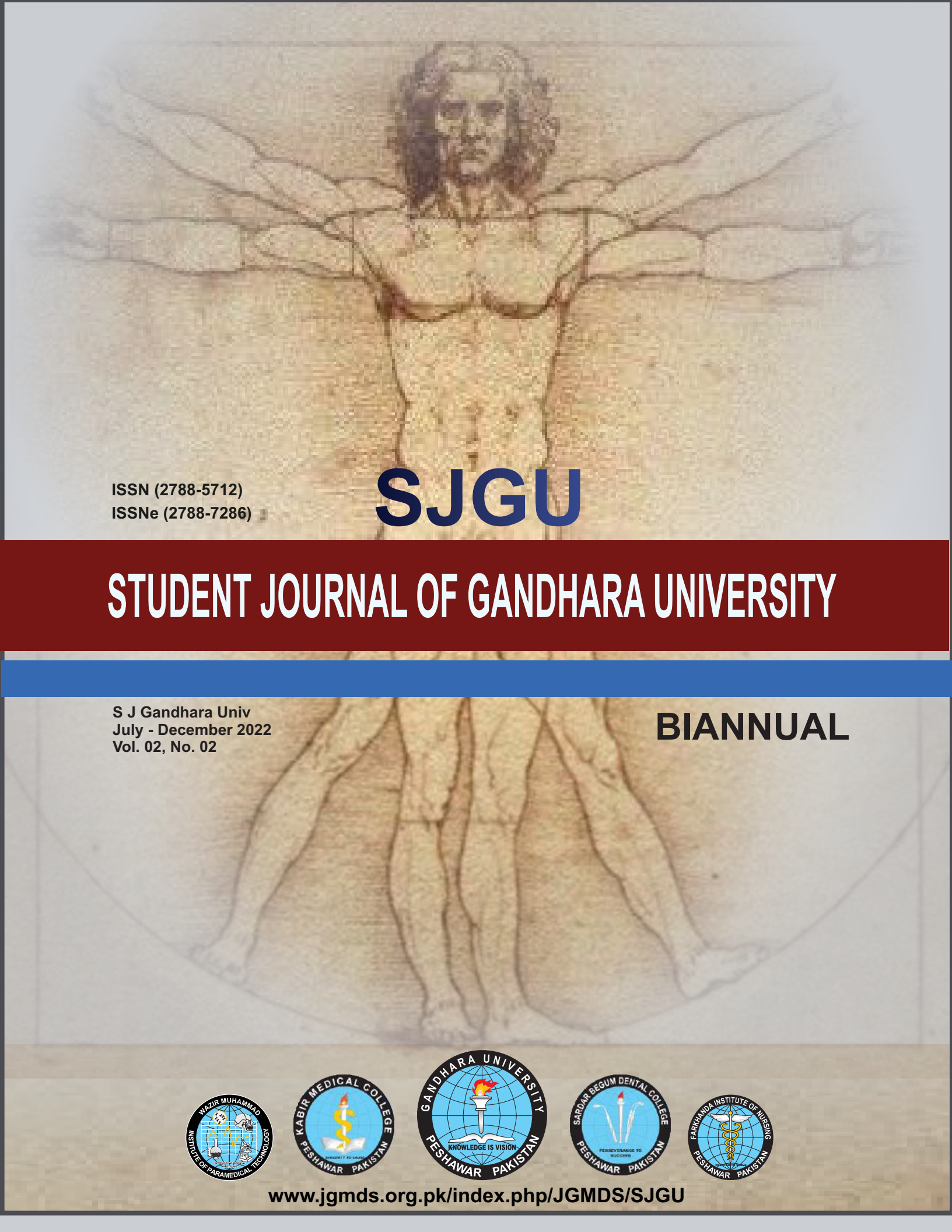

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EDITORIAL

ORIGINAL ARTICLES

Are We Prepared Enough, With New Pandemics On The Horizon

Yasir Israr
Postgraduate Resident, Department of Prosthodontics
Sardar Begum Dental College Peshawar

The Covid-19 pandemic has shown signs of being under a degree of control by world governments and their health agencies in ensuring a significant portion of the population was vaccinated. Although this was done rapidly and effectively compared to previous pandemics, it still could not stop the flow of false information, remedies borne out of tradition instead of evidence and an overall lack of compliance with health authorities. Recently there appeared an outbreak known as the Monkeypox virus, closely related to the smallpox virus. It was previously reported in small amounts in North African countries, presenting as flu-like symptoms followed by a rash. There was not much alarm by health authorities. Instead, its odd presentation gave it wings to spread all over social media, causing fear. This was shrugged off by health authorities as non-significant, claiming that previously vaccinated individuals for smallpox can consider themselves safe. Experts believe the recent surge of Monkeypox has been attributed to the cessation of the smallpox vaccine, which had been deemed obsolete by health authorities. There have been a steadily increasing number of cases from 2010 to 2019, where the age group has also shifted from children to young adults. The mode of transmission has been defined as a person-to-person transmission by the exchange of bodily fluids.[1] An exciting development is that the WHO, previously described this disease as benign has declared it a public health emergency, with over 16000 reported cases worldwide.[2] It presents a problem to this health agency that contradicts its previous statement. a strong backlash to its policy and advisors during the previous pandemic, and the same can be expected again based on the intensity of the protective measures they advise. Another question to be asked is, if the health authorities continue to develop their statements over time, will a governing body and public, which already does not pay much heed to the scientific method, be adequately keeping themselves safe? The disturbing appearance of the rash can give rise to more concern and alarm in some cases.

As usual, 3rd world countries are set to suffer more where cramped living conditions, lack of public health measures, and belief in superstitions and homemade remedies will set off a strong chain reaction once again, which can aggravate the load on an already struggling economy and health systems. It is coupled with how much the health authorities suffered and bore the brunt of the previous pandemic and might not be too enthusiastic about putting themselves on the line in the face of public backlash to their caution. This should warrant more concern from global health agencies and governments towards these countries to prevent another global outbreak like the Covid-19 pandemic, as there seems to be confusion and a general lack of mental preparedness by the public and economically by the governments.

REFERENCES:

1. Singhal T, Kabra SK, Lodha R. Monkeypox: a review. Indian Journal of Pediatrics. 2022 Aug 10:1-6.

2. World Health Organization (WHO). Multi-country monkeypox outbreak: situation update. [Online] 2022 [Cited 2022 July 23]. Available from URL: https://www.who.int/emergencies/diseaseoutbreak-news/item/2022-DON396

GENDER DIFFERENCES IN INTERNET USE PATTERNS

Rimsha Javed[1], Ahmed Nasir[2], Hatim Ihsan[3], Muhammad Istiraj[4]

ABSTRACT

OBJECTIVES

The aim of this study was to figure out the gender differences in internet usage preferences and time spent on the internet among medical students.

METHODOLOGY

A cross-sectional comparative study was carried out at the Kabir Medical College of Peshawar students. Non-probability convenient sampling technique was used. The data was collected from the 2nd year MBBS students. The duration of the study was one month. A total of 100 students participated in the study. The data were analyzed by using SPSS version 20.

RESULTS

Most of the females (51.0) were using the internet for educational purposes whereas males (40.8) were using it for entertainment with a p-value of 0.032. The time spent on the internet was also significantly high among the male students (79.6).

CONCLUSION

The internet usage for entertainment and time spent on the internet was increase among males as compared to female students.

KEYWORDS: *Internet, Gender, Technology, Social Media, Education*

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INTRODUCTION

With the development of the internet, both male and female users to a certain extent are unquestionably dependent on it as a medium for sharing ideas, building communication networks as well as for searching information. Studies have revealed a difference in the speed at which various countries have adopted Information and communications technology (ICT).[1] Although the internet is thought to be a global technology, individuals have differences in gender. Gender differences in the use of the internet among children have been well documented in studies in recent years.[2] In today's work environment there is a drastic change in the way how information is shared as well as how networking and socializing takes place in every society.[3] As the new medium of learning, the internet has brought unprecedented opportunities to both males and females.[4] Previously internet use was characterized as male-dominant but recent studies show that the gender gap is rapidly diminishing.[5,6] Even though the boys show a significantly higher Internet use intensity than the girls, the boys were more exploration-oriented internet users whereas the latter was more communication-oriented internet users.[7] Similarly, the use of social media and political searches was more frequent among men.[8] Specifically, while

women are mainly driven by relational uses, such as maintaining close ties and getting access to social information on close and distant networks, men base their continuance intentions on their ability to gain information of a general nature.[9] Many factors contribute to inequality regarding gender and internet usage.[10,11] Some common factors include age, personality, health, literacy, education, economic and social resources, and internet access. One of them can also be higher exposure to computers to males and their nature of jobs.[12,13] However, we know little about the extent to which these factors translate into inequalities in resources mobilized from the Internet.[14] However recently ICT clubs for girls and special events are targeting the recruitment of girls for diminishing the gender gap.[15] Digital technology and globalization have brought a remarkable change in this matter with increasing access to work information.[16] This study aims to assess the gender dichotomy in internet usage to evaluate the contrast in purpose and time of internet usage between the two genders.

METHODOLOGY

A cross-sectional comparative study was carried out on a total of 100 students at Kabir Medical College of Peshawar. The non-probability convenient sampling technique was used. The data was collected from the 2nd year MBBS students. The duration of the study was one month. The data collection tool was well-designed questionnaires. There was a total of 22 questions which basically aimed to assess internet use, and the time they spent on it. Ethical approval was taken from the ethical committee of Gandhara University, Peshawar. SPSS version 20 was used for analyzing the data.

RESULTS

Table 1: Cross Tab of the Gender with Internet Usage

Gender	Internet Usage			Chi-Square	P-Value
	Education	Social Media	Entertainment		
Male	41(28.6)	15 (30.6)	20 (40.8)	6.896	0.032
Female	26 (51.0)	15 (29.4)	10 (19.6)		

Table 2: Cross Tab of the Gender with Time Spent on the Internet

Gender	Internet Usage Time			Chi-Square	P-Value
	1 hour	1-2 hour	More than 4 hours		
Male	02 (4.1)	08 (16.3)	39 (79.6)	8.173	0.017
Female	03 (5.9)	21 (41.2)	27 (52.9)		

DISCUSSION

Internet use is spreading rapidly into daily life, and directly affecting people's ideas and behavior. The Internet has an impact in many areas including the higher education system. Educators who advocate technology integration in the learning process believe that it improves learning and prepares students to effectively perform. Internet use has become a way of life for most students all around the world. For most college student's internet is a functional tool that has greatly changed the way they interact with others. Internet is appealing for many as it reduces the time lag between the production and utilization of knowledge promotes the exchange of opinions and sharing of information and enables multidisciplinary research.[15] Most of the students reported the internet as a helpful tool for worldwide communication, and the use of the internet helped them improve their grades through improved reading, writing, and information processing skills. With the development of the internet, both male and female users to a certain extent are unquestionably dependent on the internet as a medium for sharing ideas, building communication networks as well as for searching information.[16] Thus, the internet becomes the main channel for the entire information flow. Our study results showed that most female students use the internet for education purposes whereas boys use it for entertainment and social media. Both genders were spending most of their time on the internet but comparatively male's usage was high. Similar findings were shown by another study that reported that most students used internet services daily which shows that the internet has become an integral part of their daily activities. Among 120 student's majority used the internet daily (81.6% of boys compared to 61.6% of girls). Most of them preferred to browse at night (53.5 % of boys compared to 65% of girls). Both reported using the internet most of the time for an hour.[17] Another study showed that Boys spent significantly more time on the Internet than girls. A greater proportion of the girls made intense use of social

networks, whereas a greater proportion of the boys made intense use of massively multiplayer online role-playing games, online games, and adult sites.[18] The test result reveals that overall, the pattern of Internet use is almost the same for all regardless of their gender. However, this general finding can be incomprehensible. Our analysis of usage patter for specific applications and use of the internet indicates that male and female students show differences in internet use only for the purpose of gaming and for commercial purposes.[19]

LIMITATIONS

The sample size of the study was small and taken from single institute.

