

The Comparison Between Prevalence of Alcoholic Fatty Liver Disease and Nonalcoholic Fatty Liver Disease and Associated Risk Factors Among School Teachers

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I. INTRODUCTION

Fatty liver disease has progress one Most of all common chronic liver Ailments worldwide and are now assessed. A major public health Concern due to its increasing prevalence And long- term complications[1],[2].The condition is characterized by excessive accumulation of fat within liver cells And is basically classified. Alcoholic Fatty Liver Disease(AFLD) and Non- Alcoholic Fatty Liver Disease(NAFLD) depends on alcohol consumption history And associated metabolic abnormalities[3],[4]. Both disorders May remain asymptomatic at first, however progressive liver injury Finally, fibrosis, cirrhosis, liver failure, And hepatocellular carcinoma If not diagnosed and managed an early stage[5],[6]. Alcoholic Fatty Liver Disease Primarily developed due to chronic and overuse. Alcohol intake, Which causes oxidative stress, inflammation mitochondrial dysfunction, and hepatocyte damage within the liver tissue[7],[8]. Continuous alcohol exposure Disturbing lipid metabolism And promotes triglyceride accumulation In hepatocytes, thus increase the risk Of alcoholic hepatitis and cirrhosis[9]. Research studies have shown that alcohol- related liver disease makes a significant contribution to global morbidity and mortality, Especially in between middle- aged adults and individuals Experimenting chronic stress And unhealthy lifestyle behaviors[10],[11]. On the contrary, Non- Alcoholic Fatty Liver Disease I happen individuals who drink little or no alcohol and are strongly associated with obesity, insulin resistance, Diabetes mellitus, hypertension, dyslipidemia, etc metabolic syndrome[12],[13]. NAFLD is quickly recognized as the hepatic manifestation Of metabolic syndrome And due to

urbanization, it has become much more widespread. Sedentary lifestyles, Unhealthy eating habits, and reduced physical activity[14],[15]. The disease spectrum ranging from simple steatosis Non-alcoholic steatohepatitis(NASH), fibrosis, cirrhosis, and liver cancer[16]. Epidemiological studies indicate this. NAFLD prevalence including has increased rapidly in both developed and developing countries. India, where lifestyle transitions and obesity rates grows significantly[17],[18]. Occupational health factors Execute too an important role in the development of liver diseases. School teachers Representation a professional group in front continuous mental workload, Prolonged sitting hours, emotional stress, irregular dietary patterns, And inadequate physical activity[19],[20]. Teaching Often associated with classroom pressure, Administrative responsibility, examination duties, And psychological exhaustion, All of these can have a negative impact. Metabolic health[21].

Such occupational stress I can contribute. Unhealthy coping behaviors including smoking, alcohol consumption, Sleep disorders etc poor nutritional practices, This increases the sensitivity fatty liver disease[22],[23]. Recent studies What is the report? increasing prevalence of obesity, high blood pressure and diabetes between educational professionals due To sedentary occupational patterns and lack of exercise[24],[25]. Teachers Implement often long hours Prepare lectures, review assignments, carry out online classes, and performance administrative work, As a result of the reduction physical movement And increased metabolic risk[26]. These occupational and behavioral factors may contribute more strongly. NAFLD prevalence In comparison with AFLD

between teachers[27]. But among stress- related alcohol consumption certain individuals Still making it AFLD Inside is a big health obstacle this population[28]. Gender And age also affects. The occurrence Of fatty liver disease. Female teachers, Especially in them middle age, can reveal higher prevalence Linked to obesity NAFLD Because of hormonal changes And reduced physical activity[29]. Men teachers, But the other hand, Relative performance higher alcohol consumption rate and increased risk Alcohol- related liver dysfunction[30]. In addition, aging is associated with aging. Reduced metabolic efficiency, session insulin resistance, And majority visceral fat, Thus the increase the risk of liver disease progression[31]. The burden Of fatty liver disease expands beyond physical health And affects significantly. Quality of life, Labor productivity, and economic stability[32]. Persons with liver dysfunction Often fatigue, weakness, poor concentration, And reduced work efficiency, Something that can have a negative impact. Professional performance between teachers[33]. Also advanced liver disease is growing healthcare expenditure Because of long- term treatment requirements and hospitalization[34]. Several diagnostic techniques Currently used for the identification Of fatty liver disease, including liver function tests, ultrasound, computed tomography, magnetic resonance photography, FibroScan, and liver biopsy[35]. Early diagnosis is important because lifestyle modifications Favor regular exercise, healthy diet, stress reduction, alcoholism, and weight management can be significantly reduced disease progression And improve liver health[36],[37].

