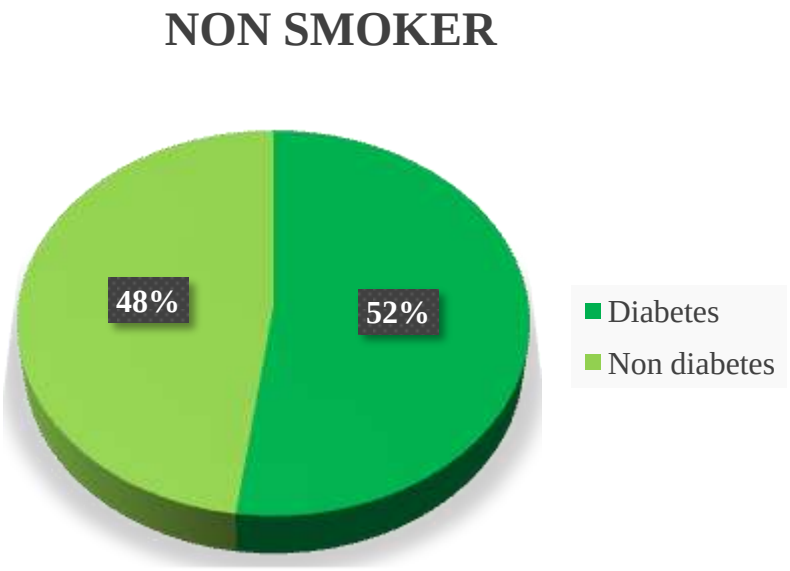
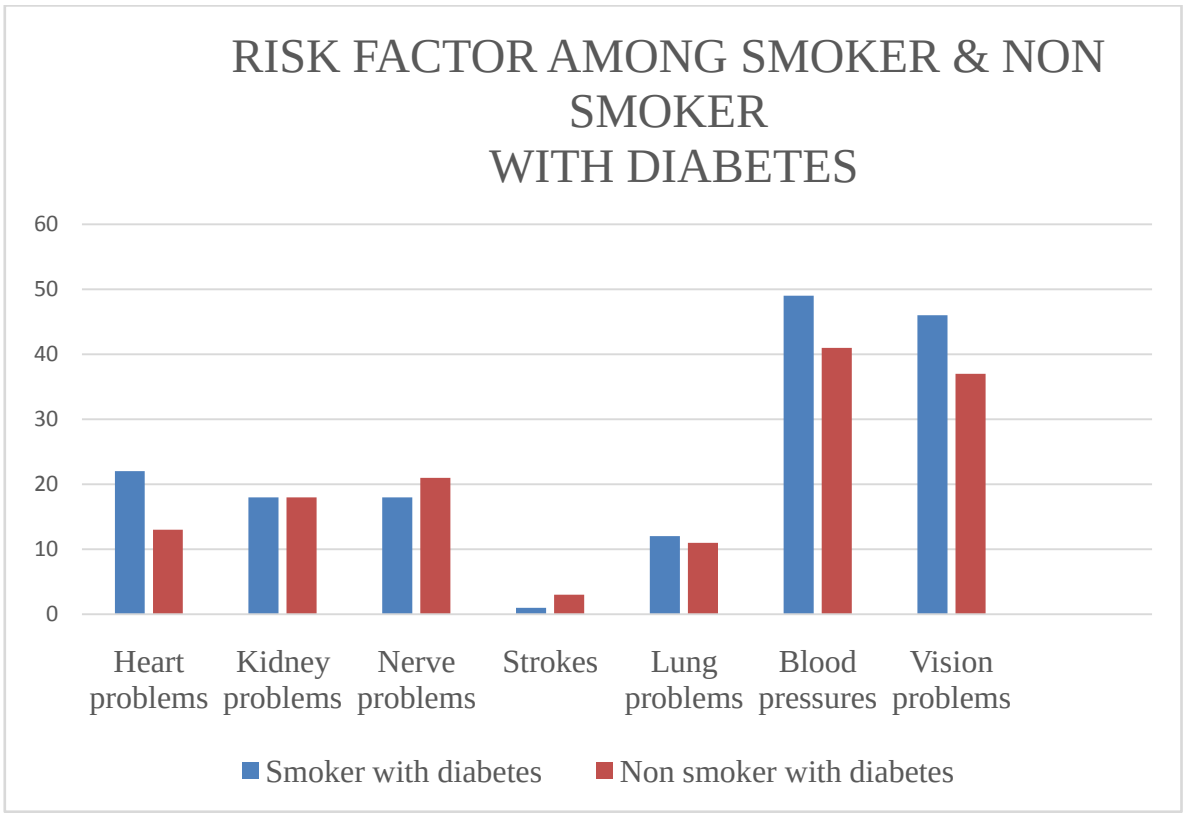
PREVALENCE OF DIABETES IN NON SMOKERS:

Out of 349 patients 182 were non smoker with diabetes (52%) & remaining 167 were non smoker without diabetes (48%)



ASSOCIATED RISK FACTORS:

Common risk factors such as heart problems, kidney problems, nerve problems, stroke, lung problems, blood pressure & vision problems.