CONCLUSIONS

There was an association between gender and internet usage. The percentage of females using the internet for education is more than males.

CONFLICT OF INTEREST: None

FUNDING SOURCES: None

REFERENCES

1. Chipeva P, Cruz-Jesus F, Oliveira T, Irani Z. Digital divide at individual level: Evidence for Eastern and Western European countries. Gov Inf Q [Internet]. 2018;35(3):460–79.
2. Rajasekhar P, Veena CN, Kumar S. A cross sectional study of gender differences in internet preferences and usage pattern among medical students in sub urban region. In: Issues and Developments in Medicine and Medical Research Vol 2. Book Publisher International (a part of SCIENCEDOMAIN International); 2022. p. 72–7.
3. Chung M, Kim J. The internet information and technology research directions based on the fourth industrial revolution. KSII Transactions on Internet and Information Systems (TIIS). 2016;10(3):1311–20.
4. Kaplan AM, Haenlein M. Higher education and the digital revolution: About MOOCs, SPOCs, social media, and the Cookie Monster. Bus Horiz [Internet]. 2016;59(4):441–50
5. Razak RA, Abdullah MM, Rahim SZ, Tahir MF, Mortar NA, Jamaludin L, editors. Preface: 8th International Conference on Advanced Material Engineering & Technology (ICAMET2020). InAIP Conference Proceedings 2021 Jul 21 (Vol. 2347, No. 1, p. 010001). AIP Publishing LLC.
6. Ahmad N atikah, Ayub AFM, Khambari MN. Gender digital divide: Digital skills among Malaysian secondary school. Int j acad res progress educ dev [Internet]. 2019;8(4).
7. Krasnova H, Veltri NF, Eling N, Buxmann P. Why men and women continue to use social networking sites: The role of gender differences. J Strat Inf Syst [Internet]. 2017;26(4):261–84.
8. Gray TJ, Gainous J, Wagner KM. Gender and the digital divide in Latin America: Gender and the digital divide in Latin America. Soc Sci Q [Internet]. 2017;98(1):326–40
9. Anandhita VH, Ariansyah K. Gender inequality on the internet access and use in Indonesia: Evidence and implications. In: 2018 International Conference on ICT for Rural Development (IC-ICTRuDev). IEEE; 2018.
10. Nishijima M, Ivanauskas TM, Sarti FM. Evolution and determinants of digital divide in Brazil (2005–2013). Telecomm Policy [Internet]. 2017;41(1):12–24
11. Du J, Wimmer H. Hour of Code: A study of gender differences in computing. Information Systems Education Journal. 2019;17(4).
12. Galperin H, Arcidiacono M. Employment and the gender digital divide in Latin America: A decomposition analysis. Telecomm Policy [Internet]. 2021;45(7):102166.
13. van Ingen E, Matzat U. Inequality in mobilizing online help after a negative life event: the role of education, digital skills, and capital-enhancing Internet use. Inf Commun Soc [Internet]. 2018;21(4):481–98.
14. Sinha S. Gender digital divide in India: Impacting women's participation in the labour market. In Reflecting on India's development. Singapore: Springer; 2018.
15. P R, N V, Kumar S. Gender differences in internet preferences and usage pattern among medical students. Natl J Physiol

Pharm Pharmacol [Internet]. 2018;1.
16. Dufour M, Brunelle N, Tremblay J, Leclerc D, Cousineau M-M, Khazaal Y, et al. Gender difference in Internet use and Internet problems among Quebec high school students. Can J Psychiatry [Internet]. 2016;61(10):663–8.
17. Sultana R, Imtiaz A. Gender difference in internet usage pattern: a study on university students of Bangladesh. Scholars Journal of Economics. 2018;5(5):413–21.
18. Cha S-S, Seo B-K. Smartphone use and smartphone addiction in middle school students in Korea: Prevalence, social networking service, and game use. Health Psychol Open [Internet]. 2018;5(1):2055102918755046.

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4. **Muhammad Istiraj** - Concept & Design; Data Acquisition; Drafting Manuscript; Critical Revision

DEMOGRAPHIC FACTORS INFLUENCING THE SERUM CREATININE LEVELS IN PATIENTS WITH CHRONIC KIDNEY DISEASE

Maria Jabbar[1], Hira Butt[2], Fatima Hafeez[3], Nauman Rauf Khan[4], Angbeen Zafar[5], Amna Nauman Khan[6]

ABSTRACT

OBJECTIVES

To find the impact of demographic factors (age, gender and weight) on the serum creatinine levels in patients with chronic kidney disease.

METHODOLOGY

A Cross-sectional comparative study was conducted in the Department of Nephrology and Urology, Sharif Medical and Dental College, Lahore on 58 patients with chronic kidney disease. Patients above the age of 18 years, belonging to both the genders and same socioeconomic status were a part of the study. Patients undergoing renal dialysis for reasons other than chronic kidney disease, those who were critically ill and those with any systemic illnesses were excluded from the study.

RESULTS

A statistically non-significant weak negative correlation between age and serum creatinine levels (r= -0.116, P=0.394). There was found to be no correlation between weight and serum creatinine levels (r= -0.071, p=0.605). The male patients with chronic kidney disease had higher serum creatinine levels but the difference was not statistically significant (P=0.921).

CONCLUSION

The correlation of serum creatinine levels with the age of chronic kidney disease patients was very weak. There was no correlation between serum creatinine and the weight of the patients. The difference in the serum creatinine levels among male and female patients was not significant.

KEYWORDS: *Demographic Factors, Serum Creatinine, Gender, Age, Weight*

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INTRODUCTION

Chronic kidney disease (CKD) is a progressive disease meaning that kidney functions deteriorate over time as the disease advances in stages. Early detection of chronic kidney disease can be very helpful for both pharmacological and non-pharmacological interventions.[1] The prevalence of chronic kidney disease in the Asian population is higher than western population.[2] It is divided into five stages based on the level of kidney functions. CKD stage is determined by calculating the estimated glomerular filtration rate (e GFR). It is the rate at which kidneys are cleaning the blood.[3] Creatinine is normally used to evaluate kidney functions and it is affected by socio-demographic factors like age, gender, and weight. Serum creatinine levels can be used to estimate the glomerular filtration rate.[4] The demographic factor

that showed a strong association with the prevalence of CKD is gender**,** with CKD being more prevalent among females. The reason for this increase in prevalence in females can be explained by two reasons.[5] Firstly, creatinine which is a determinant of kidney function (GFR) depends on muscle mass. Females have less muscle mass as compared to males and ultimately less creatinine which explains the high prevalence among females because current renal function predictive equations use serum creatinine values to estimate GFR.[6] Gender-related differences exist in nephrology. For women, 31.8/ 1000 were found to be CKD with a high risk of progression to ESKD versus 25.9/1000 for men.[7] Female gender and chronic diseases also increase the frailty phenotype prevalence. In general, the prevalence of CKD increases with age. As age progresses, structural changes in kidneys are observed which can lead to a decline in kidney functions. The risk of developing CKD increases with advancing age because other comorbidities like hypertension and diabetes are more prevalent in old people.[8] Ageing is a non-regulatory risk factor for the development of CKD. Higher rates of all categories of CKD were found among older as compared to younger populations.[9] Chronic kidney disease is associated with ageing, obesity, diabetes, hypertension, dyslipidemia, obesity, and unhealthy lifestyle behaviors. Obesity has been considered a major risk factor for the development of chronic kidney disease.[10] It can accelerate the progression of CKD. Overweight people tend to produce more albumin in urine which can contribute to renal damage.[11] Obesity is closely associated with metabolic disorders like Hypertension, Diabetes Mellitus, and hyperlipidemia, all of which are unfavorable factors to renal function. Obesity related kidney disease indicated that chronic inflammation and abnormal lipid metabolism contribute to kidney cell injury.[12] Higher CKD prevalence is seen among persons with low education or low-income levels.[13] However, the observation demonstrates consistent gaps in CKD prevalence across these groups over nearly 3 decades. People living in poverty and in remote communities, face barriers to accessing early intervention strategies and treatments that are required to prevent and manage CKD.[14] Improving living conditions and ensuring that economic and social resources are available would potentially decrease the development of CKD and other chronic diseases.[15] The aim of the study was to find the impact of demographic factors (age, gender, and weight) on the serum creatinine levels in patients with chronic kidney disease.

METHODOLOGY

A cross-sectional comparative study was conducted in the Department of Nephrology and Urology, Sharif Medical and Dental College, Lahore on 58 patients with ESRD for the time duration of one year. The study was conducted after ethical approval from Sharif Medical Research Centre (SMRC). The sample size was calculated to be 58, keeping the power of the study to be 90, precision at 10% and prevalence 69%. The sampling technique employed was non-probability convenient sampling. Patients above the age of 18 years, belonging to both the genders and same socioeconomic status were a part of the study. Patients undergoing renal dialysis for reasons other than chronic kidney disease, those who were critically ill and those with any systemic illnesses were excluded from the study. Data was collected after taking informed consent from the patients. The demographic data along with a list of variables associated with chronic kidney disease was recorded using a structured questionnaire. Numerical data were presented as mean and its respective standard deviation. SPSS 23 was used for statistical analysis. All nominal data were presented as frequencies and percentages. P values less than equal to 0.05 was taken as significant. Pearson correlation was used to find the correlation of age and weight with serum creatinine levels. An independent t-test was used to find the difference in the mean serum creatinine levels among male and female patients.

RESULTS

This study was conducted on 58 patients with ESRD. The mean age of the participants was 47.64±17.373 years with 62.1% males and 37.9% females. The mean serum creatinine levels were found to be 7.7959±3.47212 mg/dl. Table 1 shows a statistically non-significant weak negative correlation between age and serum creatinine levels. There was found to be no correlation between weight and serum creatinine levels. Table 2 shows that the male patients with chronic kidney disease had higher serum creatinine levels but the difference was not statistically significant.