Public health interventions Emphasis on awareness, occupational wellness programs, And routine medical screening That is why they are necessary. High- risk occupational groups Esteem teachers[38]. Though numerous studies have investigated fatty liver disease I the general population, The limited literature compares specifically. AFLD and NAFLD prevalence between school teachers and evaluates associated occupational risk factors[39]. Therefore, this review paper aims To compare the prevalence of Alcoholic Fatty Liver Disease and Non- Alcoholic Fatty Liver Disease between school teachers During the exam major associated risk factors including alcohol

consumption, obesity, stress, sedentary behavior, Diabetes, high blood pressure, etc unhealthy dietary patterns[40].

II. LITERATURE REVIEW

Several researchers It has been reported fatty liver disease has become one Because of the fastest growing liver diseases worldwide lifestyle modifications, Urbanization, obesity and metabolic disturbances[1],[2]. Earlier studies Mainly focused Alcoholic Fatty Liver Disease(AFLD), where chronic alcohol intake was identified as the major cause Of hepatic fat accumulation and liver injury[3]. Continuous alcohol consumption Found to induce. Oxidative stress, inflammation and hepatocyte damage, Finally on alcoholic hepatitis and cirrhosis[7],[8]. Global epidemiological reports Further confirmed that related to alcohol liver disease It plays an important role in binding to the liver mortality and healthcare burden[10],[11]. I later years, Focused on research. Non- Alcoholic Fatty Liver Disease(NAFLD), As it turned out a common metabolic liver disorder Among individuals with little or none alcohol intake[12]. Studies have proven this. NAFLD is strongly associated with obesity, insulin resistance, In a technique 2 diabetes mellitus, Hypertension, dyslipidemia and metabolic syndrome[13],[14]. Marchesini et al. Identified NAFLD Seam the hepatic component Of metabolic syndrome And emphasized the relationship between abdominal obesity and liver fat accumulation[13]. Likewise, epidemiological investigations revealed that increasing obesity prevalence has played a direct role in increasing NAFLD cases Both in development and development countries[15],[17]. Research studies Held in Asian populations Specially reported high prevalence of NAFLD due To changing dietary habits, less physical activity, And sedentary lifestyles[18]. The Indian studies showed that even non- obese individuals can develop. NAFLD Because of insulin resistance And abnormal fat metabolism[17]. These findings Suggest it fatty liver disease Not limited yet obese populations alone And can occur in people with normal body weight But unhealthy metabolic profiles[16]. Several authors Also researched occupational health factors Affiliated liver disease development. Occupational stress, irregular routines, Lack of exercise, and unhealthy food

consumption has been identified as important contributors To metabolic disorders[19],[20]. Teachers are considered extremely impaired due to prolonged sitting. Hours, Classroom Responsibilities, administrative workload, And psychological pressure[21].

Studies But teacher health Revealed it chronic stress And sedentary occupational behavior A significant increase the risk of obesity, High blood pressure, diabetes, etc metabolic syndrome[22],[24]. Focus on research lifestyle factors It was demonstrated physical inactivity player a major role I NAFLD progression[25]. Teachers often use extended periods Prepare lectures, review assignments and deliver them out classroom activities with limited opportunities to exercise[26]. Such occupational patterns To promote weight gain and insulin resistance, Thus the increase hepatic fat deposition[27]. In addition irregular dietary practices Like skipping meals, consuming processed foods, And excessive intake of sugary beverages Feel available to contribute more liver dysfunction[23]. Based on gender studies has shown varying prevalence patterns between AFLD and NAFLD[29]. The male population usually appears. Higher alcohol consumption And for that reason greater susceptibility To AFLD[28], While women illustrate more obesity. Metabolic abnormalities and NAFLD prevalence, Especially the latter middle age[29],[30]. Hormonal imbalance, Menopause etc reduced physical activity It has also been linked to women increased fat accumulation I liver tissues[31]. Several clinical studies What is the diagnosis? the progression and complications Of fatty liver disease. Simple hepatic steatosis can gradually develop into fibrosis, cirrhosis and hepatocellular carcinoma If early management is not started[5],[6]. Researchers Furthermore, observed that with patients NAFLD Often develops cardiovascular diseases, Insulin resistance, and chronic metabolic complications[32]. Likewise, AFLD progression has been linked to severe inflammation, Liver failure, etc increased mortality Prices[9]. Diagnostic approaches to fatty liver disease Much progress has been made over the years. Ultrasound, liver function test, FibroScan, Computed tomography, and magnetic resonance imaging is often used for disease detection and severity assessment[35]. A liver biopsy is pending. The gold standard However, for diagnosis, non- invasive