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S.NO	QUESTIONS	FREQUENCY	COUNT	PERCENTAGE
1.	Are you a smoker?	Yes No	179 343	34.3% 65.7%
2.	For how many years have you smoking?	Recently 2-5 Years 5-10 Years More than 10 years	12 26 60 83	6.6% 14.4% 33.1% 45.9%
3.	How many cigarettes do you smoke per day?	2-5 5-10 10-15 Nil	89 42 32 108	32.8% 15.5% 11.8% 39.9%
4.	Do you smoke even when you're sick?	Yes No	46 226	16.9% 83.1%
5.	Did you experience any changes in your taste sensation after smoking?	Yes No	7 261	2.6% 97.4%
6.	Do you experience any trouble in sleeping?	Yes No	152 372	29% 71%
7.	Do you have any cardiovascular system (cvs) disorders?	Yes No	58 465	11.1% 88.9%
8.	Do you experience any smoking-related symptoms (coughing, shortness of breath, sneezing) ?	Yes No	89 378	19.1% 80.9%

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9.	After smoking, did you noticed any changes in your weight?	Yes No	52 227	18.6% 81.4%
10.	Are you a Diabetic patient?	Yes No	317 208	60.4% 39.6%

11.	How long have you had diabetes?	0-3 Years 4-6 Years 6-10 Years More than 10 years	90 68 72 86	28.5% 21.5% 22.8% 27.2%
12.	Do you have any family history of Diabetes?	Yes No	193 324	37.35 62.7%
13.	Do you experience frequent urination or thirst?	Yes No	250 267	48.45 51.6%
14.	Have you noticed any changes in your diabetes symptoms increases since you started smoking?	Yes No	14 229	5.8% 94.2%
15.	Do you follow any dietary restrictions or special meals?	Yes No	165 353	31.9% 68.1%
16.	Have you experienced any Diabetes related complications?	Kidney disease Nerve damage Nil	43 70 410	8.2% 13.4% 78.4%
17.	Have you noticed any changes in your blood sugar levels after smoking?	Yes No	18 229	7.3% 92.7%

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18.	Have you been diagnosed with stroke?	Yes No	10 509	1.9% 98.1%
19.	When you had Diabetes?	Before smoking condition After smoking condition	1 130	0.8% 99.2%
20.	Do you know smoking affects Diabetes?	Yes No	98 431	18.5% 81.5%

21.	Do you drink alcohol(Yes/No),how often do you drink alcohol?	Daily Several times a week About once a week Less than once a week	6 50 17 59	4.5% 37.9% 12.9% 44.7%
22.	Do you know smoking cessation counselling reduces Diabetes?	Yes No	71 443	13.8% 86.25
23.	Have you ever been diagnosed with asthma?	Yes No	15 506	2.9% 97.15
24.	Do you have high blood pressure?	Yes No	138 384	26.4% 73.6%
25.	Have you noticed any changes in your vision?	Yes No	149 369/	28.8% 71.2%
26.	What type of diabetes do you have?	Type-1 Type-2 Nil	11 289 99	2.8% 72.4% 24.8%
27.	Do you have any Vascular complications?	Yes No	45 479	8.6% 91.4%

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28.	Have you noticed your wound healing rate?	Slow Fast Nil	212 191 125	40.2% 36.2% 23.7%
29.	Have you ever feel tingling or numbness in your hands and feet?	Yes No	204 326	38.5% 61.5%
30.	Have you been diagnosed with chronic obstructive pulmonary disease or lung disease?	Yes No	28 502	5.3% 94.7%

II. RESULTS

Based on the survey responses of 531 participants,182 (34%) participants were smokers and 349 (66%) participants were non-smokers.

In smokers (182 participants), prevalence of diabetes is 75% (137participants) as well as in non smokers (349 participants), prevalence of diabetes is 52% (182 participants).

The majority of participants were above 30 years old.