Table 1: Correlation of Age and Weight with Serum Creatinine Levels in Chronic Kidney Disease Patients

Demographic Factors	Serum Creatinine Levels (Mg/Dl)	
	Pearson Correlation Co-Efficient	P-Value
Age (Years)	-0.116	0.394
Weight (Kg)	-0.071	0.605

Table 2: The Difference in the Serum Creatinine Levels Among Male and Female Patients in Chronic Kidney Disease

Demographic Factors	Serum Creatinine Levels (Mg/Dl)				
	Mean	Standard Deviation	DF	T	P-Value
Male	7.8323	3.25443	53	0.100	0.921
Female	7.7413	3.40435			

DISCUSSION

Chronic kidney disease is characterized by a progressive deterioration of kidney function. Wastes and excess fluids are eliminated from the circulation by the kidneys, which are then excreted in the urine. Established chronic renal impairment can result in dangerously high fluid, electrolyte, and waste concentration in the body. The elderly are more likely to develop CKD. While young individuals with CKD often have gradual deterioration of renal function, 30% of people with CKD over the age of 65 maintain a stable illness. A glomerular filtration rate (GFR) or creatinine clearance (CrCl) lower than 60 ml/min per 1.73 m2 has indeed been characterized as chronic kidney disease (CKD), with no necessity for confirming indication of renal disease underneath this level.[16] Chronic kidney disease (CKD) is a worldwide concern with a rapidly rising prevalence. CKD affects about 37 million persons in the United States, with most cases going undetected. About 40% of persons with substantially impaired kidney function (who are not on dialysis) are unaware that they have CKD. As per the National Health and Nutrition Examination Study, the frequency of CKD in the United States increased to 14.0 % in 2007 and 2010, up from 13.1 % in 2004.[17] In Asia, the frequency of CKD is comparable to, though not higher than that of the Western world. In the grownup Japanese population, 19.1 % had a glomerular filtration rate (GFR) of less than 60 mL/min/1.73 m2.[18] Biochemical markers are fundamental for correct diagnosis, risk assessment, and treatment choices to enhance clinical outcomes. Serum examination of renal activity markers such as urea, creatinine, uric acid, and electrolytes is regularly utilized rather than the urine test, which is generally inconvenient for the patient. BUN and serum creatinine are the most extensively used and approved markers for assessing renal function.[19] Creatinine is a 113-dalton molecule. It is dispersed all through the body's water system. It is produced through the non-enzymatic transformation of creatine and phosphocreatine in muscles. Creatinine is a biochemical byproduct in the blood that is filtered and excreted in urine by the kidneys. It is a by-product of regular muscle action and is a chemical waste. A person's creatinine production increases as their muscle mass increases. Creatinine concentration in the blood reflects a person's muscle mass as well as their renal function. Creatinine levels in most males with normal renal function range from 0.6 to 1.2 milligrams per deciliter (mg/dL). Creatinine levels in healthy women having normal renal function range from 0.5 to 1.1 mg/dL.[20] Because the glomerulus filters creatinine, the serum creatinine concentration is used as an indirect indicator of glomerular filtration. As the glomerular filtration rate decreases, plasma levels of serum urea and creatinine rise. This spike suggests kidney disease development, and serum creatinine has a better predictive capacity than urea in predicting negative outcomes.[21] There are various factors that influence the levels of serum creatinine. According to a study, Age, gender, skin color and race, body habit, debilitating disease, nutritional condition, and diet all affect serum creatinine levels.[22] It is analyzed by many studies that the creatinine clearance decreases with age as the functioning of the kidney is reduced as the age advanced.[23] A study described that in normal healthy individuals the serum creatinine concentrations increased exponentially with age in both males and females, starting at 40 years for females and 60 years for men. Serum creatinine levels rise with age, particularly in the 'vascular' age category of 60 to 80 years. The effects of age on serum creatinine concentration are important to consider when

interpreting the outcomes of renal monitoring following intervention.[24] In a study, it was reported that Serum and urine creatinine had a strong relationship with weight, while the relationship with lean mass was considerably higher.[25] But in the literature, there are insignificant findings on the demographics affecting the serum creatinine levels in patients suffering from chronic kidney disease. In this study, we concluded that there is a weak negative connection between age and serum creatinine levels that is statistically non-significant. There was no link observed between body weight and serum creatinine levels in the patients having chronic kidney disease. And considering the gender, in our study, the serum creatinine levels of male patients having the chronic renal disease were greater than females, but the difference was not statistically significant.

LIMITATIONS

A multicenter study and large sample size would have helped to give a more elaborate insight on the topic.

CONCLUSIONS

The correlation of serum creatinine levels with the age of End-stage renal disease patients was very weak. There was no correlation between serum creatinine and the weight of the patients. The difference in the serum creatinine levels among male and female patients was not significant.

CONFLICT OF INTEREST: None

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REFERENCES

1. Vart P, Powe NR, McCulloch CE, Saran R, Gillespie BW, Saydah S, et al. National trends in the prevalence of chronic kidney disease among racial/ethnic and socioeconomic status groups, 1988-2016. JAMA Netw Open [Internet]. 2020;3(7):e207932
2. Kim TH, Lee M-J, Yoo K-B, Han E, Choi J-W. Association of demographic and socioeconomic factors with risk factors for chronic kidney disease. J Prev Med Public Health [Internet]. 2015;48(3):170–7.
3. Chen TK, Knicely DH, Grams ME. Chronic kidney disease diagnosis and management: A review: A review. JAMA [Internet]. 2019;322(13):1294–304.
4. Khan I, Khan AH, Adnan AS, Sulaiman SAS, Hamzah ABA, Ahmed N, et al. Effect of socio-demographic factors on endogenous biomarkers (cystatin C and creatinine) among elderly chronic kidney disease patients: a cross-sectional study. Int Urol Nephrol [Internet]. 2018;50(6):1113–21.
5. Chartier MJ, Tangri N, Komenda P, Walld R, Koseva I, Burchill C, et al. Prevalence, socio-demographic characteristics, and comorbid health conditions in pre-dialysis chronic kidney disease: results from the Manitoba chronic kidney disease cohort. BMC Nephrol [Internet]. 2018;19(1):255.
6. Huisman BJ, Agyemang C, Van Den Born BJ, Peters RJ, Snijder MB, Vogt L. Discrepancies in estimated glomerular filtration rate and albuminuria levels in ethnic minority groups-The multiethnic HELIUS cohort study. EClinicalMedicine. 2022;45.
7. Vaidya SR, Aeddula NR. Chronic renal failure. InStatPearls. 2021;
8. Chou Y-H, Chen Y-M. Aging and renal disease: Old questions for new challenges. Aging Dis [Internet]. 2021;12(2):515–28.
9. Papacocea RI, Timofte D, Tanasescu M-D, Balcangiu-Stroescu A-E, Balan DG, Tulin A, et al. Kidney aging process and the management of the elderly patient with renal impairment (Review). Exp Ther Med [Internet]. 2021; 21(3):266.
10. Chen I-J, Hsu L-T, Lu M-C, Chen Y-J, Tsou M-T, Chen J-Y. Gender differences in the association between obesity indices and chronic kidney disease among middle-aged and elderly Taiwanese population: A community-based cross-sectional study. Front Endocrinol (Lausanne) [Internet]. 2021;12:737586.
11. Stavropoulou E, Kantartzi K, Tsigalou C, Konstantinidis T, Romanidou G, Voidarou C, et al. Focus on the gut-kidney axis in health and disease. Front Med (Lausanne) [Internet]. 2020;7:620102.
12. Xu S, Jia P, Fang Y, Jin J, Sun Z, Zhou W, et al. Nuclear farnesoid X receptor attenuates acute kidney injury through fatty acid oxidation. Kidney Int [Internet].

2022;101(5):987–1002.
13. Winitzki D, Zacharias HU, Nadal J, Baid-Agrawal S, Schaeffner E, Schmid M, et al. Educational attainment is associated with kidney and cardiovascular outcomes in chronic kidney disease. Kidney Int Rep. 2022;
14. Jovic D, Dimkovic N, Rakocevic I, Boricic K, Atanasijevic D, Vasic M. Prevalence and factors associated with self-reported kidney disease among Serbian adults: Results of 2013 National Health Survey. PLoS One [Internet]. 2018;13(9):e0203620.
15. Luyckx VA, Al-Aly Z, Bello AK, Bellorin-Font E, Carlini RG, Fabian J, et al. Sustainable Development Goals relevant to kidney health: an update on progress. Nat Rev Nephrol [Internet]. 2021;17(1):15–32.
16. Meola M, Samoni S, Petrucci I. Imaging in chronic kidney disease. Contrib Nephrol [Internet]. 2016;188:69–80.
17. Coresh J, Selvin E, Stevens LA, Manzi J, Kusek JW, Eggers P, et al. Prevalence of chronic kidney disease in the United States. JAMA [Internet]. 2007;298(17):2038–47.
18. Tsai M-H, Hsu C-Y, Lin M-Y, Yen M-F, Chen H-H, Chiu Y-H, et al. Incidence, prevalence, and duration of chronic kidney disease in Taiwan: Results from a community-based screening program of 106,094 individuals. Nephron [Internet]. 2018;140(3):175–84.
19. Kamal A. Estimation of blood urea (BUN) and serum creatinine level in patients of renal disorder. IJFALS. 2014;4(4):199–202.
20. Pandya D, Nagrajappa AK, Ravi KS. Assessment and correlation of urea and creatinine levels in saliva and serum of patients with chronic kidney disease, diabetes and hypertension-a research study. Journal of clinical and diagnostic research. 2016;10(10).
21. Mittal A, Sathian B, Kumar A, Chandrasekharan N, Sunka A. Diabetes mellitus as a potential risk factor for renal disease among napalese: A hospital based case control study. NJE. 2010;1(1):22–5.
22. Stevens LA, Coresh J, Greene T, Levey AS. Assessing kidney function-measured and estimated glomerular filtration rate. N Engl J Med. 2006;354:2473–83.
23. Mathialagan S, Piotrowski MA, Tess DA, Feng B, Litchfield J, Varma MV. Quantitative prediction of human renal clearance and drug-drug interactions of organic anion transporter substrates using in vitro transport data: A relative activity factor approach. Drug Metab Dispos [Internet]. 2017;45(4):409–17.
24. Huber M, Ozrazgat-Baslanti T, Thottakkara P. Cardiovascular-specific mortality and kidney disease in patients undergoing vascular surgery. J Vasc Surg [Internet]. 2016;64(2):534.
25. Kim S-W, Jung H-W, Kim C-H, Kim K-I, Chin HJ, Lee H. A new equation to estimate muscle mass from creatinine and cystatin C. PLoS One [Internet]. 2016;11(2):e0148495.

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TRENDS OF CHOOSING MEDICINE AS A PROFESSION AMONG STUDENTS

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ABSTRACT

OBJECTIVES

The study aimed to find trends and factors in choosing medicine as a profession across the gender.

METHODOLOGY

A cross-sectional descriptive study was conducted at the private college of Peshawar. One hundred fifty-three students, through a systematic sampling technique, were selected. A well-developed structured questionnaire was used for data collection. SPSS version 26.0 was used for data analysis.