imaging methods are increasingly preferred because safety and convenience[36]. Various prevention and management strategies It is also discussed in previous literature. Lifestyle changes are still the most. Effective intervention to both AFLD and NAFLD[37]. The researchers emphasized. The importance Of regular physical activity, balanced nutrition, weight reduction, and reduce stress management liver fat accumulation[38]. Alcohol cessation programs It was declared necessary for prevention. Progression of AFLD[3], While Mediterranean dietary patterns and exercise interventions demonstrated significant benefits I NAFLD management[16]. Despite extensive research But fatty liver disease, limited studies specially investigated the comparative prevalence of AFLD and NAFLD between school teachers[39]. For the most component available studies Focus on general adult populations instead of occupational groups. Therefore, additional research Need to understand how occupational stress, frivolous work tests, dietary behavior, and lifestyle practices influence liver disease prevalence between teachers[40].

III. PREVALENCE OF AFLD AND NAFLD AMONG SCHOOL TEACHERS

The prevalence Of fatty liver disease There has been a significant increase during the last two decades Because of rapid lifestyle changes, urbanization, unhealthy dietary habits, And reduced physical activity[5],[15]. Between occupational groups, School teachers is quickly recognized as a vulnerable population Due to prolonged sitting hours, stress, irregular schedules, and lack of exercise[19],[20]. These occupational and behavioral factors contribute significantly. Metabolic abnormalities and liver dysfunction, Thus the increase the prevalence Both are alcoholics Fatty Liver Disease(AFLD) and alcohol- accessible Fatty Liver Disease(NAFLD) between teachers[21]. Several epidemiological studies It has been demonstrated NAFLD is much more common among teachers In comparison with AFLD[12],[20]. The major reason behind this trend is the growing burden of obesity, Diabetes mellitus, hypertension, etc metabolic syndrome within sedentary professional populations[13],[14]. Teachers Deploy often long periods in classrooms, staff rooms, And online teaching environments with

minimal physical movement, leading to shortages energy expenditure And increased fat accumulation[24],[26]. Research findings Factor it out prolonged occupational inactivity increases significantly the risk Of hepatic steatosis and insulin resistance[25]. Studies Held between educational professionals has shown that NAFLD prevalence can be between 20% And 45% By age, sex, body mass index, and lifestyle practices[17],[18]. I middle- aged teachers, Overweight and abdominal fat accumulation was identified as major determinants of liver fat deposition[13]. Increased waist circumference, tall triglyceride levels, And insulin resistance is often seen. Teachers Assessment with NAFLD[7],[27]. In addition, unhealthy dietary behaviors As the consumption of processed foods, Sweet drinks etc irregular meals Generate a significant contribution to metabolic imbalance And hepatic fat accumulation[23]. AFLD prevalence between school teachers is relatively small, but still represents an important occupational health issue[10],[11]. Chronic occupational stress, Emotional exhaustion, and psychological pressure Can encourage alcohol consumption Seam a coping mechanism between certain teachers[22]. Studies have reported this. Male teachers Relative performance higher alcohol intake In comparison with female teachers, This increases susceptibility to alcohol- related liver damage. [28],[29].

Continuous alcohol exposure damages hepatocytes through oxidative stress And inflammatory pathways, leads to hepatic steatosis and progression against alcoholic hepatitis and cirrhosis[8],[9]. Gender differences Also effective disease prevalence patterns between teachers. Female teachers Exhibition higher prevalence Linked to obesity NAFLD Because of hormonal changes, less physical activity, And metabolic disturbances[29],[30]. Post- menopause has been linked to hormonal imbalances increased visceral fat deposition and insulin resistance, An increase in both the risk of NAFLD progression[31]. On the contrary, male teachers show greater prevalence of AFLD due To higher alcohol consumption Price and smoking habits[28].

Age is another important factor Affiliated fatty liver disease prevalence between teachers[31]. Minor teachers Exposure in general lower prevalence Rate due to better metabolic health And higher physical activity levels. However, there is a significant

increase after diffusion the age Of 40 years Because of reduced metabolic efficiency, Weight gain, high blood pressure, and diabetes mellitus[14],[24]. Studies It has also been reported long teaching experience And increased workload is linked to higher metabolic risk factors And greater likelihood of liver dysfunction[20]. The COVID- 19 pandemic Added more sedentary behavior between teachers Because of online teaching systems And reduced physical activity[26]. Many teachers Experienced weight gain, Stress sleep disturbances, And irregular dietary patterns during prolonged lockdown periods, Contribution to increased prevalence of obesity and NAFLD[25]. Under mental stress and anxiety this period also increased unhealthy coping behaviors including alcohol intake I some individuals[22]. Regional and socio- economic differences are also affected. The occurrence Of fatty liver disease[17]. Citizens teachers Demonstrate normally higher prevalence of NAFLD Because of sedentary lifestyles, Rapid food consumption, and reduced outdoor activities [18]. On the contrary, rural teachers Can demonstrate relatively lower prevalence due To greater physical activity and traditional dietary patterns. However, the increase modernization and lifestyle transitions gradually decreases these differences [15].

