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The Effect of Socioeconomic Level on Dental caries among Dental student in AL-zahrawi college in Karbala City

A Thesis

Submitted to the College of Dentistry, University of Al-Zahrawi in Partial Fulfillment of the Requirements for The Degree of Bachelors of Science in Preventive Dentistry

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Certification of the Supervisor

I certify that this project was prepared by the fifth-year students: **Mohammed Mahmood, Shahad Taher, Anfal Mustafa, Hussain Dhiaa, Huda Hussain**. under my supervision at the Dentistry College / AL_ Zahrawi University in partial fulfilment of the Graduation requirements for the Bachelor degree in the Dentistry

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Abstract

Background: The socioeconomic is important factor that effect in the severity and prevalence of most predominant and wide spread oral disease named dental caries, since this oral disease effects children, adolescents, adults and elderly peoples especially in developing countries as in Iraq. This survey was aimed to investigate the prevalence and severity of dental caries in relation to socioeconomic status.

Materials and Methods: This oral health survey was conducted among college students aged 20 years old from Al- Zahrawi University collage located in Karbala Governorate, in Iraq. The total sample composed of 200 (100 males and 100 females) selected randomly. Diagnosis and recording of dental caries were assessed according to the criteria described by WHO (1997). The modification of Kuppuswamy's index (1976) was applied for measurement of socioeconomic status.

Results: all components of DMFS and DMFT (caries experience of permanent teeth by teeth and surfaces) are higher in low socioeconomic status than those with high socioeconomic status with significant difference.

Conclusion: A high prevalence of dental caries was recorded. Socioeconomic status may affect dental caries indicating the need for public and health preventive programs among college students.

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Abbreviations

SES	**socioeconomic status**
WHO	**World Health Organization**
FDI	**Fédération Dentaire International**
DMFT	**Decayed, Missing, and Filled Teeth (permanent dentition)**
DMFS	**Decayed, Missing, and Filled Surfaces (permanent dentition)**
0	**sound tooth**
D	**Decayed crown**
M	**Filled crown**
F	**Missing tooth**
SE	**Standard error**

Introduction

Dentistry dates back to 5000 B.C. when the thinking was that the cause of dental caries was a “tooth worm.” The term “dental caries” was first reported in the literature around 1634, and it originates from the Latin word “caries,” which stands for decay. The term was initially used to describe holes in the teeth.

Dental caries is a common chronic infection resulting from tooth-adherent cariogenic bacteria, primarily Streptococcus mutans, which metabolize sugars to produce acid, demineralizing the tooth structure over time. This activity describes the evaluation and management of dental caries and highlights the role of the interprofessional team in evaluating and treating patients with dental caries.

Dental caries is a complex condition influenced by multiple factors, including diet, oral hygiene, genetics, and access to dental care. However, one of the most influential factors contributing to the prevalence and severity of dental caries is socioeconomic status (SES). SES encompasses a variety of elements, including income, education, occupation, and access to healthcare, all of which play crucial roles in determining an individual’s oral health outcomes.

Previous research has established that individuals from lower SES backgrounds are at a higher risk for developing dental caries. A study by Al-Khatib et al. (2019) in Baghdad showed that children from families with lower income and education levels exhibited a higher prevalence of dental caries compared to those from higher SES backgrounds. Similarly, a study in Karbala involving secondary school students highlighted the role of limited access to dental care, poor oral hygiene, and diet in increasing the incidence of caries among students from lower SES families (Al-Dabbagh et al., 2020).

These findings suggest that SES is a critical determinant of oral health in Iraq, with individuals from disadvantaged backgrounds facing higher barriers to maintaining good oral health.

Several Iraqi epidemiological studies were revealed a high prevalence and severity of dental caries among different age groups as well as in different geographical location (Al-Azzawi, 2000; Mubarak, 2002; Al-Eissa,2004; Al-Obadi,2008; Al-Ani, 2013).

Despite these insights, there is a lack of comprehensive studies focusing on Iraqi students aged 20 and how SES factors influence dental caries in this specific age group. As this age group is typically transitioning into adulthood and may experience changes in their oral health behaviours, it is crucial to examine how SES influences their dental health outcomes at this stage of life. Understanding these dynamics will not only contribute to the existing body of knowledge but also inform public health policies aimed at addressing oral health disparities in Iraq.

The Aim of The Present Study:

The aim of the present study is to investigate the effect of socioeconomic status (SES) on the prevalence and severity of dental caries among Iraqi students aged 20. Specifically, the study seeks to:

1. Examine the relationship between SES factors (such as family income, parental education, and access to dental care) and the occurrence of dental caries in students.
2. Assess the impact of SES on the severity of dental caries, including the number of decayed, missing, and filled teeth (DMFT index).
3. Provide recommendations for public health interventions to address the oral health needs of students from lower SES backgrounds, with the goal of reducing the burden of dental caries.

By achieving these objectives, the study aims to provide a deeper understanding of how socioeconomic factors influence oral health in Iraqi students, contributing to more targeted and effective public health policies.

Review of Literature

Review of Literature

Dental caries, or tooth decay, remains one of the most common chronic diseases globally, affecting individuals of all ages. Its prevalence, however, is not uniformly distributed across the population. Socioeconomic status (SES) plays a critical role in the development, progression, and treatment of dental caries. SES encompasses various factors, including income, education, occupation, and social class, all of which influence access to oral health resources, dietary habits, and the likelihood of receiving preventive dental care. This review examines the relationship between SES and dental caries, highlighting how socioeconomic factors contribute to oral health disparities (Petersen, P.E. (2020).

1.1 Socioeconomic Status:

Several studies have shown that individuals from lower socioeconomic backgrounds are more likely to suffer from untreated dental caries. The lack of financial resources often restricts access to dental care, preventing individuals from seeking timely preventive or restorative treatment.

Sociology is the science concerned with the organization or structure of social groups. It is the science of behavior of man in a society or group of human beings.

It studies the kinds and cause of variation in social structure: and the process by which the intactness of social structure is maintained (Krishna and Dasar, 2010).

While Economics can be defined as the economic aspects of man such as production, distribution and consumption of the three basic essentials for his living namely food, shelter and clothing – Social environment is as important as the physical and biological environments in relation to health and dis case in man.

The effect of social environment on health is clearly reflected in the differences in disease patterns (Peres e t al.2005). The last few decades have shown that social and economic factors have as much influence on health a s medical intervention. Poverty, malnutrition. Poor sanitation, in adequate housing, un employment, poor working conditions, cultural and behavioral factors all predispose to ill health (Krishna and Dasar.2010 2. Andrew 2010) stated that Socioeconomic status is an economic and sociological combined total measure of a person's work experience and an individual's or a family's economic and social position in relation to others.

based on net income. education and current occupation. When analyzing a family's SES, the household income, current occupation is examined, as well as combined income, versus with an individual, when their own attributes are assessed. Socioeconomic status (SES) is typically broken into three levels, high SES, middle SES and low SES to describe the three arca’s a family or an individual may fall into (Marmot, 2004).

Social scientists and social epidemiologists have turned their attention to a growing range of social and cultural variables as antecedents of health. These variables include SES, race/ethnicity, gender and sex roles, immigration status and acculturation, poverty and deprivation, social networks and social support, and the psychosocial work environment, in addition to aggregate characteristics of the social environments such as the distribution of income, social cohesion, social capital, and collective efficacy (Conger et al., 2010).

1.2 Socioeconomic barometer:

A broad range of SES indicators were used in different studies; family income, parents' occupation, parents' education, family economic status, deprivation status and household wealth index (Kumar et al., 2014).

1.2.1 Parental's Education level:

The education level of parents is a vital determinant of children's oral health. Parents with higher levels of education are generally more aware of the importance of dental hygiene and preventive care. They are more likely to instill healthy habits in their children, such as regular brushing and flossing, and scheduling routine dental visits. Studies have shown that children of parents with lower educational attainment tend to have higher rates of dental caries. This may be due to a lack of knowledge about proper oral care practices and the importance of regular dental check-ups. Furthermore, parents with limited education may struggle to understand health information, making it harder for them to make informed decisions regarding their children's oral health. Additionally, educated parents are often more financially stable.