RESULTS

There was no significant difference across gender in prioritizing a selection of medical professionals (p=.979). It was more important for both genders to become doctors. Most of the students marked that they selected medicine by their own choice.

CONCLUSION

Students (males and females) are enthusiastic about opting medicine profession in their interest.

KEYWORDS: *Gender, Students, Doctor, Profession*

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INTRODUCTION

A child pretending to be a doctor is a common sight, attributed to their families constant repetition of medicine as a career choice as soon as they are born. It is instilled so profoundly; that it even survives infantile amnesia.[1] The career choice is critical, yet it is decided quite early in life in the case of medicine.[2] This is corroborated by a study showing that many high school kids have already decided to apply for medical school.[3] Friends and family are vital in leading a kid to this decision. As reported by one of the studies, the main reasons for joining medicine were either "to aid suffering mankind" or "to fulfil their parents expectations".[4] Popularity, pay, ethics, religious motives, and working conditions usually motivate a person towards a certain field.[5] Medicine sciences are among the choices that attract secondary school students, particularly those with high scores or striving to achieve high scores. There is also a predilection for men to favor a more rewarding financial career compared to women.[6] A role model, fictional or real, with a similar career could also be a deciding factor in a child's life. A doctor has a prestigious societal ranking, which motivates many kids to become one. However, not everyone can get in due to their competitive nature. Those who decide not to pursue medicine state

"nepotism, poor doctor/patient ratio, and long and tiring working hours" as their biggest concerns.[8] Those who choose medicine due to parental pressure struggle in the field as they are unwilling to go above and beyond.[9] The main factors in choosing medicine as a profession are helping people, a bright future, personality, respect, and socioeconomic factors.[10] Researchers have also found that past academic achievements are directly proportional to admission to medical schools.[11] Getting into the medical field, most students are aware of the challenges that lie ahead and are motivated enough to take them head-on as new experiences. However, the years spent training in medical school should be challenging and formative concerning their spiritual, emotional, and intellectual capabilities.[12] There is a gender predilection towards medicine as a career, which is unsurprising, as a difference is bound to exist among the personal standards in men and women.[13] Women were found to be more sensible of the two, showing that their sense of "medicine is a sensitive field" is much clearer.[14] Studies conducted in the UK and US show that family requests and involvement more influenced female students while males were less affected by them.[15] Male doctors generally outnumber female doctors; however, most US medical college enrollees are recently women, representing 50.7% of the admissions in 2017.[16] This study was planned to determine the trends of choosing a medical profession across gender in Peshawar students. There was no such study conducted in this region.

METHODOLOGY

Over three months, a cross-sectional study was carried out at a private college in Peshawar. One hundred fifty-three students, through a systematic sampling technique, were selected. A well-developed structured questionnaire was used for data collection. SPSS version 26.0 was used for data analysis. Ethical approval was taken from the Ethical Committee of Gandhara University.

RESULTS

Table 1: Trends of Choosing Medicine across the Gender

		Gender		Chi - Square	P-Value
		Male	Female		
How Important Is it to Become a Doctor	More important	83	85	0.042	0.979
	Less important	17	15		

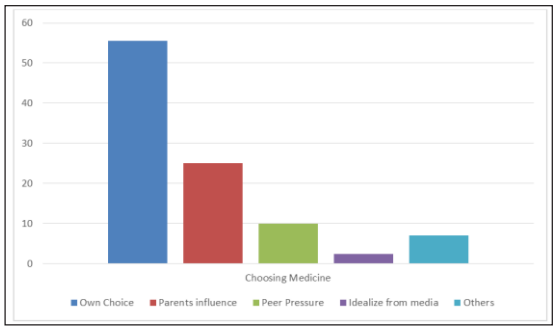

Figure 1: Factors for Selection of Medical Profession

DISCUSSION

A medical career is unique as it is perceived to be very noble, providing an opportunity to serve fellow human beings more than any other career. In our study, there was no significant difference across gender in the selection of medical professionals. However, a study conducted in the UK and USA shows that family influences females more in career choices than males. That is why the population of females are more in medicine as compared to males when choosing medicine.[15] However, our study results contradict this study. Another cross-sectional gender bias study was conducted regarding pursuing a career after medical college. Males are more into academics and go for PHD, while females are more into the medical side. This study shows that both genders did pursue their careers, which shows that choosing medicine is important.[17] Another study reveals that due to gender discrimination, males are more into medicine as compared to female.[18] Another study shows that only 32% of females reach to level to complete their training as compared to males, 62%.[19] In the study, 85.7% of the applicants indicated that their choice of speciality was mainly influenced by personal interest.[20] Similar results were found in our study. Most of the students reported that they have their own choice in the selection of medical profession. A doctor's reputation in society because medicine is a noble profession motivates students to struggle and achieve marks to opt for this profession.

LIMITATIONS

A multicenter study could have helped gather more data from more participants, and more findings could have been unravelled.

CONCLUSIONS

We concluded that the medical profession as a

career is essential for both genders, and students opt for this career based on their interests.

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REFERENCES

1. Mehl-Madrona L. Narrative medicine: The use of history and story in the healing process. Simon and Schuster; 2007 Jun 11.
2. Pianosi K, Bethune C, Hurley KF. Medical student career choice: a qualitative study of fourth-year medical students at Memorial University, Newfoundland. Canadian Medical Association Open Access Journal. 2016 Apr 19;4(2):E147-52.
3. Knight LV, Mattick K. 'When I first came here, I thought medicine was black and white': Making sense of medical students' ways of knowing. Social science & medicine. 2006 Aug 1;63(4):1084-96.
4. Heikkilä TJ, Hyppölä H, Vänskä J, Aine T, Halila H, Kujala S, Virjo I, Sumanen M, Mattila K. Factors important in the choice of a medical career: a Finnish national study. BMC medical education. 2015 Dec;15(1):1-8.
5. Ganeva IG, Dinkova KI, Andonova AN. Motives and Factors in Fluencing the Choice of a Medical Profession. InЭффективность реализации государственной молодёжной политики: опыт регионов и перспективы развития 2018 (pp. 9-14).
6. Wouters A, Croiset G, Isik U, Kusurkar RA. Motivation of Dutch high school students from various backgrounds for applying to study medicine: a qualitative study. BMJ open. 2017 May 1;7(5):e014779.
7. Tuzel Iseri E. From Mussels Stand to Becoming a Doctor: A Discussion on the Importance of Education in the Vertical Transition between Social Strata in Terms of Career Choices and Sources of Vocational Awareness in Children with Low Socioeconomic Level. International Education Studies. 2019;12(11):94-104.
8. Arora R. Becoming a doctor in India: once a cherished DREAM, no longer cherished though. Quantitative Imaging in Medicine and Surgery. 2016 Apr;6(2):240.
9. IKRAM M, MARYAM R, KHAN RM, Latif A, Butt M. Choosing, regretting, and learning in medical education. PPJMHS. 2019;13(3):596-8.
10. Zayabalaradjane Z, Abhishekh B, Ponnusamy M, Nanda N, Dharanipragada K, Kumar S. Factors Influencing Medical Students in Choosing Medicine as a Career. Online J Health Allied Scs. 2018;17(4):5
11. Hassan M, Shahzad F, Waqar SH. Seeking motivation for selecting Medical Profession as a Career Choice. Pakistan Journal of Medical Sciences. 2020 Jul;36(5):941.
12. SE, Fawzy M. Becoming a doctor. Medical humanities. 2001 Dec 1;27(2):90-2
13. Heikkilä TJ, Hyppölä H, Vänskä J, Aine T, Halila H, Kujala S, Virjo I, Sumanen M, Mattila K. Factors important in the choice of a medical career: a Finnish national study. BMC medical education. 2015 Dec;15(1):1-8.
14. Kusurkar RA, Croiset G, Galindo-Garré F, Ten Cate O. Motivational profiles of medical students: association with study effort, academic performance and exhaustion. BMC medical education. 2013 Dec;13(1):1-8.
15. Bates C, Gordon L, Travis E, Chatterjee A, Chaudron L, Fivush B, Gulati M, Jagsi R, Sharma P, Gillis M, Ganetzky R. Striving for gender equity in academic medicine careers: a call to action. Academic medicine: journal of the Association of American Medical Colleges. 2016 Aug;91(8):1050.
16. Winkel AF, Telzak B, Shaw J, Hollond C, Magro J, Nicholson J, Quinn G. The role of gender in careers in medicine: a systematic review and thematic synthesis of qualitative literature. Journal of General Internal Medicine. 2021 Aug;36(8):2392-9.
17. Snyder A, Xiang D, Smith A, Esswein S, Toubat O, Di Capua J, Kwan JM, Daye D. Gender disparities among medical students choosing to pursue careers in medical research: a secondary cross-sectional cohort analysis. BMC medical education. 2021 Dec;21(1):1-0.
18. Bourell L. The Gender Pay Gap in Oral

Surgery. Oral and Maxillofacial Surgery Clinics. 2021 Nov 1;33(4):449-55.

19. Linehan C, Sweeney C, Boylan G, Meghen K, O'Flynn S. Getting in and getting on in medical careers: how the rules of the game are gendered. Gender, Sexuality, and Feminism. 2013 May;1(1).

20. Ayuob NN, Sindi AH, ElDeek BS, Veeramachaneni R, Indurkar PS. Medicine as a career choice: a cross-sectional study on undergraduate medical students at King Abdulaziz University. Int J Res Med Sci. 2016 Feb;4(2):593-601.

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FACTORS ASSOCIATED WITH MYOPIA IN SCHOOL- GOING CHILDREN OF DISTRICT PESHAWAR IN 2021: A CASE - CONTROL STUDY

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ABSTRACT

OBJECTIVES

This study aimed to determine the factors associated with myopia in school-going children of district Peshawar.

METHODOLOGY

From October 2021- March 2022,150 myopic and 150 non-myopic students from ten schools in Peshawar participated in this case-control study. Consent was taken from all students who fulfilled the inclusion criteria and were enrolled in the study. The student's visual acuity was examined with a Snellen chart, and an eyesight of less than 6/9 in any eye was myopic. Data was recorded with the help of well-designed questionnaires. For data entry and analysis, SPSS version 20 was utilized.

RESULTS

Myopia and the male gender had significant associations. Students reading from a greater distance had a higher association with myopia. Myopia association was greater in students who did the continuous reading. Myopia was also associated with students who had more screen time. Myopia was negatively associated with time spent outdoors.

CONCLUSION

Myopia was associated with higher age, male gender, rural father birthplace, less time spent outdoors, greater reading distance, continuous reading, and more time spent on electronic devices.