Several studies Underline it fatty liver disease is often asymptomatic during the early stages, a s a result of that delayed diagnosis between teachers [35]. Many individuals remain ignorant. Their condition to routine medical examinations Display the height. Liver enzymes or fatty infiltration But ultrasonography [36]. Delayed detection increases. The risk of disease progression against fibrosis, cirrhosis and hepatocellular carcinoma[5],[6]. Overall, available literature clearly indicates that NAFLD prevalence between school teachers is significantly higher than AFLD Because of increasing obesity, Absent professional conduct, diabetes, and metabolic syndrome[12],[20]. However AFLD continues a significant concern between teachers in front chronic stress And unhealthy alcohol consumption Exercises[10],[11]. These findings highlight the importance Of occupational health interventions, Lifestyle changes, and regular health screening program for teachers To reduce the growing burden of liver disease[37],[38].

IV. ASSOCIATED RISK FACTORS

Fatty liver disease It develops due to several metabolic, behavioral, occupational and environmental factors acting collectively. Liver function And fat metabolism[5],[12]. Both Alcoholic Fatty Liver Disease (AFLD) and Non-Alcoholic Fatty Liver Disease(NAFLD) is linked to several common risk factors; however the severity and mechanism of disease progression It varies according to alcohol consumption Patterns and metabolic abnormalities[3],[13]. Between school teachers, Professional stress, sedentary lifestyle, obesity, unhealthy dietary habits, And lack Of physical activity Significantly increased susceptibility to liver diseases [19],[20]. Alcohol consumption is the primary risk factor responsible to AFLD development[7],[10]. Chronic alcohol intake Disturbing lipid metabolism, is growing oxidative stress, And promotes inflammation inside. Liver tissues[8]. Excessive alcohol exposure leads to hepatitis and causes damage. Accumulation of triglycerides I liver cells, leading to the end alcoholic hepatitis, Fibrosis and cirrhosis[9]. Teachers Experimenting prolonged occupational stress, Mental exhaustion, and emotional pressure can adopt alcohol consumption Seam a coping behavior, Thus the increase the risk Related to alcohol liver disease[22]. Studies have consistently reported higher prevalence of alcohol intake between male teachers In comparison with female teachers[28]. Obesity is one Of the strongest predictors of NAFLD and have a lot in common sedentary occupational groups[13],[14]. Excess body fat, Specifically abdominal obesity, makes a significant contribution to hepatic fat accumulation and insulin resistance[27]. Teachers often use long hours Sitting below classroom activities, lesson preparation, administrative work, And online teaching, As a result of that reduced physical movement And increased body weight[24],[26]. High body mass index and waist circumference is strongly linked to increased NAFLD prevalence between educational professionals[17]. Insulin resistance and diabetes mellitus are also large risk factors to NAFLD progression[7],[12]. Insulin resistance Promoting excessive fatty acid accumulation in hepatocytes and barriers glucose metabolism[15]. Persons with type 2 diabetes mellitus Frequent exposure increased

prevalence Of hepatic steatosis Due to malfunction metabolic regulation[14]. Research studies It has been demonstrated teachers with diabetes and obesity There are quite a few greater risk Of developing advanced liver disease than metabolically healthy individuals[18].