This financial stability allows them to afford dental care and preventive treatments for their children. They are also more likely to have health insurance, which can significantly reduce the costs associated with dental visits. In contrast, parents with lower education levels may face barriers to accessing dental care, leading to untreated dental issues and an increased risk of caries (American Dental Association. (2019). A study by R. F. et al. (2022) assessed the effectiveness of educational interventions aimed at parents in low-income communities.

The intervention involved workshops that educated parents about oral hygiene practices and the importance of regular dental visits.

Results showed a marked improvement in children's oral health, with a significant decrease in dental caries observed in participating families.

This study demonstrated that enhancing parental education can lead to better health outcomes for children. Research by L. E. et al. (2021) focused on the disparities in oral health outcomes related to socioeconomic factors. The findings indicated that children from lower SES backgrounds had significantly higher rates of dental caries compared to their higher SES counterparts. This study highlighted the need for targeted interventions to address these disparities, ensuring that all children have access to necessary dental care and education (Gonzalez, C. D., et al. (2021).

1.2.2 Income:

Income is another crucial component of socioeconomic status that affects dental health. Families with higher incomes can afford better dental care, including routine check-ups, cleanings, and necessary treatments for dental issues. They are also more likely to have access to fluoridated water and dental products, such as toothpaste and mouthwash, which help prevent dental caries. Conversely, low-income families often face numerous barriers to accessing dental care. These barriers can include the inability to pay for dental services, lack of transportation to dental clinics, and limited availability of dental providers in their communities. As a result, children from low-income families may experience higher rates of untreated dental caries and related complications.

Moreover, low-income families may prioritize immediate needs over dental care. When faced with financial constraints, dental visits may be postponed or canceled, leading to worsening oral health.

The stress associated with financial instability can also impact parents' ability to focus on their children's oral health, further contributing to the prevalence of dental caries (Chen, X., et al. (2020).

Another systematic review and meta-analysis that was performed on tooth loss and income with adult individuals showed a connection between tooth loss (evaluated by clinical examination or self-report) and lower income Sergi L.M., Nascimento G.G., Peres M.A., Horta B.L., (2015). In 1999–2004, youth and working-age adults with low household income (<200% federal poverty level [FPL]) were at least twice as likely to have untreated caries as were their higher-income counterparts (Centers for Disease Control and Prevention [CDC] 2019). Income is also recognized as an enabling factor for access to health care (van Doorslaer et al. 2006). Cross-national variations in trends in income-related inequalities are also confirmed in outcomes of dental caries, edentulousness, number of filled teeth (Farmer et al. 2016)**.**

Within-country variations in income-related oral health inequalities by time are also confirmed (Do et al. 2010; Borrell and Talih 2012; Slade et al. 2014; Kramer et al. 2015; Roncalli et al. (2015). Finally, some studies have confirmed variations in income-related oral health inequalities according to oral health outcomes within the same population (Ravaghi et al. 2013b; Farmer et al. 2017; Mejia et al. (2014).

1.2.3 Occupation:

The occupation of parents is closely linked to their socioeconomic status and, consequently, their children's dental health. Parents who work in high-status occupations typically have better access to health care benefits, including dental insurance. This access enables them to afford preventive

dental care and treatments for their children. On the other hand, parents in low- status jobs may not receive dental benefits or may work in environments that do not prioritize health and wellness. For example, jobs with irregular hours or high demands may make it difficult for parents to schedule dental appointments for their children. Additionally, occupations that expose workers to hazardous conditions can affect overall health, including oral health.

Occupational stress can also influence parenting practices related to oral health. Parents who are overworked or stressed may have less time and energy to focus on their children's dental hygiene. This can lead to neglect of oral care routines, increasing the risk of dental caries (American Dental Association. (2019).

1.3 Socioeconomic and Oral Health:

There are many possible paths between socioeconomic position and oral health inequality that require further unpicking. However, while increasing resources for treatment services may provide benefits, the analysis here suggests that it will not resolve inequalities. Upstream action addressing risks, beliefs, behaviors, and the living environment are probably as important as affordable access to professional treatment (Steele, 2015).

1.3.1 Socioeconomic and Dental caries:

Dental caries is a global public health challenge, specifically in low- and middle-income countries (LMICs), and it has been linked to underlying socioeconomic and social disadvantages. (Kassebaum N. J 1990–2015). Caries has adverse effects on both oral and general health, as noted by the dental community and public health authorities. (Peres M.A., 2019).

Caries in permanent and deciduous teeth is well recognized as a multifactorial disease. At present, many independent risk factors are being cited across LMICs in the literature, including individual (diet [Palmer C.A., Kent Jr R 2010], oral hygiene [Hujoel P.P2018], feeding practices, low birth weight [Kotecha p 2012], hereditary enamel defects [Shaffer J.R., Wang X2015]), family maternal education [Ju X., Jamieson L.M2016], oral health knowledge [Gao J., Ruan J 2014], attitude and practice [Saied-Moallemi Z 2008], household income level [Ismail A.I2008).

Undernutrition, however, is also multifactorial. Underlying poverty, inadequate birth spacing, unclean water, low-quality food, an unhealthy environment, and a poor access to health facilities are implicated in high stunting rates in LMICs [Ali A. Current Status of Malnutrition and Stunting in Pakistani Children 2021].

1.3.1.1 caries prevalence and severity:

Dental caries is a major oral health problem affecting 2.43 billion people (35.3% of the population) worldwide in the year 2010 [systematic analysis for the Global Burden of Disease Study 2010].

The World Health Organization (WHO) emphasizes the need to reduce the global burden of dental caries in attaining optimal health. Consequently, in the year 2003, WHO and Fédération Dentaire International (FDI) World Dental Federation set global goals for oral health in 2020 to guide planners and policy makers to improve the status of oral health in their populations [Hobdell M, Petersen PE, Clarkson J, Johnson N. Global goals for oral health 2020. Int Dent J. 2003].

In spite of the fact that dental caries is the most studied oral disease in the world, the majority of studies concentrate in schoolchildren, with not enough research on the situation of the disease in young adults (Truin GJ, Koning KG 1993).

DMFT index is the most used index for the measurement of dental caries at the population level. According to Castro et al. [The knowledge and use of population-based methods for caries detection.

BMC Oral Health 2018], most of the study participants thought to use some other index yet continued to use it as according to them, they could not find a more reliable method of measurement of dental caries. Almost all indices have limitations. To date, DMFT is a widely used and accepted method of measuring dental caries at the community level. It can only detect cavitated lesions and cannot account for incidence [WHO 1997]. The identified factors for dental caries are poor oral hygiene habits, intake of cariogenic diet, and low socioeconomic status [Alhabdan YA 2018].

1.3.1.2 factors affecting caries prevalence:

Prior evidence illustrates the importance of adopting good oral health behaviors such as regular brushing of teeth, using mouthwash, and flossing teeth in reducing the disease burden and attaining optimal oral health [Amin TT 2008]. Similarly, the role of sugary foods (e.g., candies) in carcinogenesis was also well established [Woodward M 1994].

Nutrition: The results suggest that, in addition to sugar, other factors, such as other aspects of diet, exposure to fluoride and genetic effects, must be considered when seeking to explain variations in caries prevalence, and when making recommendations for caries control [Woodward M 1994].

Genetics: Heredity has been linked with dental caries incidence in scientific literature for many years. In 1899, GV Black wrote that when the family remains in one locality, with the children living under conditions similar to those of their parents in their childhood, the susceptibility of caries will be very similar in the majority of cases.

This will hold true even for particular teeth and localities first affected, the order of occurrence of cavities and the particular age at which they occur (Black GV. Susceptibility and immunity to dental caries. *Dent Cosmos* 1899; **41**: 8260).

Saliva: presents various innate or acquired defense factors capable of inhibiting bacterial invasion, growth and metabolism by different mechanisms, such as bacterial adherence and streptococci acid production. (Amerongen AV, Veerman EC. Saliva – the defender of oral cavity. *Oral Dis* 2002; **8**: 12–22.) Although the physical properties of saliva (pH, volume and viscosity) are known to modify the carious process, (Newbrun E, Frostell G).