KEYWORDS: *Myopia, School-Going Children, Risk Factors, Peshawar*

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INTRODUCTION

Myopia is a condition where the spherical equivalent objective refractive error is ≤ – 0.50 diopter in either eye.[1] In 2020 there were 1950 million people worldwide with moderate or severe vision impairment or blindness due to uncorrected myopia. This number is predicted to increase to 4758 million by 2050.[2] Due to such a high number of cases, it is important to raise awareness regarding this issue because, in our society, little attention is provided to uncorrected eyesight, and even when it is corrected by wearing glasses, the factors leading to its severity are further ignored thinking it would not worsen. China is highly affected by myopia. In Beijing, myopia was recorded in 65.5% of students.[3] In Shanghai,

myopia was present in 20.1%.[4] Similarly, a Rural area in China showed a prevalence of 5.0% (95%CI 4.8%-5.4%) myopia.[5] In another study, 15,066 children were examined where myopia was associated with; dim reading illumination 0.88%, higher self-reported protein intake 0.9%, feeling tired or dizzy 0.91%, parental myopia 1.4%, female gender 1.35%, key school type 0.77%, Higher family income 1.04%, longer daily studying duration 1.10%, shorter duration of watching tv or computer 0.9%.[6] The prevalence of myopia in India was calculated to be about 7.5% in the 5-15-year age group. It was 8.5% in urban and 6.1% in rural children, with the highest cases in the urban population in the 11-15-year age group.[7] In another study, the prevalence of myopia among older children (9-12 years) was found to be higher. Children studying more than 4 hours per day had a positive relation with myopia.[8] In Sydney, Australia, children that had developed myopia were found to spend less time outdoors 22. A population-based cross-sectional study was conducted in Thailand. Myopia, myopic parental status, and hours per week of near activities (studying, reading books, watching television, playing video games, or working on the computer) were assessed in 377 children who participated in this study. Myopic children were more likely to have parents with myopia and were spending more time at nearby activities. The multivariate odds ratio (95% confidence interval) for both myopic parents was 6.37 (2.2617.78) and for each diopter-hour per week of near work was 1.019 (1.005-1.033). Multivariate logistic regression models show no confounding effects between parental myopia and near work, suggesting that each factor has an independent association with myopia.[9,10]

METHODOLOGY

we conducted a case-control taking students with myopia as cases and students without myopia as controls. The study area is Peshawar district, the capital of Khyber Pakhtunkhwa, province of Pakistan. There are 140 secondary and 32 higher secondary schools in the district of Peshawar. The data was collected from 8th,9th, and 10th-grade students from different schools in Peshawar. The exclusion criteria were students that were above 16 years of age. The Sample Size was 150 in each group. In each school, we tested students with Snellen's chart whose result was $\leq$ 0.5 D and were classified as myopic. Thus, for 150 cases, an equal number of controls were selected with normal visual acuity. The frequency and percentages were calculated, and Chi-square tests were performed for qualitative data, whereas for quantitative data, we performed means and standard deviation and t-tests. Data entry and analysis were done by SPSS version 20.

RESULTS

Table 1: Association of the Gender of Participants with Myopia in a Case-Control Study in District Peshawar 2022

Gender	Myopic	Normal	Chi-Square Value	P-Value
Male	82 (57.7%)	60 (42.3%)	6.472	0.011
Female	68 (43%)	90 (57%)		

Table 2: Association of the Reading Distance of Participant with Myopia

Participant Reading From a Distance	Myopic	Normal	Chi-Square Value	P-Value
Less than 10 inches	36 (39.1%)	56 (60.9%)	6.271	0.012
More than 10 inches	114 (54.8)	94 (45.2%)		

Table 3: Association of Taking Rest During the Reading of Participants with Myopia

Participant Taking Rest During Reading	Myopic	Normal	Chi-Square Value	P-Value
Yes	72 (60.5%)	47 (39.5%)	8.705	0.003
No	78 (43.1%)	103 (56.9%)		

Table 4: Association of the Age of Participants with Myopia

Age	Myopic	Normal	Chi-Square Value	P-Value
13-14	62 (40%)	88 (60%)	9.067	0.003
15-16	88 (42%)	62 (58%)		

Table 5: Association of Time Spent on Devices of Participants with Myopia

Participant Time Spent on Devices	Myopic	Normal	Chi-Square Value	P-Value
None	14 (29.8%)	33 (70.2%)	11.185	0.004
1-2 hrs.	62 (49.25%)	64 (50.8%)		
More than 2 hrs.	74 (58.3%)	53 (41.7%)		

Table 6: Association of Time Spent Outdoors By Participants with Myopia

Participant Time Spent Outdoors	Myopic	Normal	Chi-Square Value	P-Value
None	32 (78%)	09 (22%)	17.658	0.001
1-3 hrs.	74 (42%)	102 (58%)		
More than 3 hrs.	44 (53%)	39 (47%)		

DISCUSSION

It is widely regarded that the association of myopia is greater in females than males, but in our study, we found a higher association(p=0.011) of myopia in males (54.7%) as compared to females (43.3%). Another study observed a similar relation.[11,12] There are two well-known possibilities for gender differences. The first is that differences can be biologically determined. The second possibility is that they are socially/behaviorally determined. One major reason for the higher association of myopia in boys in Peshawar is religious education after school timing which increases their reading duration. This factor can be validated by another research, which reported that male students have a higher association with myopia because of intense continuous religious studies.[13,14] Recent extensive studies conducted in China on myopia's association with gender have concluded that myopia occurs more often in girls.[15] A study has shown that myopia occurs more often in girls below three years of age. However, another study concluded that myopia occurs more often in 12.7-year-old girls.[16,17] Our research found a direct correlation between myopia and time spent outdoors. We found the association of myopia to be higher in children who spent less time outdoors (70.66%) than in children who spent more time outdoors (29.34%). This finding can be supported by similar researches.[18] Some scholars have found that the outdoor environment has a unique protective effect on myopia.[16] These effects included that sunlight could stimulate the retina to release dopamine and slow the development of myopia. In addition, outdoor sunlight may easily promote the body's secretion of dopamine, slowing down eye lengthening and reducing the rate of myopia. There was an increase in association (p=0.012) of myopia in children who were accustomed to reading from a greater distance (more than 10 inches) (76%) as compared to students reading from a lesser distance (less than 10 inches) (24%). Similar results were found in the study by Jenny M et al. in Australia.[17] Near work is often reported as an established environmental risk factor in childhood myopia, although detailed studies of near work in which time-based measures were used or with adjustments for other contributing factors have provided only weak evidence to support this hypothesis.[18] A higher association (p=0.003) of myopia was associated with continuous reading (52%) compared to taking breaks during reading (48%). Similarly, other researchers have experienced the same results where they found a higher association in students doing a continuous reading for >30 mins at a time.[19] Continuous reading can cause an extra burden on the eyes, causing a higher prevalence of myopia. More time spent outdoors is associated with less myopia. The research was carried out in which two groups of students were taken, those who take breaks during studies and those who do not. The association of myopia among students who took breaks after 30 minutes of continuous reading was 81.6%, which was less than that among students who did not take breaks. The overall findings indicate that increasing time spent outdoors may be a simple strategy to reduce the risk of developing myopia and its progression in school-going children.[19] Such as indicated in our study, natural light has a positive effect as opposed to dim light. Further, the students are advised to spend less time under artificial lights of electronic devices and less time reading continuously for more than 30-40 mins at a time.

LIMITATIONS

This study had several limitations. The data collected in our study was sourced from student self-filled questionnaires. There may have been memory or non-respondent biases as such.

CONCLUSIONS

In our case-control study on a study population of 300 children in District Peshawar, myopia was associated with higher age, male gender, rural father birthplace, less time spent outdoors, greater reading distance, continuous reading, more time spent on electronic devices (mobile, tv, laptop, tablets

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REFERENCES

1. Flitcroft DI, He M, Jonas JB, Jong M, Naidoo K, Ohno-Matsui K, Rahi J, Resnikoff S, Vitale S, Yannuzzi L. IMI – Defining and classifying myopia: a proposed set of standards for clinical and epidemiologic studies. Investigative ophthalmology & visual science. 2019 Feb 28;60(3):M20-30.
2. Holden BA, Fricke TR, Wilson DA, Jong M, Naidoo KS, Sankaridurg P, Wong TY, Naduvilath TJ, Resnikoff S. Global

prevalence of myopia and high myopia and temporal trends from 2000 through 2050. Ophthalmology. 2016 May 1;123(5):1036-42.
3. Li Y, Liu J, Qi P. The increasing prevalence of myopia in junior high school students in the Haidian District of Beijing, China: a 10-year population-based survey. BMC ophthalmology. 2017 Dec;17(1):1-9.
4. Ma Y, Qu X, Zhu X, Xu X, Zhu J, Sankaridurg P, Lin S, Lu L, Zhao R, Wang L, Shi H. Age-specific prevalence of visual impairment and refractive error in children aged 3–10 years in Shanghai, China. Investigative ophthalmology & visual science. 2016 Nov 1;57(14):6188-96.
5. Lee JH, Jee D, Kwon JW, Lee WK. Prevalence and risk factors for myopia in a rural Korean population. Investigative ophthalmology & visual science. 2013 Aug 1;54(8):5466-71.
6. Agarwal D, Saxena R, Gupta V, Mani K, Dhiman R, Bhardawaj A, Vashist P. Prevalence of myopia in Indian school children: meta-analysis of last four decades. PloS one. 2020 Oct 19;15(10):e0240750.
7. Lee DC, Lee SY, Kim YC. An epidemiological study of the risk factors associated with myopia in young adult men in Korea. Scientific reports. 2018 Jan 11;8(1):1-7.
8. Mutti DO, Hayes JR, Mitchell GL, Jones LA, Moeschberger ML, Cotter SA, Kleinstein RN, Manny RE, Twelker JD, Zadnik K. Refractive error, axial length, and relative peripheral refractive error before and after the onset of myopia. Investigative ophthalmology & visual science. 2007 Jun 1;48(6):2510-9.
9. Yingyong P. Risk factors for refractive errors in primary school children (6-12 years old) in Nakhon Pathom Province. Medical journal of the Medical Association of Thailand. 2010 Nov 1;93(11):1288.
10. Villarreal GM, Ohlsson J, Cavazos H, Abrahamsson M, Mohamed JH. Prevalence of myopia among 12-to 13-year-old schoolchildren in northern Mexico. Optometry and vision science. 2003 May 1;80(5):369-73.
11. Rodríguez-Abrego G, Sotelo-Dueñas HM. Myopia prevalence among school-age children in a suburban population. Revista Médica del Instituto Mexicano del Seguro Social. 2009;47(1):39-44.
12. Maul E, Barroso S, Munoz SR, Sperduto RD, Ellwein LB. Refractive error study in children: results from La Florida, Chile. American journal of ophthalmology. 2000 Apr 1;129(4):445-54.
13. Zhao J, Pan X, Sui R, Munoz SR, Sperduto RD, Ellwein LB. Refractive error study in children: results from Shunyi District, China. American journal of ophthalmology. 2000 Apr 1;129(4):427-35.
14. Bez D, Megreli J, Bez M, Avramovich E, Barak A, Levine H. Association between type of educational system and prevalence and severity of myopia among male adolescents in Israel. JAMA ophthalmology. 2019 Aug 1;137(8):887-93.
15. Zhang L, Wang W, Dong X, Zhao L, Peng J, Wang R. Association between time spent outdoors and myopia among junior high school students: A 3-wave panel study in China. Medicine. 2020 Dec 11;99(50).
16. Cui D, Trier K, Ribel-Madsen SM. Effect of day length on eye growth, myopia progression, and change of corneal power in myopic children. Ophthalmology. 2013 May 1;120(5):1074-9.
17. Chen S, Zhi Z, Ruan Q, Liu Q, Li F, Wan F, Reinach PS, Chen J, Qu J, Zhou X. Bright light suppresses form-deprivation myopia development with activation of dopamine D1 receptor signaling in the ON pathway in retina. Investigative Ophthalmology & Visual Science. 2017 Apr 1;58(4):2306-16.
18. Sun JT, An M, Yan XB, Li GH, Wang DB. Prevalence and related factors for myopia in school-aged children in Qingdao. Journal of ophthalmology. 2018 Jan 8;2018.
19. You X, Wang L, Tan H, He X, Qu X, Shi H, Zhu J, Zou H. Near work related behaviors associated with myopic shifts among primary school students in the Jiading District of Shanghai: a school-based one-year cohort study. PloS one. 2016 May 3;11(5):e0154671.