Hypertension and dyslipidemia Feel voluntary to contribute more fatty liver disease Development[13],[32]. High blood pressure And abnormal lipid profiles is often observed in patients with NAFLD And metabolic syndrome[14]. Increased triglyceride levels and reduced high- density lipoprotein cholesterol To promote fat deposition within liver tissues[27]. Studies What is the indication of this? teachers in front long- term occupational stress Frequent exposure metabolic abnormalities including hypertension and dyslipidemia[20]. Sedentary lifestyle is another significant contributor To liver disease prevalence[24],[25]. Lack Of regular exercise Reduces energy expenditure And promotes obesity, insulin resistance, And hepatic fat accumulation[37]. Teachers often experiment. Limited opportunities to physical activity Because of the long period teaching Imbalance in hours and workload[26]. During recent years, Online teaching Behavior and digital work environments has increased further sedentary behavior between educational professionals[24]. Dietary habits Demonstrate too an important role I fatty liver disease Development[23]. Excessive implement of processed foods, Fried foods, refined carbohydrates, and sugary beverages is growing lipid accumulation And metabolic dysfunction[16]. Irregular meals, skipping breakfast, etc inadequate nutritional intake Usually seen between busy teaching professionals[21]. Such unhealthy dietary behaviors increase obesity prevalence And worse metabolic syndrome, Thus the increase NAFLD risk[15]. Psychological stress and sleep disturbances is strongly linked to both AFLD and NAFLD[22]. It counts as a lesson. One Most of all stressful professions Because of classroom management, exam papers, workload pressure, And administrative responsibilities[19]. Chronic stress is growing cortisol secretion, which contributes insulin resistance, obesity, And abnormal fat metabolism[38]. Stress Can also encourage unhealthy coping behaviors including smoking, alcohol consumption, emotional overeating, And physical inactivity[22],[23]. Smoking increases the risk. Liver injury By

adding oxidative stress And inflammatory responses within hepatocytes[8],[28]. Smokers Shows often greater severity of liver fibrosis And metabolic dysfunction In comparison with non- smokers[35]. Simultaneous exposure to smoking and alcohol consumption can accelerate progress towards advanced liver disease[10]. Age and gender also affect sensitivity. Fatty liver disease[29],[31]. Associated with aging. Reduced metabolic efficiency, Weight gain, and higher prevalence of hypertension and diabetes[14]. Individual teachers, Exposure, especially after menopause increased risk Related to obesity NAFLD Because of hormonal imbalance And visceral fat accumulation[30]. Men teachers Relative performance higher AFLD prevalence due To greater alcohol intake And smoking behaviors[28]. Genetic predisposition and family history Contribute too fatty liver disease The incident[6]. Certain genetic variants are affected. Lipid metabolism and increased sensitivity hepatic fat accumulation Even me individuals with normal body weight[16]. Environmental factors, urbanization and change lifestyle patterns More intensity disease prevalence Globally[15]. Overall, obesity, insulin resistance, alcohol intake, Stress sedentary lifestyle, diabetes mellitus, High blood pressure, smoking, etc unhealthy dietary habits are most important risk factors Affiliated AFLD and NAFLD between school teachers[12],[20]. These interrelated factors add up. The burden of liver disease And highlight the importance Of preventive strategies Focused on lifestyle modification, Stress reduction, and occupational health improvement[37],[38].

V. COMPARATIVE ANALYSIS OF AFLD AND NAFLD

Alcoholic Fatty Liver Disease(AFLD) and Non-Alcoholic Fatty Liver Disease(NAFLD) There are moves from both sides excessive fat accumulation Inside hepatocytes; however their etiology, pathogenesis, prevalence patterns, And associated risk factors Significantly different[3],[4]. AFLD Primarily developed due to chronic and overuse. Alcohol consumption, While NAFLD It is mainly caused by metabolic abnormalities such as obesity, insulin resistance, diabetes mellitus, and dyslipidemia[12],[13]. Though both conditions Can

develop into fibrosis, cirrhosis and hepatocellular carcinoma, Mechanisms responsible for disease progression Quite different[5],[6].

One Of the major differences between AFLD and NAFLD is the causative factor responsible to hepatic steatosis[7]. I AFLD, Alcohol increases metabolism toxic metabolites such as acetaldehyde and reactive oxygen species, which promotes and damages hepatocytes. Inflammatory responses within liver tissues[8]. Chronic changes in alcohol exposure. Lipid metabolism And growing triglyceride accumulation, eventually leads to liver injury and fibrosis[9]. On the contrary, NAFLD is strongly associated with obesity and metabolic syndrome, where insulin resistance Promoting excessive fatty acid accumulation within hepatocytes[14],[15]. Studies Issue it out metabolic dysfunction player a central role I NAFLD progression[13]. The prevalence pattern of both diseases There is also a difference between school teachers[17],[20]. Research evidence Recommend that NAFLD prevalence is significantly higher than AFLD between educational professionals Because of sedentary occupational behavior, Overweight etc reduced physical activity[24],[26]. Teachers Use often prolonged periods Sitting in the classroom while studying, lesson planning, Online instruction, and administrative activities, Thus the increase metabolic risk factors[25].