The survey results indicate a higher prevalence of diabetes among smokers compared to non smokers. Smoking is associated with poor diabetes management and increased risk of complications. Due to this smokers with diabetes associated with higher risk compared to non smokers. These findings emphasizes the importance of smoking cessation and effective diabetes management to mitigate associated risk problems.

As the result of the survey responses of 531 the prevalence of diabetes is higher in smokers compared to non-smokers.

III. DISCUSSION

In this study, we administered a questionnaire survey to participants, about prevalence of diabetes in smokers and non smokers in males and it's associated risk at Arunai medical college and hospital, Tiruvannamalai, Tamil Nadu, India.

Our survey results showed that prevalence of diabetes is higher in smokers compared to non smokers.

Most of the Smokers are being without awareness of smoking induce diabetes & they didn't know about it's associated risk.

Smokers with diabetes patients are associated with higher risk compared to non smokers.

The WHO says smoking cigarettes significantly raises the risk of developing type 2 diabetes by 30-40% compared with individuals who do not smoke.

Through this study we know that prevalence of diabetes in smokers was notably higher than non smokers.

IV. CONSLUSION

From the above study we can understand that there is no proper awareness of prevalence of diabetes on smokers and non smokers in males with its associated risk.

We shared knowledge with the outpatients to inform them about the survey purpose and benefits. Smoking appears to directly contribute to the increased incidence of diabetes in this population.

The prevalence of diabetes is significantly higher in smoker males compared to non-smoker males. Smoking increases the risk of developing insulin resistance, leading to elevated blood sugar levels and an increased risk of developing diabetes, particularly type 2 diabetes.

The risk of diabetes increases with the number of cigarettes smoked. This means the more you smoke, the higher risk including cardiovascular

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disease, hypertension, stroke, kidney disease, lung damage, vision loss, and neuropathy.

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ANNEXURE

ANNEXURE-I

CONSENT FORM

I, _____ (Participant Name), hereby give my consent to participate in the survey titled,**" Prevalence of diabetes in smokers and non smokers in males and its associated risk among out patients in tertiary care hospital"**. I understand the purpose of this survey and voluntarily agree to provide the requested information. I understand that the survey/questionnaire will be conducted in person and that it will take approximately _____of my time to complete. I acknowledge that my responses will be kept confidential and used solely for research purposes. By continuing with the survey, I signify my consent to participate.

Signature: **Date:**

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ஒப்புதல்படிவம்

நான், _____
(பங்கேற்பவரின்பெயர்),**"புகைபிடிப்பவர்கள்மற்றும்புகைப்பிடிக்காதஆண்களில்நீரிழிவுநோய்பரவுவதும மற்றும்மூன்றாம்நிலைசிகிச்சைமருத்துவமனையில்வெளிநோயாளிகளிடையேஅதனுடன்தொடர்புடைய ஆபத்து"**.என்றதலைப்பிலானகணக்கெடுப்பில்பங்கேற்பதற்குஎனதுஒப்புதலைத்தருகிறேன்.இந்தக்கருத் துக்கணிப்பின்நோக்கத்தைப்புரிந்துகொண்டு,கோரப்பட்டதகவலைவழங்குவதற்குதானாகமுன்வந்துஒப் புக்கொள்கிறேன். கருத்துக்கணிப்பு/கேள்வித்தாள்நேரில்நடத்தப்படும்என்பதையும், அதைமுடிக்கசுமார்_____எனதுநேரம்எடுக்கும்என்பதையும்புரிந்துகொண்டேன். எனதுபதில்கள்ரகசியமாகவைக்கப்படும்மற்றும்ஆராய்ச்சிநோக்கங்களுக்காகமட்டுமேபயன்படுத்தப்படு ம்என்பதைஒப்புக்கொள்கிறேன்.கணக்கெடுப்பைத்தொடர்வதன்மூலம், பங்கேற்பதற்கானஎனதுசம்மதத்தைக்குறிக்கிறேன்.

கையொப்பம் :தேதி :

ANNEXURE-II
SURVEY QUESTIONNAIRE FORM

NAME: **AGE:** **GENDER:**
IP/OP NUMBER:

1.Are you a smoker?
☐ Yes
☐ No

2.For how many years have you smoking?
☐ Recently
☐ 2 – 5 years
☐ 5 – 10 years
☐ More than 10 years

3.How many cigarette (s) do you smoke per day?
☐ 2 – 5
☐ 5 – 10
☐ 10 – 15
☐ Nil

4.Do you smoke even when you're sick?
☐ Yes
☐ No

5.Did you experience any changes in your taste sensation after smoking?
☐ Yes
☐ No