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ASSOCIATION OF DEMOGRAPHIC FACTORS WITH DENTAL CARIES IN CHILDREN

Warda Athar[1], Laiba Shoaib[2], Ayesha Cheena[3], Maham Nasir[4], Sarah Mansoor[5], Amna Zahid[6]

ABSTRACT

OBJECTIVES

To find the association of demographic factors with children 's dental caries development.

METHODOLOGY

A cross-sectional descriptive study was conducted on 100 paediatric patients visiting the College of Dentistry, Sharif Medical and Dental College, Lahore, to assess the pattern and frequency of dental caries in young children from June 2019 to July 2020. Dental caries was assessed using the Decayed Filled Teeth (DFT) index using a mouth mirror and dental probe under the dental chair light.

RESULTS

There was a non-significant difference in the score of DFT across gender ($p=0.661$). The correlation between age and DFT score was feeble positive, and statistically significant ($\tau_b=0.340$, $p\leq0.001$).

CONCLUSION

The score of DFT for females was higher in comparison to males. Age and DFT scores were significantly and positively correlated, but the correlation was weak.

KEYWORDS: *Decayed Filled Teeth (DFT), Oral Health-Related Quality of Life (OHRQoL), Age, Gender, Dental Caries*

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INTRODUCTION

Dental caries, a chronic infectious disease, is one of the most prevalent diseases globally.[1,2,3] It is a multifactorial disease defined by WHO as a local pathological process of the external background, leading to enamel decalcification, decay of dental hard tissue, and as a result of prior processes, formation of a dental cavity.[4] It is a preventable disease, hence the main focus of dental health professionals. Dental caries occurs due to the deposition of dental biofilm on the tooth surface, an aggregate of various microorganisms. Bacteria in the biofilm metabolise fermentable carbohydrates from the diet, and organic acids are produced, which dissolve the teeth hydroxyapatite crystals, giving the oral cavity an acidic environment favorable for the organisms to flourish and continue the carious process.[5,6,7] Rising consumption of sweet and processed foods in developing countries, the composition of saliva, dry mouth, fluoride content, poor tooth brushing habits, poor oral hygiene, lack of awareness, eating habits, social status and sociodemographic factors

are the main risk factors increasing the development of caries.[8,9,10] Various studies have shown a higher prevalence of caries in girls than boys and an inverse relation with ages.[11,12,13,14] The main aim of this study is to find the association of demographic factors with the development of dental caries in children.

METHODOLOGY

A cross-sectional descriptive study was conducted on 100 paediatric patients between 6 months to 6 years visiting the College of Dentistry, Sharif Medical and Dental College, Lahore, to assess the pattern and frequency of dental caries in young children from June 2019 to July 2020. Keeping the precision of 5%, confidence interval of 95% and prevalence of dental caries in children at 7%, the sample size was calculated to be 101.[15] The sampling technique used was non-probability convenience sampling. Informed written consent was taken from the parents of the children prior to data collection. Dental caries was assessed using the Decayed Filled Teeth (DFT) index using a mouth mirror and dental probe under the dental chair light. Demographics like name, age and gender were recorded. A population of children with primary dentition, irrespective of their gender, were included in the study. Patients who were physically and mentally disabled, whose parents refused to participate in the study or who were uncooperative were excluded. No X-ray was taken to evaluate the extent of caries. Man Whitney U test was performed to find the difference in the DFT score of pediatric patients across gender. Kendal Tau b correlation was used to find the correlation between DFT score and the age of the pediatric patients.

RESULTS

A study based on data collected from 100 pediatric patients visiting the College of Dentistry, Sharif Medical and Dental College, Lahore, was collected. The mean age of the patients was 3.73 years ±1.323, with 57% males and 43% females.

Table 1: Difference in the Scores of DFT across Gender

	Gender	N	Mean Rank	Sum of Ranks	Mean Whitney U	Z	P-Value
DFT Score	Male	57	49.58	2826.00	1173.000	-0.439	0.661
	Female	43	51.72	2224.00			

Table 1 shows a statistically non-significant difference across gender. It was seen that the mean rank score of DFT for females was higher in comparison to males.

Table 2: Correlation of DFT Score with the Age of Children

		Age	
Kendal Taub Correlation	**DFT Score**	Correlation Coefficient	.340**
		Sig. (2-tailed)	.000
		N	100

Table 2 shows a statistically significant correlation between DFT score and the age of children. It was also seen that the correlation was positive but weak.

DISCUSSION

Early childhood caries is the most common term used, but it includes various diagnostic criteria, Definitions and broad age spectrum limit the correspondence. Data from Thailand showed that initial caries detected at 9 months developed into an open cavity within one month (at the age of 10 months). The transitional probability of caries progression ranged between 1.8% and 15.4% during the follow-up period from 9 to 12 months old, and It was 3.4% to 39.6% from 12 to 18 months old.[16] A national oral health survey conducted on the Iranian population in 2011–2012 demonstrated that the mean DMFT of elementary school children aged 7–8 years was 5.16 nationally and 5.64 in Hamadan.[17] Also, the mean DMFT of elementary school children aged 12 years was measured as 2.02 nationally and in Hamadan was 1.93. According to one study, DMFT has increased by 1.15 times in elementary school children aged seven years and DMFT did not change in elementary school children aged 12 years in Hamadan compared to the corresponding figures in a national survey in 2011–2012. The results of the present study demonstrated that decayed primary and permanent teeth constituted a considerable proportion of DMFT and DMFT indices, so that the proportion of filled teeth in DMFT index of 7-year old was as low as 6.4% and in the DMFT index of 12-year was 55.55%.[17] A study was carried out to check the prevalence of the population with teeth decay and dental care availed across gender, age, and race over three years from 2016 to 2019. Around 20% of the children between the age group of 5 years to 11 years and around 13% of children aged 12 years to 19 years are found to have at least one untreated decayed tooth. Despite dental visits increasing from 1997 to 2018 across gender and race of children aged 2-17 years. In 2015, 48% of children

from birth to 20 years of age had a dental visit which was a 42% increase from children in 1996.[1] According to our study, there was a positive correlation between age and DFT score, implying that age impacts the development and progression of dental caries. The possible relationship of oral health conditions, demographics and socioeconomic characteristics with OHRQoL in children. The findings suggest that poor oral health status, greater age, female gender and worse socioeconomic status were significantly associated with poor OHRQoL. In this study, children's poor OHRQoL was strongly correlated with lower levels of maternal education (≤ grade 6). Findings suggested that low household income was a risk factor for poor OHRQoL in children. Female gender is significantly correlated with the frequency of tooth brushing, and self-esteem among schoolchildren was also associated with the high socioeconomic status of the family.[18] Dental caries is affected by the interaction of biological factors with microorganisms but is also influenced by socioeconomic, educational conditions and dietary habits.[1] The prevalence of dental caries among Egyptian children was higher in the primary dentition (DMFT and DEFT) when compared to permanent dentition (DMFT).[12] This is similar to what has been reported in India. It has been demonstrated that dental caries prevalence switches from male to female with age, whereas in the 5-year-old age group, 47.4% of children with caries were male, while 41.1% were female. On the other hand, in the 12-year- old age group, the percentage was inversed (24.1% female versus 20.6% male).[12] According to our study, there was a statistically non-significant difference across gender. It was seen that the mean rank score of DFT for females was higher compared to males.

LIMITATIONS

A larger sample size would have helped us unravel more findings.

CONCLUSIONS

The score of DFT for females was higher in comparison to males. Age and DFT scores were significantly and positively correlated, but the correlation was weak.

CONFLICT OF INTEREST: None

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REFERENCES

1. Sathiyakumar T, Vasireddy D, Mondal S (September 30, 2021) Impact of Sociodemographic Factors on Dental Caries in Children and Availing Fluoride Treatment: A Study Based on National Survey of Children's Health (NSCH) Data 2016-2019. Cureus 13(9): e18395. DOI 10.7759/cureus.18395
2. Selwitz RH, Ismail AI, Pitts NB. Dental caries. The Lancet. 2007 Jan 6;369(9555):51-9.
3. Pitts NB, Zero DT, Marsh PD, Ekstrand K, Weintraub JA, Ramos-Gomez F, Tagami J, Twetman S, Tsakos G, Ismail A. Dental caries. Nature reviews Disease primers. 2017 May 25;3(1):1-6.
4. Wójcicka, A., Zalewska, M., Czerech, E., Jabłoński, R., Grabowska, S. Z., & Maciorkowska, E. (2012). Próchnica wieku rozwojowego choroba cywlizacyjna [Dental caries of the developmental age as a civilization disease]. Przeglad epidemiologiczny, 66(4), 705–711.
5. Jemma Gewargis. "The Biochemical Basis of Dental Caries in Action". Acta Scientific Dental Sciences 3.3 (2019): 32-36
6. Mattos FF, Pordeus IA. COVID-19: a new turning point for dental practice. Brazilian Oral Research. 2020 Jul 15;34.
7. Trowbridge HO. 2. Pathogenesis of pulpitis resulting from dental caries. Journal of endodontics. 1981 Feb 1;7(2):52-60.
8. Tafere, Y., Chanie, S., Dessie, T. et al. Assessment of prevalence of dental caries and the associated factors among patients attending dental clinic in Debre Tabor general hospital: a hospital-based cross-sectional study. BMC Oral Health 18, 119 (2018).
9. Hujoel PP, Hujoel ML, Kotsakis GA. Personal oral hygiene and dental caries: a systematic review of randomised controlled trials. Gerodontology. 2018 Dec;35(4):282-9.
10. Andlaw RJ. Oral hygiene and dental caries--a review. International dental journal. 1978 Mar 1;28(1):1-6.
11. Mulu, W., Demilie, T., Yimer, M. et al. Dental caries and associated factors among primary school children in Bahir

Dar city: a cross-sectional study. BMC Res Notes 7, 949 (2014).
12. Abbass MMS, Mahmoud SA, El Moshy S et al. The prevalence of dental caries among Egyptian children and adolescences and its association with age, socioeconomic status, dietary habits and other risk factors. A cross-sectional study [version 1; peer review: 1 approved, 2 approved with reservations] F1000Research 2019, 8:8
13. Lukacs JR. Sex differences in dental caries experience: clinical evidence, complex etiology. Clinical oral investigations. 2011 Oct;15(5):649-56.
14. Ferraro M, Vieira AR. Explaining gender differences in caries: a multifactorial approach to a multifactorial disease. International journal of dentistry. 2010 Mar 16;2010.
15. Eugino D, Baltran-Aguilar DM, Maria TC, Laurie K, Barker MS, Bruce A. Division of oral health, national center for chronic disease prevention and health promotion. Surveillance for dental caries, dental sealants, tooth retention, edentulism, and enamel flurosis. 2002.
16. Khitdee C. The epidemiology of early childhood caries. Thai Dental Public Health Journal. 2017 Jun 30;22(02):3-13.
17. Bashirian S, Shirahmadi S, Seyedzadeh-Sabounchi S, Soltanian AR, Karimi-Shahanjarini A, Vahdatinia F. Association of caries experience and dental plaque with sociodemographic characteristics in elementary school-aged children: a cross-sectional study. BMC oral health. 2018 Dec;18(1):1-2.
18. Moghaddam LF, Vettore MV, Bayani A, Bayat AH, Ahounbar E, Hemmat M, Armoon B, Fakhri Y. The Association of Oral Health Status, demographic characteristics and socioeconomic determinants with Oral health-related quality of life among children: a systematic review and Meta-analysis. BMC pediatrics. 2020 Dec;20(1):1-5.