But the other hand, The prevalence of AFLD is relatively modest, but clinically significant. Teachers Experimenting chronic stress and alcohol dependence[22]. Gender differences I am also obvious. The occurrence of AFLD and NAFLD[28],[29]. Male teachers Exhibit normally greater prevalence of AFLD Because of higher alcohol consumption And smoking habits[10]. On the contrary, female teachers to demonstrate higher prevalence of NAFLD due obesity, hormonal imbalance, less physical activity, And metabolic disturbances, Especially the latter menopause[30],[31]. Hormonal changes Contributes to women visceral fat accumulation And increased insulin resistance, Thus the height NAFLD risk[29]. Clinical manifestations of AFLD and NAFLD is often just below the early stages[5]. Both conditions can remain asymptotic for prolonged periods, While some individuals experience fatigue, weakness, abdominal discomfort, And high liver enzymes[35].

However disease progression I AFLD is often associated with alcoholic hepatitis And severe inflammatory injury Because of continuous alcohol toxicity[9]. I NAFLD, Progress toward Non-Alcoholic Steatohepatitis(NASH), Fibrosis and cirrhosis happening slowly chronic metabolic dysfunction And inflammatory mechanisms[16]. Metabolic abnormalities is more strongly linked to NAFLD In comparison with AFLD[13],[14]. Conditions such as obesity, diabetes mellitus, high blood pressure and dyslipidemia is more common in diagnosed individuals. NAFLD[15]. With teachers sedentary lifestyles And poor dietary habits Frequent exposure these metabolic risk factors, Thus the increase disease prevalence[23]. Though metabolic disturbances I might as well AFLD patients, Alcohol consumption remains the primary pathogenic factor[7]. Psychological and occupational stress Affects both diseases but through different pathways[19],[22]. Occupational stress between teachers I can contribute. Emotional overeating, less physical activity, And obesity is increasing as a result NAFLD prevalence[24]. But the same time, Stress can trigger motivation unhealthy coping behaviors Favor smoking and alcohol consumption, leads to AFLD development[28]. Therefore, occupational stress I contribute indirectly. Both forms Of fatty liver disease between educational professionals. The prognosis and management approaches of AFLD and NAFLD Also different[36]. I AFLD, Total abstinence from alcohol is considered the most important intervention For prevention disease progression[3]. Nutritional support, counseling and psychological rehabilitation programs There may be further improvements. Liver health[37]. I NAFLD, Including lifestyle changes regular exercise, weight loss, healthy diet, And glycemic control is the

primary therapeutic strategies[16],[38]. Studies It has been shown moderate weight loss reduces significantly hepatic fat accumulation And improves insulin sensitivity[15]. Another important difference between AFLD and NAFLD They are social and public health burden[32],[34]. NAFLD has progress one Most of all common chronic liver Due to global malfunction increasing obesity And sedentary lifestyles[20]. The disease is now recognized as a major component Of metabolic syndrome And contributes significantly to it. Cardiovascular morbidity and mortality[32]. AFLD, However, remains intact a serious concern Because of alcohol abuse And its association with liver cirrhosis and related to the liver deaths[10],[11]. Despite their differences, AFLD and NAFLD Share many common pathological mechanisms including oxidative stress, inflammation hepatocyte injury, and progression of fibrosis[8],[33]. Both disorders Finally can develop liver failure And hepatocellular carcinoma If not properly diagnosed and managed[5],[6]. Early screening and lifestyle intervention So it is necessary to reduce disease burden between high- risk occupational groups Like teachers[38]. Overall, comparative analysis indicates that NAFLD is much more common among school teachers due to obesity, sedentary behavior, Diabetes mellitus, and metabolic syndrome[20],[24]. AFLD prevalence remains low but continues to affect vulnerable individuals. Chronic alcohol consumption And occupational stress[22],[28]. These findings to emphasize the importance of workplace health promotion programs, regular medical examination, stress management, And lifestyle modification Mitigation strategy the burden of liver disease between educational professionals[37],[40].

Parameter	AFLD	NAFLD
Main Cause	Chronic alcohol consumption	Obesity and metabolic syndrome
Major Risk Group	Individuals with alcohol dependence	Obese and diabetic individuals
Prevalence in Teachers	Lower prevalence	Higher prevalence
Gende Mostly Affected	Male teachers	Female teachers
Occupational Association	Stress-related drinking	Sedentary work pattern
Common Symptoms	Fatigue, nausea, abdominal pain	Fatigue, obesity, insulin resistance
Disease Progression	Alcoholic hepatitis and cirrhosis	NASH and fibrosis
Main Preventive Measure	Alcohol cessation	Weight management and exercise
Associated Disorders	Smoking and alcohol abuse	Diabetes and hypertension
Long-Term Outcome	Liver failure	Liver fibrosis and liver cancer