Sugar restriction and substitution for caries prevention. *Caries Res* 1978; **12**: 65–73) the role of genes remains essentially unexplored. Differences in caries experience might be due to polymorphic acidic proline rich proteins in saliva encoded at two loci PRH1 and PRH2. (Lenander-Lumikari M, Loimaranta V. Saliva and dental caries. *Adv Dent Res* 2000; **14**: 40–47).

1.3.1.2.1 Age:

currently, dental caries and its complications are the main reason of patient visits to dentists [Admakin OI 2004- Kunin AA.1995]. This fact highlights the relevance of the problem, both in the medical and social spheres.

The results of the national epidemiological dental survey conducted by the WHO criteria in 2007–2008 [Belenova IA 2007] indicated that the prevalence of dental caries remained high among the population of the Russian Federation: caries of primary teeth was found in 84% of children aged 6, caries of permanent teeth was in 72% of children aged 12 and in 99%–100% of adults. Few studies have explored the prevalence of cavitated caries in young adults and associated etiological factors.

Brown et al.'s study using two National Health and Nutrition Examination Surveys (NHANES I and NHANES III) data found the mean Decayed, Missing Filled, Surface (DMFS) score of 24.8 and 13.9 among participants aged 18 to 25 years in NHANES I and NHANES III, respectively [Brown LJ 2002]. In addition, more caries is experienced in younger age groups, and their incidence decreases as age increases (Demirci et al., 2010).

1.3.2.2 Gender:

The variation in prevalence of dental diseases, for example in relation to age and sex, can assist in the identification of nutritional and biocultural differences in intra- and interpopulation comparisons. Since dental tissues preserves well post mortem due to their low content of organic matter, and dental procedures such as restorations were rare in the past, caries epidemiology can be studied in its original shape [Watt ME 1997]. Sex-related differences regarding caries prevalence have been studied in several populations, of which some show differences [Watson JT 2010, Lopez B 2012, Wasterlain SN 2009].

Lately hypothesis has emerged based on reproductive ecology, where gender differences in caries frequency may be attributed to age- and fertility related shifts in oral biology. The theory emphasizes the female hormones including estrogen as risk factors related to higher susceptiveness to caries, especially in pregnant women [Watson JT 2010, Lukacs JR 2016]. Many studies have demonstrated that caries rates are higher in women than in men. Evidence has been provided to demonstrate that caries risk factors for women include a different salivary composition and flow rate, hormonal fluctuations, dietary habits, genetic variations, and particular social roles among their family. Systemic diseases that have been found to be associated with caries have also been found to have an association with the female gender. An extended exposure to the oral cavity or a more cariogenic oral microflora has not been proven to contribute to higher caries in women. Further research in these areas could be done in the future to explain their contribution, or lack thereof, to a higher caries rate in women (Ferraro and Vieira, 2010).

Others have demonstrated significant differences in genetic susceptibility to dental caries between the sexes using family-based methods; however, genetics only explains part of the differences in caries experience between males and females.

Many questions remain, including which exogenous factors are most important, whether these differ among populations, and how these can be remedied to reduce sex disparities. Furthermore, the differences in dental caries experience between the sexes have yet to be characterized for some underserved populations (Shaffer et al., 2015).

1.3.1.2.3 Fluoride:

The major reasons for the burden of dental caries in countries relate to the high consumption of sugars and inadequate exposure to fluoride (WHO, 2010;2015). The use of fluoride is a major breakthrough in public health. Controlled addition of fluoride to drinking water supplies in communities where fluoride concentration is below optimal levels to have a cariostatic effect began in the 1940s and since then extensive research has confirmed the successful reduction in dental caries in many countries (Petersen and Ogawa, 2016). Both systemically and topically applied fluoride increase enamel fluoride content as well as ambient fluoride (free fluoride ion presents in saliva and the fluid phase of plaque) in the oral environment, As cariology and the concept of caries process evolved, the focus of fluoride-induced anti-caries action also has emphasized the enhanced activity of fluoride ion in the oral fluid, specifically in the plaque fluid at the enamel-plaque/biofilm interface, which is more directly related to demineralization and remineralization processes than fluoridated enamel and its solubility, evidence supports a conclusion that the effects of pre- and post-eruptive fluoride complement each other.

Over the lifespan, fluoride inhibits the process of carious primarily through its post-eruptive effect on demineralization and remineralization. While the attribution of caries resistant teeth and pre-eruptive effect of fluoride in caries prevention is not easily demonstrated, especially in a life-course perspective, fluoride incorporated into developing enamel mineral may offer initial resistance to caries initiation or delay the formation of clinically detectable caries, especially at the surfaces where post-eruptive fluoride is less than effective (Davies et al., 2010).

Fluoride is delivered to the teeth systemically or topically to aid in the prevention of dental caries. Systemic fluoride from ingested sources is in blood serum and can be deposited only in teeth that are forming in children. Topical fluoride is from sources such as community water, processed foods, beverages, toothpastes, mouth rinses, gels, foams, and varnishes. The daily use of fluoride toothpaste is seen as the main reason for the overall decline of caries worldwide over recent decades (Pitts et al., 2017).

The key to dental health is regular and effective plaque control with a fluoride containing toothpaste, from cradle to grave (Kidd, 2011).

Consumption of Sweetened sugar beverage should be considered a major risk factor for dental caries. However, increased exposure to fluoridated public water helped ameliorate the association between Sweetened sugar beverage consumption and dental decay. These results reconfirm the benefits of community water fluoridation for oral health (Armfield et al., 2013).

There are some Iraqi studies that undertaken to detect the concentration of fluoride in drinking water. Al-Azzawi (2000) recorded in her international study that fluoride concentration was equal to (0.12 - 0.22) in Iraq such level is considered very low that may explain a high prevalence of dental caries in Iraq.

1.3.1.2.4 Diet:

The relationship between ingestion of refined carbohydrates, especially sugars, and the prevalence of dental caries is well documented. One of the etiological factors of obesity are diet which also has an equally important role in the caries process, Dental caries cannot develop without the presence of dietary fermentable carbohydrates, in particular sugar (Elangovan et al., 2012: Hujoel and Lingström, 2017).

Dietary practices, especially the consumption of free sugars, are recognized as a common risk factor for the occurrence of non-communicable diseases. There is increasing concern that intake of free sugars particularly in the form of sugar-sweetened beverages increases overall energy intake and may reduce the intake of foods containing more nutritionally adequate calories, leading to an unhealthy diet, weight gain and increased risk of various diseases and conditions, such as cardio-vascular disease, diabetes, obesity and dental caries. The World Health Organization considers the promotion of healthy food practices to be one of the most important challenges required to ensure the health of children throughout the world. The variation in dietary practices, especially the consumption of free sugars, is largely responsible for the variation among individuals and communities with regard to caries experience (Feldens et al., 2019).

Dental caries experience was associated with frequency of consumption of sugared dietary items but not with dental erosion, Frequent consumption of cariogenic foods and bacterial infection are risk factors for early childhood caries (ECC), dental caries is an unevenly distributed, preventable disease with considerable economic and quality-of-life burdens (Pitts et al., 2017). Change in lifestyles and economic growth have led to sedentary lifestyle and altered dietary patterns, Consumption of fatty foods and snacks was more with obese children compared to other groups. A correlation was found between caries and snacks (Elangovan et al., 2012).

Materials and Methods

Materials and Methods

Across Sectional comparative design was used in this study which was conducted among dental students aged 20 - 21 years at Al- Zahrawi University collage located in Karbala Governorate, Iraq from December - 2024 to the end of February -2025.

Prior to data collection, official permissions were obtained from the general direction on of College of Dentistry (appendix I).

The dental students provided by information on sheet with a brief explanation on of the present study and its significance to ensure voluntary participation (appendix II).

A specific consent form was also produced and given to dental students in order to acquire permission to participate in the study and the full cooperation (Appendix III).