6.Do you experience any trouble in sleeping?
☐ Yes
☐ No

7.Do you have any cardiovascular system (cvs) disorders?
☐ Yes
☐ No

8.Do you experience any smoking-related symptoms (coughing, shortness of breath, sneezing) ?
☐ Yes
☐ No

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9.After smoking, did you noticed any changes in your weight?
☐ Yes
☐ No
10.Are you a Diabetic patient?
☐ Yes
☐ No
11.How long have you had diabetes?
☐ 0 – 3 years
☐ 4 – 6 years
☐ 6 – 10 years
☐ More than 10 years
12.Do you have any family history of Diabetes?
☐ Yes
☐ No
13.Do you experience frequent urination or thirst?
☐ Yes
☐ No
14.Have you noticed any changes in your diabetes symptoms increases since you started smoking?
☐ Yes
☐ No
15.Do you follow any dietary restrictions or special meals?
☐ Yes
☐ No
16.Have you experienced any Diabetes related complications?
☐ Kidney disease
☐ Nerve damage
☐ Nil
17.Have you noticed any changes in your blood sugar levels after smoking?
☐ Yes
☐ No
18.Have you been diagnosed with stroke?
☐ Yes
☐ No
19.When you had Diabetes?
☐ Before smoking condition
☐ After smoking condition
20.Do you know smoking affects Diabetes?
☐ Yes
☐ No
21.Do you drink alcohol(Yes/No),how often do you drink alcohol?
☐ Daily
☐ Several times a week
☐ About once a week
☐ Less than once a week
22.Do you know smoking cessation counseling reduces Diabetes?
☐ Yes
☐ No
23.Have you ever been diagnosed with asthma?
☐ Yes
☐ No
24.Do you have high blood pressure?
☐ Yes
☐ No

25.Have you noticed any changes in your vision?

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☐ Yes
☐ No

26.What type of diabetes do you have?
☐ Type-1
☐ Type-2
☐ Nil

27. Do you have any Vascular complications?
☐ Yes
☐ No

28. Have you noticed your wound healing rate?
☐ Slow
☐ Fast
☐ Nil

29.Have you ever feel tingling or numbness in your hands and feet?
☐ Yes
☐ No

30. Have you been diagnosed with chronic obstructive pulmonary disease or lung disease?
☐ Yes
☐ No

இணைப்பு-II

சர்வேகேள்வித்தாள்படிவம்

பெயர்: **வயது:** **பாலினம்:**

IP/OP எண்:

1. நீங்கள்புகைப்பிடிப்பவரா?

☐ ஆம்
☐ இல்லை

2.எத்தனைவருடங்களாகநீங்கள்புகைபிடிக்கிறீர்கள்?

☐ சமீபத்தில்
☐ 2-5 ஆண்டுகள்
☐ 5-10 ஆண்டுகள்
☐ 10 ஆண்டுகளுக்கும்மேலாக

3. நீங்கள்ஒருநாளைக்குஎத்தனைசிகரெட்கள்புகைக்கிறீர்கள்?
☐ 2-5
☐ 5-10
☐ 10-15
☐ இல்லை

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4.உங்களுக்குஉடல்நிலைசரியில்லாமல்இருந்தாலும்புகைபிடிப்பீர்களா?

- ☐ ஆம்
- ☐ இல்லை

5.புகைபிடித்தபிறகுஉங்கள்சுவைஉணர்வில்ஏதேனும்மாற்றங்கள்ஏற்பட்டதா?

- ☐ ஆம்
- ☐ இல்லை

6.உறங்குவதில்ஏதேனும்பிரச்சனைஉள்ளதா?

- ☐ ஆம்
- ☐ இல்லை

7.உங்களுக்குஏதேனும்இருதயகோளாறுகள்உள்ளதா?

- ☐ ஆம்
- ☐ இல்லை

8. புகைபிடித்தல்தொடர்பானஅறிகுறிகளை (இருமல், மூச்சுத்திணறல், தும்மல்) நீங்கள்அனுபவிக்கிறீர்களா?

- ☐ ஆம்
- ☐ இல்லை

9.புகைபிடித்தபிறகு, உங்கள்எடையில்ஏதேனும்மாற்றங்களைநீங்கள்கவனித்தீர்களா?

- ☐ ஆம்
- ☐ இல்லை

10. நீங்கள்நீரிழிவுநோயாளியா?

- ☐ ஆம்
- ☐ இல்லை

11.உங்களுக்கு எவ்வளவுகாலமாகசர்க்கரைநோய்உள்ளது?