Table 1. Comparison Between AFLD and NAFLD Among School Teachers

VI. PREVENTION AND MANAGEMENT STRATEGIES

6. Prevention and Management Strategy Prevention and management of Alcoholic Fatty Liver Disease (AFLD) and Non- Alcoholic Fatty Liver Disease (NAFLD) Necessitate a multidisciplinary approach Focused on lifestyle modification, early diagnosis, Nutritionally management, physical activity, And the lack of occupational risk factors[36],[37]. Since school teachers is in front prolonged stress, rude behavior, irregular dietary patterns, And limited physical activity, Targeted preventive interventions is necessary to reduce disease prevalence within this occupational group[19],[20]. Lifestyle modification Considered the most effective strategy For prevention both AFLD and NAFLD[15],[38]. Regular physical activity improve insulin sensitivity, Reduces, increases obesity. Lipid metabolism, and decreases hepatic fat accumulation[24],[25]. Research studies Suggest it moderate aerobic exercise Like walking, jogging, cycling and yoga reduce it significantly. Liver fat And improves metabolic health[37]. Teachers So engaging in it should be encouraged. Daily exercise routines And avoid sitting for long periods while working. Hours[26]. Weight management player a critical role I NAFLD prevention Because obesity is strongly linked. Hepatic steatosis and insulin resistance[13],[14]. Studies It has been demonstrated gradual weight reduction improve liver enzyme levels and reduces the tendency to do so. Fibrosis and cirrhosis[16]. With teachers increased body mass index And abdominal obesity Should be adopted healthy lifestyle practices including calorie control, Exercise regularly, and balanced nutrition[17]. Even moderate ones weight loss Can improve significantly liver function And metabolic profile[15]. Healthy dietary habits is another essential component of disease prevention[23]. Excessive use of processed foods, Saturated fats, refined carbohydrates, sugary beverages, And fried foods is growing the risk of obesity And fatty liver disease[16]. Nutrition studies Construct a recommendation consumption of fruits, Vegetables whole grains, lean protein, and omega- 3 fatty acids to maintain liver health[38]. Mediterranean- style dietary patterns has shown beneficial effects In reducing hepatic fat accumulation And improvement insulin sensitivity[

15]. Teachers should also refrain. Irregular eating patterns And excessive fast- food consumption Because of busy work Route[21]. Alcohol cessation Holds the most important preventive strategy to AFLD management[3],[10]. Continuous alcohol intake Reasons oxidative stress And progressive liver injury, eventually leads to fibrosis and cirrhosis[8],[9]. Individuals Assessment with AFLD Should be avoided entirely alcohol consumption to stop disease progression[37].

Counseling program, psychological support, And rehabilitation services can assist. Teachers less alcohol dependence And adapt healthier coping mechanisms to stress management[22]. Stress management Equally important because occupational stress I contribute both AFLD and NAFLD through behavioral and hormonal pathways[19],[22]. Chronic stress is growing cortisol secretion, causes obesity, insulin resistance, Emotional overeating, and unhealthy lifestyle behaviors[38]. Teachers often experience related stress. Classroom management, exam papers, workload pressure, And administrative responsibilities[20]. Stress reduction techniques Favor meditation, yoga, counseling, relaxation exercises, And recreational activities Therefore, mental and physical health can improve between the two. Teachers[37]. Regular medical screening And early diagnosis are necessary to prevent severe liver complications[35]. Many individuals with fatty liver disease Remain asymptomatic during the early stages, As a result of that delayed treatment[5]. The routine liver function tests, ultrasound, FibroScan, And metabolic assessments can help identify liver abnormalities Before moving on to fibrosis and cirrhosis[36]. Educational institutions Should be organized periodic health checkup program for teachers to improve early detection and disease awareness[40].

Management Of associated metabolic disorders Also important for control. NAFLD progression[14]. Correct treatment of diabetes mellitus, hypertension, dyslipidemia, and obesity Significantly reduces liver toxicity complications[13]. Blood sugar monitoring, blood pressure control, and lipids management So should be merged preventive healthcare strategies to teachers[32]. Adequate sleep And proper daily routine maintenance Contribute too improved metabolic health[21]. Lack of sleep is associated with obesity, insulin resistance, And increased

hepatic fat accumulation[24]. Teachers should be retained. Balanced work Planning and avoidance excessive workload It disturbs sleep patterns and physical fitness[20]. Cease smoking. Another important preventive measure Because smoking aggravates oxidative stress and liver inflammation[8],[28]. Combined exposure Smoking and alcohol consumption Accelerates progress towards advanced liver disease And growing risk of liver cancer[10]. Information campaigns and counseling services can facilitate to reduce the incidence of smoking. Educational professionals[37]. Public health awareness And occupational wellness programs demonstrate an important role in disease prevention[40]. School and educational institutions Should be promoted health education programs Focus on nutrition, physical activity, Stress reduction, and regular medical checkups[41]. Workplace wellness measures included yoga sessions, exercise activities, mental health Advice etc awareness seminars Can be improved significantly teachers' overall health status[19].