2.1 Human sample:

200 dental students (100 males, 100 females) from Al- Zahrawi University collage located in Karbala Governorate were accepted to participate in the study their age was from 20-21 years. A questioner completed by those students was used to collect information about socioeconomic status using Kuppuswamy's Socioeconomic Status Scale. After distribution of questioner, it was found that the number of students with low socioeconomic status was 56 (31 males, 25 females), while the number with middle status was 43 (22 males, 21 females) and high status was 101 (47 males, 54 females). In order to clarify the effect of socioeconomic status on dental health, it was making oral examination for subgroup that choice randomly (50 students with low socioeconomic status and 50 with high socioeconomic status).

2.1.1 The exclusion criteria for the study were:

1. Independent or self-supporting students.

2. Married female students who depend on their husbands for their expenses.

3. Students with chronic diseases.

4. Students who are smokers.

2.2 Materials and equipment used:

2.2.1 Materials and instruments used in oral examination on:

1. Disposable Cotton, Gloves and Face Masks: For maintaining hygiene and preventing cross-contamination during examinations (Tiwan).

2. Dental Mirror: A small mirror used for visual inspection of teeth and oral cavity (China).

3. Dental Explorer: A tool used to check for caries, plaque, and other dental conditions (China).

4. Dental tweezers: instruments used by dental professionals to grasp, manipulate, and place small objects within the oral cavity (China).

2.3 Method:

Dental caries was assessed by a licensed dentist using the World Health Organization (WHO) criteria for caries detection. The dentist conducted a visual and tactile inspection of all teeth to identify any areas of decay.

The Decayed, Missing, Filled Teeth (DMFT) index (appendix V) was recorded, which provides a summary of the number of decayed, missing, and filled teeth for each participant.

Additionally, active caries was noted, and the severity of the lesions was classified based on clinical examination.

Oral hygiene was also evaluated as a secondary measure, with assessments made regarding plaque accumulation and gingival health.

After providing informed consent, participants completed the socioeconomic questionnaire, which was reviewed by the research team.

Following the questionnaire, participants underwent a dental examination conducted by a trained dentist.

The examination involved a thorough inspection of all teeth for signs of caries, with the dentist using dental mirrors, explorers, and other diagnostic tools. Data from the socioeconomic questionnaire and dental examination were recorded on standardized forms for consistency.

2.3.1 Questionnaire:

After the scale (Kuppuswamy's Socioeconomic Status Scale) was translated into Arabic and then distributed to dental students (appendix IV).

The students were asked chose the appropriate answer and not to leave any ques on without answer. Because of our study addressed the differences between low and high socioeconomic status, the results for these two groups were adopted only, and the middle socioeconomic status was dropped.

2.3.1.1 Kuppuswamy's Socioeconomic Status Scale:

Assessment of the socioeconomic status is an inherent part of various community based, and many hospital-based studies, which seek to study the effect of socioeconomic status on different disease states.

Although a variety of methods of classifying the population on by socioeconomic status have been proposed, the most widely used for urban populations is the one proposed by (Kuppuswamy in 1976).

This scale includes three questions covering the educational level of the student's financial handlers, their occupation, and their monthly income.

Each question gets a certain score according to the answer that describes their social and economic status.

A) Education Score:

7: professional or Honors Score

6: for graduate or Post-Graduate Score

5: for intermediate or Post-High-School Diploma Score

4: for high School Certificate Score

3: for middle School Certificate Score

2: for Primary School or literate Score

1: for illiterate

B) Occupation Score:

10: for profession Score

6: for semi-Profession Score

5: for clerical, Shop-owner, Farmer Score

4: for skilled worker Score

3: for semi-skilled worker Score

1: for unemployed Score

C) Family Income Per Month in Iraqi currency Score:

12: >2000 score

10: 1000-1999 score

6: 750-999 score

4: 500-749 score

3: 300-499 score

2: 101-299 score

1: ≤ 100 score

We divided the socioeconomic status into three levels (low, middle, high). According to the scores that are summed to yield the total score, which ranges between 3 and 27 points, the higher the score, the higher socioeconomic status as shown in table 2.1

Table 2.1: Levels of socioeconomic status.

Total Score	Levels of socioeconomic status
3-9	**Low**
10-18	**Middle**
19-27	**high**

2.4. Oral examination:

Dental examinations were carried out while dental students were sitting on dental chair in college clinics. Examinations were carried out using examination kits which was explained in materials part.

2.4.1 Assessment of dental caries status: Decayed, Missed and Filled Surfaces (DMFS Index):

Caries experience in the present study was determined by Decayed Missing Filled Surfaces (DMFS) index by WHO.

The examination should adopt a systematic approach to the assessment of dentition status and it proceeds in an orderly manner from one tooth or tooth space to adjacent tooth or tooth space. Plain mouth mirror and probe were used in the examination.

The criteria for diagnosing a tooth status are as follows:

0= sound tooth: A crown with no evidence of treated or untreated clinical caries. Crowns with white or chalky spots, discolored or rough spots that are not so to touch with a metal probe, stained enamel pits or fissures, dark shiny hard pi ed areas of enamel due to fluorosis and lesions due to abrasion should be coded as sound.

D= Decayed crown: A crown with a lesion in a pit or fissure, or on a smooth tooth surface, has an unmistakable cavity, undermined enamel, or a detectable softened floor or wall, temporary filling, or one which is sealed but also decayed.

F= Filled crown: with no decay: A crown with one or more permanent restorations is present and there is no caries anywhere on the crown. A tooth that has been crowned because of previous decay was recorded in this category

M= Missing tooth: due to caries: This code was used for teeth that have been extracted due to caries.

Each tooth was registered, scored as four surfaces for anterior teeth and five surfaces for posterior teeth. Retained root was registered as 4 D for anterior teeth, 5 D for posterior teeth. Missing tooth was registered as 4 M for anterior teeth, 5 M for posterior teeth. Tooth with crown was registered as 4 F for anterior teeth, 5 F for posterior teeth.

2.5 Calibra on procedure:

After conducting a pilot study on 10 subjects from the Dental Teaching Hospital, College of Dentistry, University of Al- Zahrawi, following thorough training on measuring dental caries experience, the caries experience of permanent teeth was assessed by the research dental students and a supervisor for intercalibration and intercalibration.

This assessment was conducted at baseline (the first reading by the postgraduate student independently), followed by a second reading a er two weeks. Statistical analysis was performed using the Paired T-test (Dependent T-test). The results for both intercalibration and intercalibration showed no significant findings at $p > 0.05$, as shown in table (2.2).

2.6 Statistical Analysis:

Data description, analysis and presentation were performed using Statistical Package for social Science (SPSS version -22, Chicago, Illionis, USA), statistical analyses can be classified into two categories:

2.6.1 Descriptive analysis:

Frequency, percentage: for qualitative variable while mean and Standard error (SE) for quantitative variable.

2.6.2 Inferential analysis:

Independent T test: parametric test the difference between two groups.

Paired T test: a parametric test evaluation (ng two associated dependent quantitative variables. Level of significance as: not significant P>0.05, significant P≤0.05.

Table (2.2): Descriptive and statistical test of intercalibration

variables	Examiner				Paired T	P value ^
	Student		Supervisor			
	Mean	±SD	Mean	±SD		
DS	10.05	2.178	10.200	2.211	0.153	0.880
FS	.200	.117	.250	.143	.271	.788
MS	.000	.000	.000	.000	----	-----
DMFS	10.250	2.233	10.450	2.298	.031	.975
DMFT	6.501	1.382	6.505	1.379	0.261	0.689
DS	9.590	2.166	10.2	2.211	0.013	0.856
FS	0.000	0.000	0.000	0.000	----	-----
MS	0.200	0.117	0.250	0.143	0.271	0.788
DMFS	9.79	2.122	10.236	2.111	0.871	0.897
DMFT	7.300	1.124	7.350	1.106	0.032	0.955

^=not significant at p>0.05.