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KNOWLEDGE, ATTITUDE, AND PRACTICE OF BASIC LIFE SUPPORT (BLS) AMONG HOUSE OFFICERS WORKING IN A PRIVATE DENTAL COLLEGE

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ABSTRACT

OBJECTIVES

This study aimed to assess BLS's knowledge, attitude and practices among house officers working in dental care hospitals.

METHODOLOGY

A cross-sectional study was conducted at Sardar Begum Dental College. Data was collected from house officers currently enrolled. A self-administered questionnaire containing questions regarding knowledge, attitude, and practices of Basic Life Support was administered.

RESULTS

A total of 46 participants completed the questionnaire. 53% were females, and 47 % were males. 50% of participants had average knowledge of Basic Life Support. Participants had excellent attitudes towards BLS. 58 % of participants practice the correct recommended protocol for emergency handling. 56.5% of participants knew about the order of BLS steps: the response, airway, breathing circulation CPR and AED. 71.7 % knew adult's compression-to-breathing ratio is 100-120 compressions per min. Only 34.8% knew that the carotid artery is a site where we Perform pulse checks in adults in case of emergency.

CONCLUSION

House officers had average knowledge about Basic Life Support. There is a need to plan courses and modules for graduate and undergraduate dental students so that they can be confident and provide emergency services to individuals in dental hospitals, clinics, and the community.

KEYWORDS:

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INTRODUCTION

Basic Life Support is the identification of sudden cardiac arrest (SCA) leading to activation of the emergency response system, providing early cardiopulmonary resuscitation (CPR), and, if available providing rapid defibrillation with an automated external defibrillator (AED).[1,2,4] Basic life support (BLS) and Cardiopulmonary Resuscitation (CPR) are part of emergency medical care. Timely delivery of these services can save a precious life. Basic steps in BLS include recognition of signs of sudden cardiac arrest (SCA), heart attack, stroke, and foreign-body airway obstruction (FBAO), and importantly performing CPR and defibrillation with an automated external defibrillator (AED).[1,2] Initial support of ventilation and circulation reestablishes the blood and oxygen supply to the body's vital organs. Basic knowledge and skill in

cardiopulmonary resuscitation (CPR) help ensure the patient's survival until the patient reaches any proper medical care facility or hospital and receives advanced medical treatment.[1] While in some other f cases of cardiac arrest, CPR ensures the patient survival.[2,3] Basic life support knowledge is crucial to saving lives in critical situations.[3] Healthcare providers, including doctors, nurses, dentists, and paramedical staff, have a huge responsibility to contribute to having a clear understanding and knowledge about BLS to decrease the death or mortality rate and increase the out-of-hospital survival rate. Every year almost 92% of out-of-hospital cardiac arrest patients suffer due to the unavailability of CPR and lose their live2. Almost 70% of cardiac arrests are reported at home or outside the hospital.[5,11] This contributes to almost 10 % of the mortality rate in underdeveloped and developing countries.[2,4] The chance of successful resuscitation after sudden cardiac arrest decreases by 7–10% every minute resuscitation is delayed.[1] One of the significant causes of death worldwide is also the unavailability of Basic Life Support services out of the hospital.[2] The medical and dental students must have basic knowledge of life support and emergency handling as they frequently face such situations.[3] Early delivery of a shock with a defibrillator (CPR, plus defibrillation) within 3–5 min of collapse can result in a survival rate of 49–75%.[1] Basic life support can save the lives of many, but only if a person is confident about his knowledge about it.[3,4] There is poor knowledge about the BLS among medical and dental students, doctors and nurses in several countries.[3] The reason might be less interest, unavailability, or interest in refresher courses and modules.[3] Even in advanced and well-developed countries like the UK and Poland, doctors lack knowledge about BLS and this, in turn, lessens the availability of life support in emergencies and disasters.[3] India and South Africa have reported poor knowledge of resuscitation and BLS, which is recognised as one of the major causes of increased mortality rates in emergencies.[2,12] Developing countries like India and Pakistan also reported a lack of skills and awareness among medical and dental students and staff.[3] Pakistan is one of those countries where deaths and injuries from natural disasters and road traffic injuries contribute to its highest mortality rates.[2,10] Some reports suggest more than 2.8 million injuries and almost one million deaths in these cases.[2,7,10] Pakistan reported an average knowledge of BLS among doctors, and dentists had poor knowledge about BLS.[4] This study investigated BLS's knowledge attitude and practices among house officers working in private dental hospitals. This will help us understand the deficiencies and future planning of the curriculum or courses to increase the receipt of medical emergency handling.

METHODOLOGY

A cross-sectional study was conducted at Sardar Begum Dental Hospital from June to August 2022. All the house officers working in dental hospitals were enrolled in the study. The purpose of the study was explained to the participants, and formal consent was taken from all participants. Any house officer who had spent less than two months was excluded from the study. A pre-prepared self-administered questionnaire was used. The detailed questionnaire contained questions regarding knowledge, attitude and practices regarding BLS. A total of 46 participants out of 55 returned the completed questionnaires. All collected data were entered and analysed in the SPSS version 21. Percentages and frequencies and different categorical variables were analysed using chi-square and p-values for the association.

RESULTS

A total of 46 participants completed the questionnaire. Most of the participants were 24 years and 25 years (30.4% and 34.8%). 53% were females, and 47% were males.

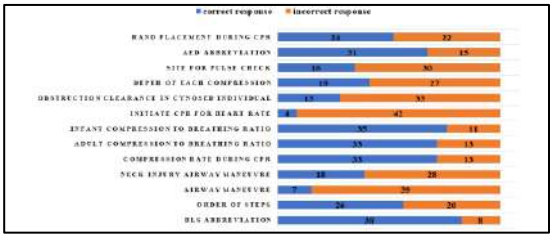

Figure 1: Knowledge of House Officers about Basic Life Support (Frequency)

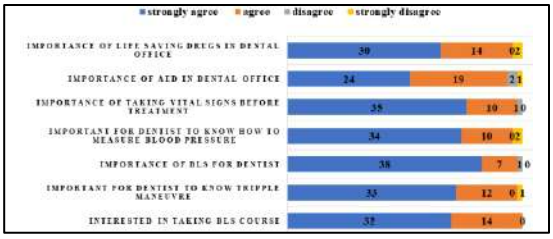

Figure 2: Attitude of House Officers Towards BLS (Frequency)

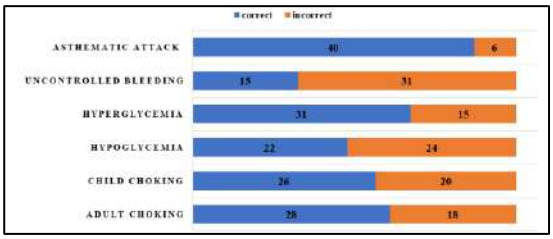

Figure 3: Practices of House Officers in Case of Emergency at the Dental Hospital (Frequency)

DISCUSSION

This study is done to assess the knowledge of dental house officers about Basic Life Support. The results show that the overall knowledge, attitude, and practices of dental house officers working in the private dental hospital are satisfactory. This contrasts with a study done at Qassim university, which showed that clinical practitioners had better knowledge than medical students.[1,7] This study reported that 49.6% of medical and dental students have less than 50% knowledge of BLS.[1] Inadequate knowledge (less than 50%) of Basic Life Support was reported by other studies, especially in untrained doctors and nursing students.[3,5,6,8,9] A study in Ambala also reported poor knowledge of doctors; only 2.7% of doctors had 80-89% correct knowledge about BLS.[11] In India, 0.19 % of dental and medical students had complete knowledge about Basic Life Support.[12,17] Doctors, nurses, and medical staff scored less than 50% when analysed for BLS awareness, and 89% of dental students had less than half the required knowledge.[12,14] A study in Pakistan stated that the trained medical students had better knowledge and understanding of Basic Life Support than the untrained medical students.[4,15] In Riyad, a study reported poor knowledge of medical students.[16] 82.6% of participants in the current study knew the abbreviation of BLS. Similar results were shown in another study, where 18% of participants could not identify the abbreviation of BLS.[1] Another study reported that most of the students of medicine and dentistry could identify the sequence of steps in BLS while another study reported the contrast that most participants could not.[9,10,12] Airway maneuver is one important procedure to handle airway obstruction. The current study results show that only 15.2 % knew the right answer to airway maneuver, and 39.1 % knew that jaw thrust is the correct airway maneuver when there is a neck injury. A study reported the lack of this knowledge in which 58% of respondents failed to identify the recovery position.[5] In this study, 71.7 % knew the normal compression rate during CPR, which contrasts with other studies. It is reported that only 30-35% of respondents knew the normal compression rate.[5] It is contrary to a study that reported only15 % of medical and dental students, nurses, and doctors knew the compression to breathing ratio in adults.[12] Similarly, the compression to breathing ratio in infants is correctly known by 76.1% in our study and only 37% and 26% in other studies.[5,12] Only 8.7 % knew CPR compression should be initiated when the heart rate is less than 60 beats per min, as shown by the results of our study. 28.3 had correct knowledge about the response to a cyanosed person having airway obstruction. Performing chest compressions at the correct location increases the likelihood of enhancing coronary circulation and lessens the risks of accompanying complications such as rib fractures. This knowledge was lacking in almost 29.3% of participants in the current study. These results are like another study.[5] A study reported that only 2/3 of respondents identified the correct site of chest compression.[1,15] Similar results were shown by a study where 67% of respondents lacked this knowledge.[12] Most of the respondents (66%) could not tell the abbreviation of AED as reported by several studies which comes in contrast to our study results where 67.4% answered this query correctly.[1,12] The site for hand placement during CPR is important for the procedure's success. In the present study, 52.2% could correctly identify the site. In another study, it is reported that 50% of doctors, dentists, and nurses can correctly identify the site for hands placement during CPR which is contrary to another study reporting 72% could not identify the correct site of hand placement during CPR in adults, and 73 % did not know it for infants as well.[5,12] It is a well-established fact that an individual's knowledge and practice depend on the person's attitude towards that specific topic. Respondents were asked questions about their attitude toward the BLS's importance. 69.6 % of respondents thought that BLS skills are important, which is why they would be interested in taking a course in BLS, also reported by other studies.[6,8] More than a 40 % increase in knowledge of participants after a BLS training is reported.[14] Whether it is important for a dentist specifically to acquire BLS skills? 82.6 % of participants strongly agreed with this thought, also reported by other studies.[3] Opinion about making Basic Life Support course part of the medical and dental curriculum is supported by faculty members but in one study, 60% had the opposite view.[1,3,5,8] A dentist working