Recent studies has also stressed the importance of individualized treatment approach based on disease severity And associated risk factors[36]. Patients with advanced liver disease may be necessary pharmacological management and specialist consultation in addition To lifestyle interventions[5]. Initial phase fatty liver disease, However, it can often be managed effectively through non- pharmacological measures such as exercise. Dietary control, And avoid alcohol[15]. Overall, prevention and management of AFLD and NAFLD between school teachers Necessitate comprehensive strategies Aims to reduce obesity, stress, alcohol consumption, Metabolic abnormalities, etc sedentary behavior[20],[24]. Adoption Of healthy lifestyle practices, Regular screening, balanced diet, physical activity, And occupational wellness programs can be significantly reduced disease burden And improve quality of life between teachers[37],[40].

VII. CONCLUSION

The result Alcoholic Fatty Liver Disease(AFLD) and Non- Alcoholic Fatty Liver Disease(NAFLD) has appeared as major public health Worldwide concerns due to increasing lifestyle and metabolic causes disorders[1],[5]. The present review shows that

school teachers Representation a vulnerable occupational group due To sit for a long time hours, occupational stress, unhealthy dietary patterns, Lack of physical activity, And irregular daily routines[19],[20]. These occupational and behavioral factors contribute significantly. The development Of fatty liver disease between educational professionals. The review findings Element it out NAFLD is much more common among school teachers In comparison with AFLD[12],[20]. Increasing obesity, insulin resistance, Diabetes mellitus, hypertension, etc sedentary behavior is the major contributors responsible to increased NAFLD prevalence[13],[14]. Teachers Experience often reduced physical movement Due to classroom teaching, lesson preparation, Online education system, and administrative workload, Which increases metabolic abnormalities And hepatic fat accumulation[24],[26]. In addition unhealthy dietary practices and lack Of regular exercise Worse metabolic health And speed up disease progression[23]. Though AFLD prevalence is less than NAFLD between teachers, Related to alcohol liver disease It still remains a serious health concern[10],[11]. Chronic occupational stress, Emotional exhaustion, and psychological pressure Can encourage alcohol consumption and between smoking behaviour certain teachers[22],[28]. Continuous alcohol exposure damages hepatocytes through oxidative stress And inflammatory mechanisms, Finally, fibrosis, cirrhosis, and liver failure[8],[9]. The review Also highlights the influence of gender and age But disease prevalence[29],[31]. Female teachers There is a higher risk of being associated with obesity. NAFLD Because of hormonal imbalance, Metabolic changes, and physical inactivity, While male teachers Relative exposure higher prevalence of AFLD due To increased alcohol consumption And smoking habits[28],[30]. Aging further increases sensitivity. Liver dysfunction Because of reduced metabolic efficiency And higher prevalence of obesity, high blood pressure and diabetes mellitus[14]. Both AFLD and NAFLD may remain asymptomatic during early stages But can develop slowly severe liver complications including fibrosis, cirrhosis and hepatocellular carcinoma If not treated[5],[6]. Therefore, early diagnosis And timely intervention is very important to reduce disease burden and prevention long- term complications[35]. Lifestyle

modification, weight control, healthy diet, stress reduction, alcohol cessation, Avoid smoking, and regular physical activity The most effective prevention and stay management strategies to fatty liver disease[15],[37].

Educational institutions and healthcare organizations should apply occupational wellness Programs focused on improving physical and mental health among teachers[40]. Regular medical screening, health awareness campaigns, nutritional counseling, yoga sessions, And stress management programs can significantly reduce stress. The prevalence Of fatty liver disease within this occupational group[41]. Promotion Of healthy lifestyle behaviors between teachers Not only is it necessary for disease prevention But also for improvement work productivity And overall quality of life[32]. Finally, NAFLD represents the dominant form Of fatty liver disease between school teachers Because of increasing metabolic disorders And sedentary occupational patterns, While AFLD associated with chronic alcohol intake And psychological stress[20],[24]. Comprehensive preventive strategies And early health interventions Therefore, it is necessary to reduce. The growing burden of liver disease between educational professionals And promote long- term occupational health and well- being[37],[40].

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