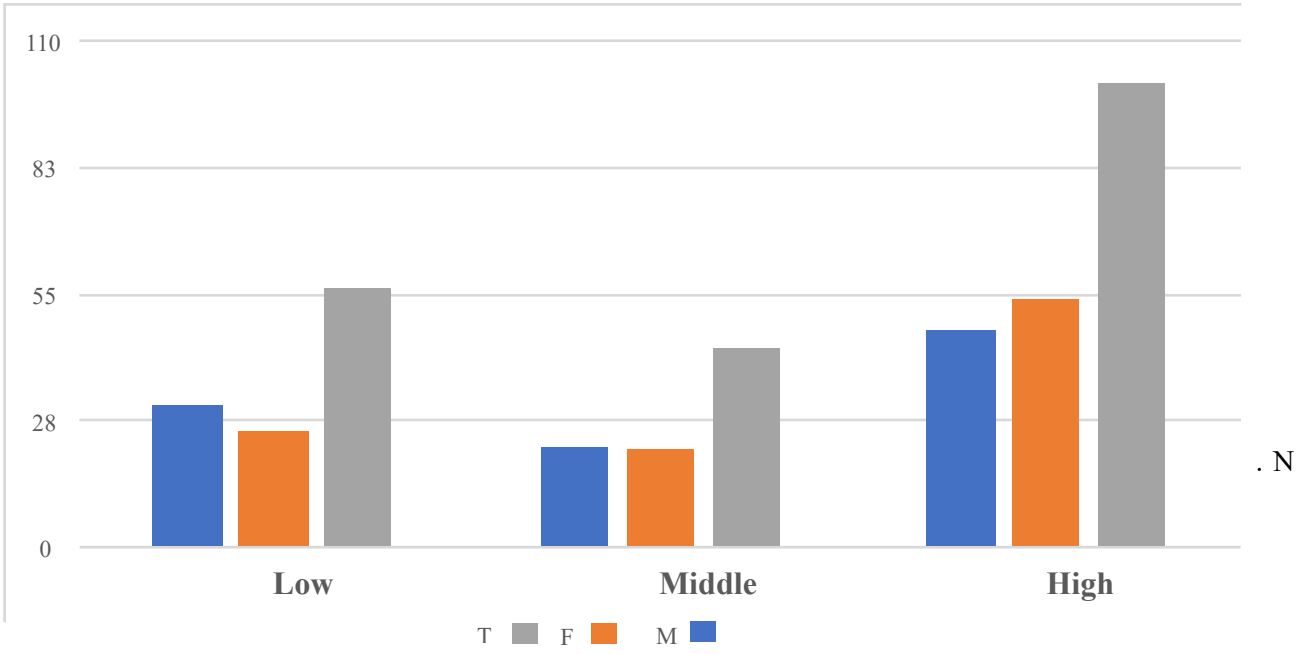
Result

Result

3.1 Socioeconomic Status:

The sample of present study include 200 (100 males,100 females) dental students in the second grade aged 20-21years. After distributing the questionnaire to the students, and based on their responses and the summation of socioeconomic status scores, it became clear that the number of students with low socioeconomic status was 56 (31 males, 25 females), while the number with middle status was 43 (22 males, 21 females) and high status was 101 (47 males, 54 females). as shown in Figure (3.1).

Figure (3.1): Distribution of subjects by socioeconomic status



The frequency distribution of the sample shown that the prevalence of high socioeconomic status was (50.5%) which is higher than that middle (21.5%) and low socioeconomic status (28%) as shown in Table (3.1).

Table (3.1) Distribution of subjects by socioeconomic status

Socioeconomic Status	Low	N.	56
		% of Total	28%
	Middle	N.	43
		% of Total	21.5%
	High	N.	101
		% of Total	50.5%

3.2 caries among dental students:

Results in Table (3.2) shows that the percentage of students suffering from dental caries was higher (98%) than that percentage of those who don't suffer from dental caries (2%).

Figure (3.2): Mean of caries experience among gender in low socioeconomic status

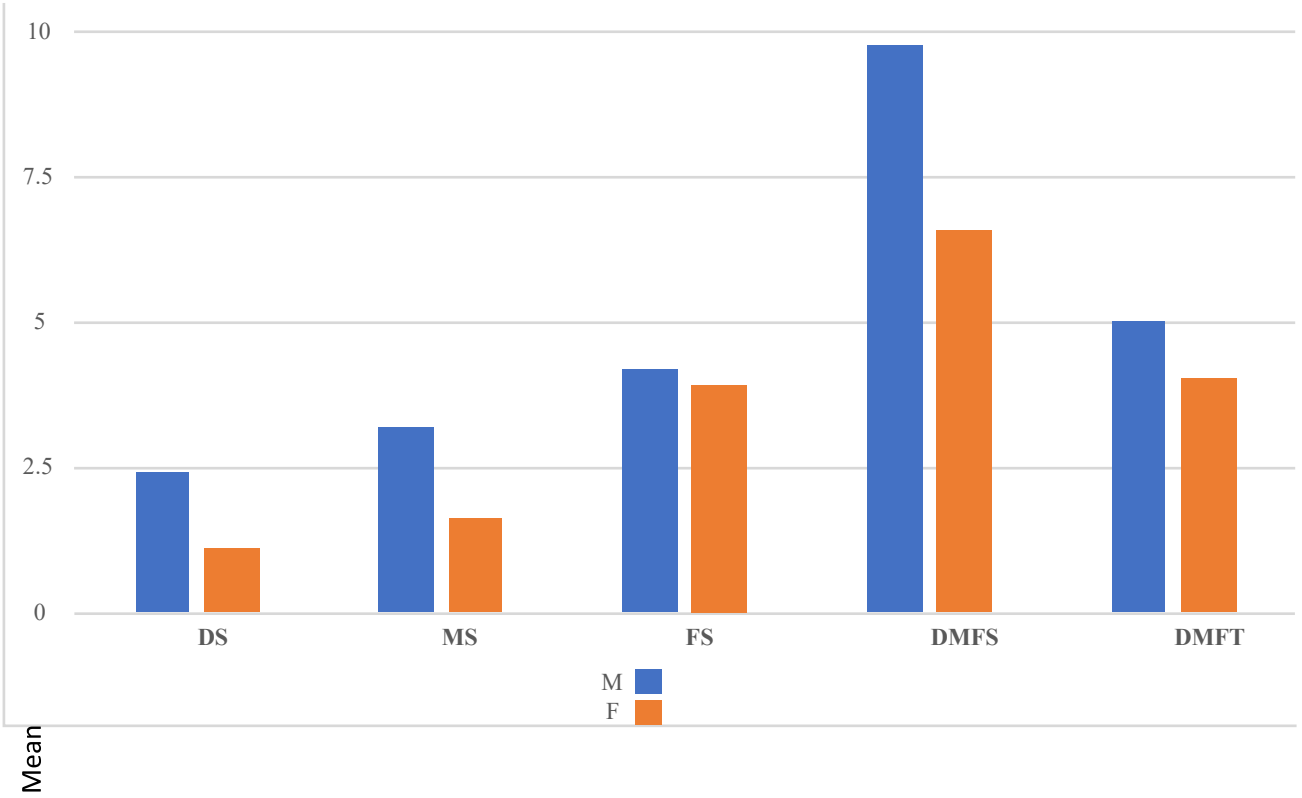


Table (3.2): Distribution of caries among dental students

			Total
Caries	Without	N.	2
		% T	2.00
	With	N.	98
		% T	98.00

3.3 caries experience by teeth and surfaces by socioeconomic status and gender:

Table (3.3) show that males' students with low and high socioeconomic status have higher mean value of DS, MS, FS, DMFS, DMFT than females' students in both status with significant difference, except in MS (missing surface due to caries) in females, this result is not significant difference between low and high socioeconomic status.