- ☐ 0-3 ஆண்டுகள்
- ☐ 4-6 ஆண்டுகள்
- ☐ 6-10 ஆண்டுகள்
- ☐ 10 ஆண்டுகளுக்கும்மேலாக

12. நீரிழிவுநோயின்குடும்பவரலாறுஉங்களுக்குஉள்ளதா?

- ☐ ஆம்
- ☐ இல்லை

13. உங்களுக்குஅடிக்கடிசிறுநீர்கழித்தல்அல்லதுதாகம்ஏற்படுகிறதா?

- ☐ ஆம்
- ☐ இல்லை

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14.நீங்கள்
புகைபிடிக்கஆரம்பித்ததில்இருந்துஉங்கள்நீரிழிவுஅறிகுறிகளில்ஏதேனும்மாற்றங்கள்ஏற்படுவதைநீங்கள்கவனித்தீர்களா?

- ☐ ஆம்
- ☐ இல்லை

15. நீங்கள்ஏதேனும்உணவுக்கட்டுப்பாடுகள்அல்லதுசிறப்புஉணவுகளைப்பின்பற்றுகிறீர்களா?

- ☐ ஆம்
- ☐ இல்லை

16. நீரிழிவுதொடர்பானஏதேனும்சிக்கல்களைநீங்கள்அனுபவித்திருக்கிறீர்களா?

- ☐ சிறுநீரகநோய்
- ☐ நரம்புபாதிப்பு
- ☐ ஒன்றும்இன்மை

17.புகைபிடித்த பிறகுஉங்கள்இரத்தசர்க்கரைஅளவுகளில்ஏதேனும்மாற்றங்களைநீங்கள்கவனித்தீர்களா?

- ☐ ஆம்
- ☐ இல்லை

18. உங்களுக்குபக்கவாதம்இருப்பதுகண்டறியப்பட்டதா?

- ☐ ஆம்
- ☐ இல்லை

19. உங்களுக்குஎப்போதுசர்க்கரைநோய்இருந்தது?

- ☐ புகைபிடிக்கும்நிலைமுன்

- ☐ புகைபிடிக்கும்நிலைக்குப்பிறகு

20.புகைபிடித்தல் நீரிழிவுநோயைபாதிக்கும்என்பதுஉங்களுக்குதெரியுமா?

- ☐ ஆம்
- ☐ இல்லை

21.நீங்கள் மதுஅருந்துவீர்களாமற்றும்எப்பொழுதெல்லாம்மதுஅருந்துவீர்கள்?

- ☐ தினசரி
- ☐ வாரத்திற்குபலமுறை
- ☐ வாரம்ஒருமுறை
- ☐ வாரத்திற்குஒருமுறைகுறைவாக

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22.புகைபிடிப்பதை
நிறுத்துவதற்கானஆலோசனைகள்நீரிழிவுநோயைக்குறைக்கும்என்பதுஉங்களுக்குத்தெரியுமா?

- ☐ ஆம்
- ☐ இல்லை

23. நீங்கள்எப்போதாவதுஆஸ்துமாநோயால்கண்டறியப்பட்டிருக்கிறீர்களா?

- ☐ ஆம்
- ☐ இல்லை

24.உங்களுக்கு உயர்இரத்தஅழுத்தம்உள்ளதா?

- ☐ ஆம்
- ☐ இல்லை

25. உங்கள்பார்வையில்ஏதேனும்மாற்றங்களைநீங்கள்கவனித்தீர்களா?

- ☐ ஆம்
- ☐ இல்லை

26. உங்களுக்குஎன்னவகையானநீரிழிவுநோய்உள்ளது?

- ☐ வகை-1
- ☐ வகை-2
- ☐ ஒன்றும்இன்மை

27.உங்களுக்கு இரத்தகுழாய்பிரச்சனைகள்உள்ளதா?

- ☐ ஆம்
- ☐ இல்லை

28. உங்கள்காயம்குணமடைவதைநீங்கள்கவனித்தீர்களா?

- ☐ மெதுவாக
- ☐ வேகமாக

29.நீங்கள்
எப்போதாவதுஉங்கள்கைகள்மற்றும்கால்களில்கூச்சஉணர்வுஅல்லதுஉணர்வின்மைஉணர்ந்திருக்கிறீர்களா?

- ☐ ஆம்
- ☐ இல்லை

30.உங்களுக்கு
நாள்பட்டதடுப்புநுரையீரல்நோய்அல்லதுநுரையீரல்நோய்இருப்பதுகண்டறியப்பட்டதா?

- ☐ ஆம்
- ☐ இல்லை