Figure (3.3): Mean of caries experience among gender in high socioeconomic status

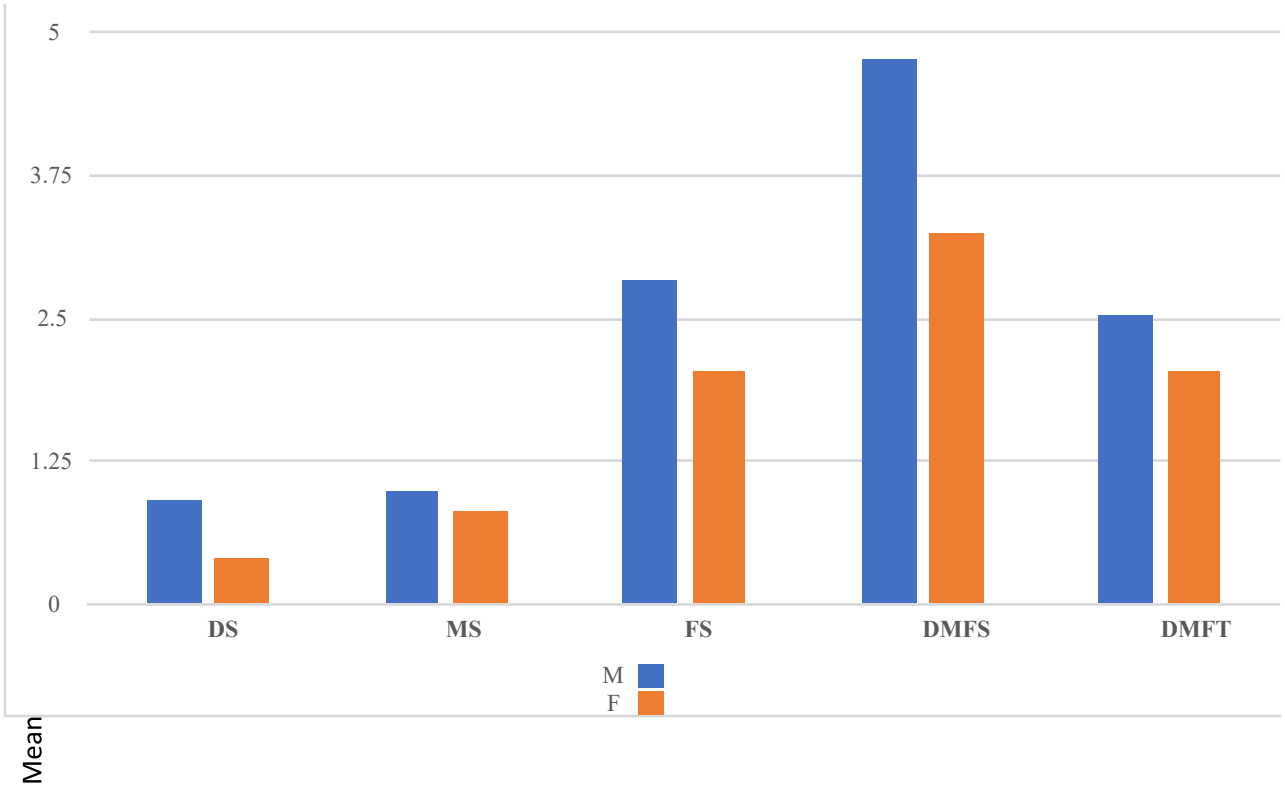


Table (3.3): Descriptive and statistical test of caries experience by teeth and surfaces by socioeconomic status and gender

		Low		High		T test	P value
		Mean	±SD	Mean	±SD		
Males	DS	2.40	1.89	0.92	1.04	3.428	0.001
	MS	3.20	4.05	1.00	2.04	2.425	0.021
	FS	4.16	2.17	2.84	1.91	2.282	0.027
	DMFS	9.76	4.40	4.76	2.88	4.756	0.000
	DMFT	5.00	1.50	2.52	1.26	6.325	0.000
Female	DS	1.08	1.47	0.40	.65	2.118	0.042
	MS	1.60	3.74	0.80	1.87	0.956	0.345
	FS	3.92	2.29	2.04	1.49	3.444	0.001
	DMFS	6.60	3.84	3.24	2.05	3.860	0.000
	DMFT	4.00	1.73	2.04	1.06	4.826	0.000

3.4 caries experience by teeth and surfaces among socioeconomic status:

Table (3.4) show that in total sample, all components of DMFS and DMFT (caries experience of permanent teeth by teeth and surfaces) are higher in low socioeconomic status than those with high socioeconomic status with significant difference.

Figure (3.4): Mean of caries experience of permanent teeth and surfaces among socioeconomic status in total sample

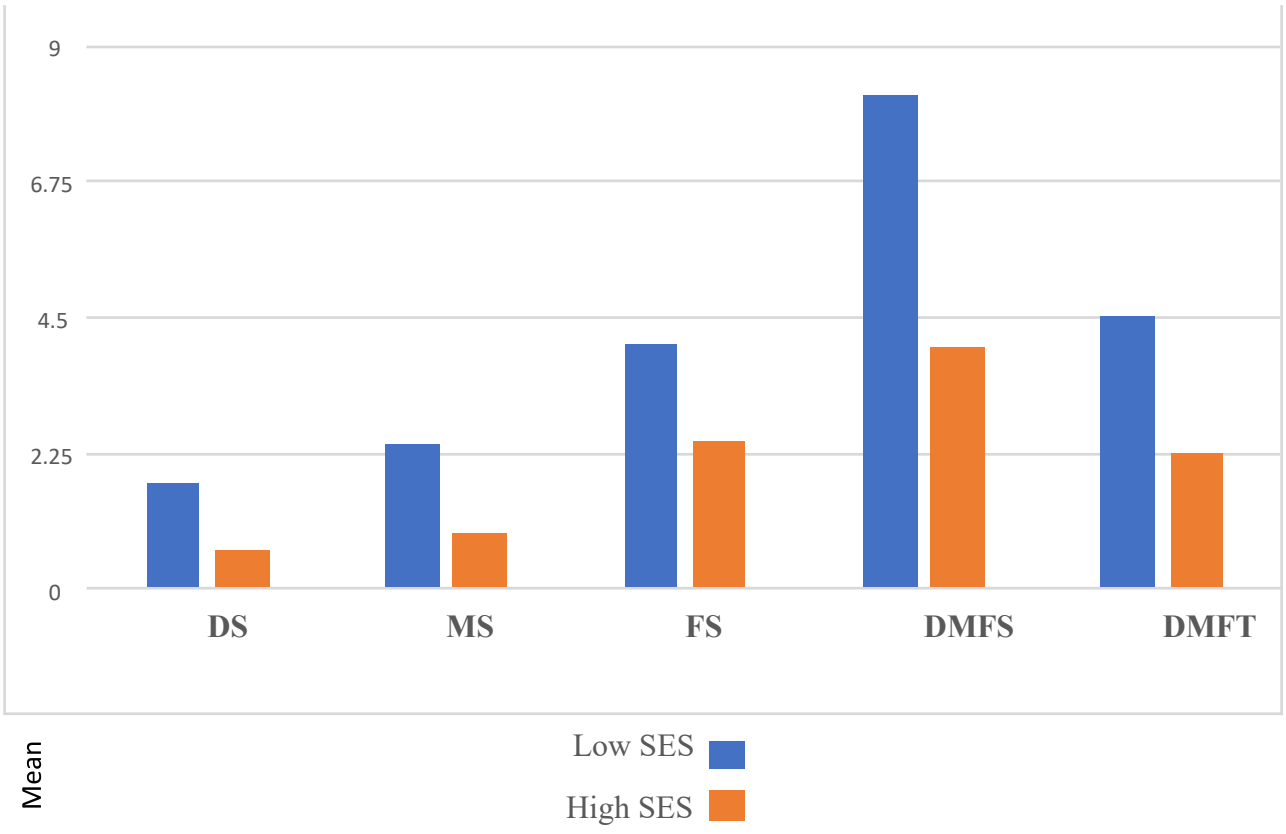


Table (3.4): Descriptive and statistical test of caries experience by teeth and surfaces among socioeconomic status

		Low		High		T test	P value
		Mean	±SD	Mean	±SD		
Total	DS	1.74	1.80	0.66	0.89	3.791	0.000
	MS	2.40	3.94	0.90	1.94	2.413	0.018
	FS	4.04	2.21	2.44	1.74	4.019	0.000
	DMFS	8.18	4.39	4.00	2.59	5.803	0.000
	DMFT	4.50	1.68	2.28	1.18	7.645	0.000

Discussion

Discussion

4.1 Distribution of subjects by socioeconomic status:

According to the results shown in the table (3.1) the percent of high Socioeconomic status students in second year of dental school at al zahrawi college; were higher than the students with low Socioeconomic status.

The association between household income and young people's university entry is a matter of clear academic and policy interest.

Being able to access high quality college education is thought to be an important determinant of later economic success (Haveman & Smeeding, 2006). Yet young people from working class backgrounds are less likely to attend a high-status university than their more advantaged peers.

This paper has examined the extent of socioeconomic inequality in access to high status post-secondary institutions across three developed countries. We have found that although academic achievement in high school is an important reason why high SES groups dominate enrollment at elite colleges, substantial direct effects of family background nevertheless remain.

This holds true across Australia, England and the United States, with very similar magnitudes of socioeconomic inequality observed in each.

Family income might matter for education decisions because of credit constraints, or because education is not a pure investment good.

The change in the structure of wages during the 1980s, which reduced the wages of less skilled workers, may have made it harder for children from these families to attend college, despite the higher returns(J. Shea 2000) In fact, while there was a large increase in the college enrollment rates for children from richer families during the 1980s, there was a much smaller increase for children from the poorest backgrounds (McPherson and Schapiro, 1991; Ellwood and Kane, 1999).

During childhood a large portion of how income influences attainment is likely to come through as the co-production of education alongside consumption or other investments. Examples of this are the provision of a

good home environment through books, toys and outings (Gregg et al, 2004 show these to be important for a cohort in Avon). many studies such as Hanes (2008) carried out research on factors affecting students' academic performances and came up with the results that "the higher level of SES is the best indicator towards the quality of students' achievement".

Ramey and Ramey opined that "across all socio-economic groups, parents, face major challenges when it comes to providing optimal care and education for their children. For families in poverty, these challenges can be formidable.

Sometimes, when basic necessities are lacking, parents must place top priority on housing, food, clothing and health care." Ceballo, McLoyd and Toyokawa, (2004) pointed out that "parental education also has effects on students' academic performance".

4.2 Distribution of caries among dental students:

Earlier results had shown in the cross-sectional study we have performed among "second year dental students in Al-zahrawi college" that (98%) of students suffer from dental caries while only (2%) do not suffer from dental caries according to the results of table (3.2)

1- The reason behind this is that dental caries is widespread and is a multi-factorial disease Fejerskov, O., & Kidd, E. A. M. (2015). dental caries is described as a microbial disease that results from "a dysbiosis in the oral microbiome." The previously described factors such as sugar consumption, salivary flow alteration. Also to be noted is the reduction or failure of the remineralization capability of the oral structures.

2- It has also been observed that dental caries is influenced by psychological factor [,Goldenfum GM 2019, MacHiulskiene V 2020].

Due to the stress and anxiety students experience during their academic journey, especially during exam periods, they may neglect their oral health because they do not have enough time. It has been found in many studies that there is a relationship between exposure to stress and an increased rate of dental caries (Cademartori, M. G., Gastal, M. T., Nascimento, G. G., Demarco, F. F., & Correa, M. B. 2018).

3- Our study involved dental students in the early stages of their education, as they have not yet fully explored the concept of tooth decay and its causes. As they advance in their studies and gain a deeper understanding of tooth decay and dental care methods, it is likely that the incidence of caries among them will decrease.

It has been found in many studies that the educated groups have lower rates of cavities compared to the less educated groups. (Nakre P 2013.)

So dental caries is a global health issue with significant economic impacts and uneven distribution across countries [Kassebaum NJ 2015]. While dental students improve their knowledge of dental caries during their education, this learning does not always motivate them to practice the oral health care they have learned.

Dental students gain knowledge about oral health either from lecturers or independently through educational media like YouTube, videos, and the internet .To reduce dental caries among dental students, it is important for them to practice oral health self-care and assess their risk independently [Denis B ,2018 Qutieshat AS 2020 .

4.3 Descriptive and statistical test of caries experience by teeth and surfaces by socioeconomic status and gender:

The results of present study showed that the prevalence of dental caries was higher in males than in females with significant difference, this may be due to:

1- Males are more likely to: ignore their oral health, have poorer oral hygiene habits, and experience higher rates of dental caries, periodontal disease, oral cancer, and dental trauma. Males also visit dentists less frequently and compared to females (Thompson et al., 2016), and even when they do, the reason is often because of an acute problem and not for disease prevention.

Also, females exhibit more positive attitudes about dental visits, greater oral health literacy, and demonstrate better oral health behaviors than males, and females are more likely to adhere to recommended treatment following a dental check-up (Periodontology, 2011),

2- In addition, habits, especially tobacco use, also play a significant role in oral health. Tobacco products increase the risk of oral cancer, caries, and tooth loss. Generally, males use all tobacco products at higher rates than females (Abuse, 2020).

In 2015, 16.7% of adult males compared to 13.6% of adult females smoked cigarettes and males are about 20 times more likely to use smokeless tobacco products (Abuse, 2020; Lipari & Van Horn, 2017).

Smoking or chewing tobacco significantly increase the risk for both gum disease and oral cancer (Winn, 2001). Gender differences with e-cigarettes parallel those reported with traditional cigarettes (Piñeiro et al., 2016) and roughly twice as many boys than girls use e-cigarettes (Yang et al., 2020).

While few studies have examined the effects of e-cigarettes and other Electronic Nicotine Delivery Systems (ENDS) on the periodontium, the available evidence indicates that e-cigarettes contribute to the pathogenesis of dental caries (Sultan et al., 2018).

3- Males are more likely to use harder toothbrushes, less likely to choose a recommended fluoride toothpaste and have less knowledgeable about proper oral proper brushing techniques. males also tend to brush harder which may induce gingival damage and recession contributing to root caries (Hanasaki, 2018).

4- More studies also indicate that females floss more frequently than males. Along with linking good oral health to overall health, females may exhibit better oral health behaviors due to greater oral health knowledge [Healthy People 2030. U.S. department of health and human services. 2021].

5- Moreover, healthcare providers typically do not spend as much time with men discussing health issues and as a result, may provide men with less health information and advice [R.M. Pinkhasov, J. Wong, J. Kashanian, et al. 2010].

4.4 Descriptive and statistical test of caries experience by teeth and surfaces among socioeconomic status:

In order to evaluate the prevalence and severity of dental caries according to WHO recommendations, this study used the DMFT index.

Dental caries is still a health problem in most industrialized countries. In European countries during the 19 the century, rich individuals had more access to sugars and for that reason they had more dental caries.

With industrialization there was an increasing provision and consumption of sugar for all populations, not only rich people. In contrast, it has been observed a decline of dental caries in most industrialized countries over the past 20 years, as a result of a number of public health measures and use of fluorides [Petersen 2005].

The present study shows that students with low socioeconomic status Have higher DMFT DMFS than those with high socioeconomic status with significant difference.

As found in many studies that low-socioeconomic status contribute to poor dietary habits and unhealthy lifestyles [N. Jürgensen 2009], [T.A. Marshall 2007], and also found that socioeconomic factors, such as lower household income, and high household crowding, were associated with untreated dental caries and toothaches (Vazquez FL 2015, Schwendicke F 2015).

So the presence of high-socioeconomic status, better oral health is experienced, and lower dental caries rates can be achieved [P.E. Petersen 2005], [D.E. Polk 2010]. Therfore low SES can be considered as a marker for increased risk of dental caries [Reisine S.T. 2001].

The present study has shown that socioeconomic status plays important role in dental care; therefore, the priority should be given to low in-com and low socioeconomic status families.

Conclusion

Conclusion:

- This research investigated the relationship between socioeconomic status (SES) and dental caries among 20-year-old college students in Karbala, Iraq. Through a cross-sectional study involving 200 students from Al-Zahrawi University, our findings clearly demonstrate that socioeconomic level significantly influences the prevalence and severity of dental caries. Students from lower SES backgrounds exhibited notably higher values in the DMFT and DMFS indices, confirming the direct impact of socioeconomic factors on oral health outcomes.

- The data revealed that 98% of the students surveyed suffered from dental caries, with those from low SES groups experiencing more decay, missing, and filled teeth and surfaces compared to their high SES counterparts. This confirms what has been extensively documented in global and regional literature — that individuals with limited financial and educational resources are at increased risk for dental diseases. Not only does this affect their immediate oral health, but it can also contribute to broader systemic health issues, lower self-esteem, and decreased quality of life.

- Multiple contributing factors have been identified in the literature and were consistent with the findings of this study. These include limited access to dental care, insufficient oral health education, poor dietary habits (particularly high sugar intake), and inadequate use of preventive dental services such as fluoride treatment and regular check-ups. Students from high SES backgrounds were more likely to benefit from structured oral hygiene routines, better access to fluoridated water or dental products, and the financial means to seek professional care, which all contributed to better oral health outcomes.

- Gender differences were also highlighted in this study. Males showed a higher prevalence and severity of caries compared to females across all socioeconomic levels. Several reasons may explain this trend, including less frequent dental visits, poorer oral hygiene habits, lower oral health literacy, and higher rates of harmful behaviors such as tobacco use among males. These patterns underline the importance of designing gender-sensitive oral health education and intervention programs.

- Moreover, the study has shown that educational attainment — particularly parental education — plays a critical role in shaping a student's health behavior. Families with higher education levels tend to be more aware of preventive health practices and the long-term consequences of neglecting oral hygiene. This awareness often translates into healthier behaviors and better access to care, ultimately resulting in lower caries rates among students from these families.

- The DMFT and DMFS scores used in this study were essential in providing a standardized and comparative measure of caries experience. Their application confirmed that oral health disparities persist among university students, even among those who are receiving a dental education. This contradiction — high caries rates among future dental professionals — suggests the need for stronger integration of preventive oral health strategies in both professional curricula and personal practice among dental students

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Appendix

appendix I

السيد رئيس قسم طب الاسنان المحترم.

م/ طلب موافقة

تحية طيبة...

ادجو التفضل بالموافقة على طلب اجراء استبيان وفحصه على طلاب طب الاسنان ذات الاعمار 20 - 21 مع جزيل الشكر والتقدير.

* اسم البحث (تأثير الحالة الاجتماعية على نوعية الأسنان)

مقدم الطلب

- محمد محمود حاتم
- حسين ضياء حاسب
- شهد طاهر
- انفال مصطفى
- هدى حسين

موافق

م.د. براء احمد عبد الله

appendix II

كلية الزهراوي الجامعة قسم طب اسنان

إستمارة معلومات المريض

أنت مدعو(ة) للمشاركة في بحث علمي سيجرى في .....

الرجاء أن تأخذ(ي) الوقت الكافي لقراءة المعلومات التالية بتأن قبل أن تقرر(ي) إذا كنت تريد(ين) المشاركة أم لا. بإمكانك طلب إيضاحات أو معلومات إضافية عن أي شيء مذكور في هذه الاستمارة أو عن هذه الدراسة ككل من الباحث كما يمكنك مناقشتها مع أي شخص آخر

عنوان البحث:- تاثير الحاله الاجتماعيه على تسوس الاسنان

في حال وافقت على المشاركة في هذه الدراسة، سيبقى اسمك طي الكتمان. لن يكون لأي شخص، ما لم ينص القانون على ذلك، حق الاطلاع على ملفك الطبي باستثناء الباحثين المسؤولين عن الدراسة.

تعتبر المشاركة في هذه الدراسة تطوعية تمامًا وأنت حر(ة) في رفض المشاركة أو الانسحاب من الدراسة في أي وقت دون الحاجة إلى إعطاء سبب ودون أن يؤثر هذا على الرعاية الطبية المستقبلية أو علاقتك مع الطاقم الطبي الذي يعتني بك.

نشكرك على قراءة ورقة المعلومات هذه والنظر في مشاركتك في هذه الدراسة

appendix III

موافقة للإشتراك في بحث علمي

	الرجاء التأشير للموافقة
أؤكد بأني قد قرأت وفهمت المعلومات التي تخص البحث أعلاه وقد كان لدي الوقت الكافي لطرح الأسئلة المتعلقة بالموضوع وتمت الإجابة على أسئلتي جميعا.	
أتفهم أن مشاركتي في البحث تطوعية وأني حر(ة) في الإنسحاب من المشاركة في أي وقت بدون أن يؤثر ذلك على الرعاية الطبية المقدمة لي.	
أتفهم أن معلوماتي ذات الصلة بالبحث سوف يتم الإطلاع عليها من قبل الإشخاص المسؤولين عن البحث في كلية طب الأسنان – جامعة بغداد وأعطي الموافقة بذلك.	
أوافق على المشاركة في البحث المذكور أعلاه.	

فيما يتعلق بأي معلومات أو بيانات تأخذ خلال البحث، يرجى تحديد موافقتكم على نشرها حسب رغبتكم					
	بيانات شخصيه	أشعه	صور الوجه	صور الفم	أخرى
تبقى سريه					
لغرض الأستشارات					
لغرض التعليم					
في المؤتمرات					
لغرض النشر في المجلات العلميه					

	الإسم	التوقيع	التأريخ
المشترك			
الأب/الأم أو الوصي (عند الحاجه)			
الشخص المسؤول عن مليء الأستماره			

شخص يمكن الأتصال به:

الاسم:

رقم الهاتف:

appendix IV

كلية الزهراوي الجامعة

قسم طب الاسنان

تحية طيبة ...

يقوم الباحثين بأجراء دراسة علمية عن (تأثير الوضع الاجتماعي والاقتصادي على تسوس الاسنان لدى طلاب طب الاسنان بعمر 20-21 سنه)

وضع علامة (√) على الخيار الذي يصف وضعك بعد قراءة السؤال جيدا.

ارجو من حضراتكم ملئ المعلومات التالية:

اسم الطالب : **المرحله الدراسيه :**

جنس الطالب : **عمر الطالب :**

رقم الهاتف: **العنوان:**

ولتحقيق اهداف الدارسة نضع بين ايديكم استبيان لغرض تقيم الوضع الاجتماعي والاقتصادي، يتوجب الإجابة على جميع الأسئلة، أجوبتك يجب أن تشير إلى الرد الأكثر دقة، حيث وضعت عدة خيارات يمكنك من خلالها وصف وضعك الاقتصادي

كلية الزهراوي الجامعة

قسم طب الاسنان

المستوى التعليمي لولي امر الطالب

- ☐ خريج دكتوراه او ماجستير (دراسات عليا)
- ☐ خريج بكالوريوس
- ☐ خريج معهد او دبلوم
- ☐ خريج اعدادية
- ☐ خريج متوسطه
- ☐ خريج ابتدائية
- ☐ لا يقرا ولا يكتب (أمُي)

المهنه

- ☐ متمكن في العمل (صاحب رتبة عالية في العمل)
- ☐ موظف مبتدئ
- ☐ صاحب مكتب، صاحب أسواق، صاحب مزرعة
- ☐ عامل ماهر او عامل متمكن
- ☐ عامل مبتدئ
- ☐ عاطل عن العمل

دخل الأسرة الشهري

- ☐ 2 مليون او أكثر شهر
- ☐ مليون الى مليون و 999 الف شهريا
- ☐ 750 ألف الى 999 ألف شهريا
- ☐ 500 ألف الى 749 ألف شهريا
- ☐ 300 ألف الى 499 ألف شهريا
- ☐ 101 ألف الى 299 ألف شهريا
- ☐ اقل او يساوي 100 ألف شهريا

ولكم منا فائق الشكر و الاحترام

appendix V

Dentition status (DMFS)

اسم الطالب :-

Right

UPPER					
	M	O	D	B	L
7					
6					
5					
4					
3					
2					
1					
1					
2					
3					
4					
5					
6					
7					

Lift

LOWER					
	M	O	D	B	L
7					
6					
5					
4					
3					
2					
1					
1					
2					
3					
4					
5					
6					
7					

	score
DS	
MS	
FS	
DMFS	
DMFT	