in a dental clinic or hospital must recognise hypertension and hypotension among the patients. The respondents of the current study knew the importance of recording blood pressure before performing any dental procedure. Therefore 73.9% strongly agree that it is important for the dentist to know the procedure for recording blood pressure. 76.1% of respondents said it is important to obtain vital signs before commencing dental treatment. A study in Karachi reported that 57.3% of students have no or poor knowledge about Basic Life Support.[4] The knowledge and attitude of a dentist will lead to the kind of practice the dentist will follow. The participant was asked about the practice in different scenarios as part of this questionnaire. It was recorded that if an Adult choked in front of them, what would be their response 60.9% correctly stated that they would start abdominal thrust. It is a well-known fact that the severity of obstruction can be categorised by the person's ability to talk. Another study also reported that 50% of medical and dental students do not know the correct way to handle foreign body obstruction.[1] 30% were aware of the right technique for foreign body removal, as reported by another study.[12] An asthmatic attack may occur during dental treatment, and the correct management is to provide the patient with an aerosol inhaler. 87% of participants from our study can identify this treatment.

LIMITATIONS

It was a single-centred study and focused on House officers. There is a need to conduct such a study on a broad level and include training medical officers.

CONCLUSION

There is average knowledge of house officers about Basic Life Support which is not enough for effectively providing emergency health care services. There is still a gap in knowledge and practice. BLS training modules and sessions should be integral to undergraduate and graduate modules and during house job training so we can train our dentists to handle any emergency in dental hospitals, clinics, and communities.

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REFERENCES

1. Almesned A, Almeman A, Alakhtar AM et al. Basic life support knowledge of healthcare students and professionals in the Qassim University. Int J Health Sci (Qassim). 2014 Apr; 8(2): 141–150.
2. Irfan et al. Current state of knowledge of basic life support in health professionals of the largest city in Pakistan: a cross-sectional study. BMC Health Services Research (2019) 19:865.
3. Yunus MD et al. Knowledge, attitude and practice of basic life support among junior doctors and students in a tertiary care medical institute. Int J Res Med Sci. 2015 Dec;3(12):3644-3650.
4. Abbas A, Bukhari SI, Ahmad F. Knowledge of first aid and basic life support amongst medical students: A comparison between trained and un-trained students. J Pak Med Assoc. 2011;61(6):613-6.
5. Shrestha Roshana, Batajoo KH, Piryani RM, and Sharma MW. Basic life support: knowledge and attitude of medical/paramedical professionals. World J Emerg Med. 2012; 3(2): 141–145.
6. Ssewante et al. Basic life support, a necessary inclusion in the medical curriculum: a cross-sectional survey of knowledge and attitude in Uganda. BMC Medical Education (2022) 22:140.
7. Tsegaye W, Tesfaye M, Alemu M. Knowledge, Attitude and Practice of Cardiopulmonary Resuscitation and Associated Factors in Ethiopian University Medical Students. J en Pract. 2015; 3:206
8. Alfakey M, Alkarani A. Students' knowledge and attitudes toward basic life support.Int J Eval & Res Educ, Vol. 10, No. 3, September 2021: 871 – 877.
9. Knowledge, attitude, and practices regarding basic life support among medical students of Rawalpindi Medical University, Rawalpindi. Journal of Rawalpindi Medical College Students Supplement; 2018;22(S-1): 41-43.
10. Mani G, Annadurai K, Danasekaran R, Ramasamy JD. A cross-sectional study to assess knowledge and attitudes related to Basic Life Support among undergraduate medical students in Tamil Nadu, India. Prog Health Sci 2014; 4(1):47-52.

11. Baisakhiya S, Dwivedi MB, Baisakhiya N. Awareness about basic life support among undergraduate interns of medical, dental, and physiotherapy College of Maharishi Markandeshwar University, Mullana, Ambala. Int J Med Sci Public Health 2017;6(9):1398-1400.
12. Chandrasekaran S, Kumar S, Bhat SA, Saravanakumar, Shabbir PM, Chandrasekaran V. Awareness of basic life support among medical, dental, nursing students and doctors. Indian J Anaeth. 2010;54(2):121-6.
13. Contri E, Bonomo M.C, Costantini G, et al., "Are final year medical students ready to save lives in Italy? Not yet," Emerg. Med. J, vol. 34, no. 8, p. 556, 2017, doi: 10.1136/emermed-2017-206748.
14. Zaheer H, Haque Z. Students' Corner-Awareness about BLS (CPR) among medical students: Status and requirements. J Pak Med Assoc 2009; 59(1):57-9.
15. Sharma R, Attar NR. Adult basic life support (BLS) awareness and knowledge among medical and dental interns completing internship from deemed university. Nitte Univ J Health Sci. 2012;2(3):6-13.
16. Alanazi A, Alsalmeh M, Alsomali O, Almurshdi AM, Alabdali A, Al-Sulami M, et al. Poor basic life support awareness among medical and college of applied medical sciences students necessitates the need for improvement in standards of BLS training and assessment for future health care providers. Middle East J Sci Res. 2014;21(5):848-54.1.
17. Aroor AR, Saya RP, Attar NR, Saya GK, Ravinanthanan M. Awareness about basic life support and emergency medical services and its associated factors among students in a tertiary care hospital in South India. J Emerg Trauma Shock. 2014;7(3):166-9.
18. Chojnacki P, Ilieva R, Kołodziej A, Królikowska A, Lipka J, Ruta J. Knowledge of BLS and AED resuscitation algorithm amongst medical students - preliminary results. Anestezjol Intens Ter. 2011;43(1):29–32.

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OCCUPATIONAL HAZARDS IN DENTISTRY

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ABSTRACT

OBJECTIVES

This study aimed to determine various occupational hazards in a dental teaching hospital.

METHODOLOGY

This descriptive cross-sectional study was conducted at Sardar Begum Dental College. Data were collected from 150 participants using a self-administered questionnaire. The study population was faculty, trainee medical officers, house officers and final-year students.

RESULTS

Out of 150 participants, the majority (58.7%) had experienced injury from sharp instruments, with needle prick (34.7%) being the most reported instrument for causing injury. Around 68.7% of the dentists stated that they face musculoskeletal problems due to their occupation, and the lower back was the most reported site of pain. Approximately 70% of the respondents were vaccinated against the hepatitis B virus. Around 63.3% stated that they carry out amalgam restoration in their hospital or have regular exposure to amalgam.57.3% of participants did not take any precautionary measures before taking an X-ray. Approximately 66% said they feel stress due to a large patient load.

CONCLUSION

The majority of dental practitioners experience a musculoskeletal problems. Most of them were vaccinated against the hepatitis B virus. Females experienced more musculoskeletal problems than males. More number of participant stated that they experience stress due to a large number of patients load. Stress before work was reported more in the female population. So, it can be concluded from this present study that there is a need to spread awareness about various dental occupational hazards and preventive measures.

KEYWORDS: *Occupational Hazards, Musculoskeletal Disorders, Occupational Health, Physical Hazards, Dental Professional*

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INTRODUCTION

Accidents or mishaps stemming from a certain job's nature or working conditions that may harm an employee's health are referred to as occupational hazards.[1] Even though risks that arise in dental settings are often less detrimental than those that do so in other professions, several risks are still thought to pose significant challenges to dental professionals.[2] Workplace dangers are unforeseeable and can happen to anyone, irrespective of their professional background or qualifications. These dangers could be significant or negligible. Therefore, dental professionals need to be informed of the many workplace accidents and their preventative measures.[3] Dental care

providers are vulnerable to a variety of workplace risks. These risks expose dental employees to various conditions or diseases, which can progress and worsen over time.[4] The different risks encountered in dental practice can be divided into four major categories: physical, biological, chemical, and physiological.[5] Most physical injuries are caused by needle sticks that can result in blood-borne diseases. Dental instruments are designed in a manner that makes an injury occur at any time to the clinician as well as the patient. For example, a sharp small bur travelling rapidly can strike any portion of the body, including the eye, which might result in significant harm.[3] Due to surgical operations carried out in a constrained space with artificial light, dentists are more likely to experience conjunctivitis, blurred vision, eye strain, or short-sightedness.[6] Direct light blue irradiation during resin preparation may cause eye injury.[7] Hearing loss may occur due to the noise generated by amalgamators, compressors, turbines, engines, and saliva ejectors.[6] MSD is a common problem in Pakistan, accounting for around 40% of the costs incurred in treating work-related injuries.[8] Dentistry needs constant repetition of the same posture, which puts the dental practitioner at risk for neck stiffness or neck pain, wrist pain, and lower back pain.[5] According to various research, the distribution of the body and musculoskeletal pain severity in dental employees ranged between 46-71%. Compared to other occupations, such as pharmacists, office workers, and farmers, upper body symptoms were more common in dentists.[8] Dental workers come into direct or indirect contact with tissues, saliva, and blood daily. They are, therefore, more likely to contract various contagious infections.[9] The transmissible illnesses that dental practitioners are currently most concerned about are TB, hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV).[10] The volatile nature of some dental materials may have adverse effects on the skin and respiratory system. Mercury is documented to be nephrotoxic and neurotoxic, and its exposure for a prolonged time is dangerous.[11] Methyl methacrylate, used in dental cement, can cause skin diseases, allergic reactions, hypersensitivity, and asthma reactions.[7] Increased use of gloves and rubber dams might lead to dermatitis.[12] Stress is one of the most common psychological problems in the dental profession. Workload, patient appointments, and other factors can all contribute to stress.[13] Compared to other professions, dentistry is more stressful. This is supported by research conducted globally.[14] Unfortunately, several earlier research has revealed that dental staff members are poorly informed on the safety procedures used at their workplace.[15] Dental healthcare providers should get ongoing education and the most recent updates on precautions and measures for dealing with these threats.[10] Our study aims to assess various occupational hazards among dental practitioners working in a teaching hospital in Peshawar.

METHODOLOGY

This descriptive cross-sectional study was conducted in Sardar Begum Dental Hospital from July 2022 to August 2022. The study population were Trainee medical officers, house officers, faculty, and final-year students. A total of 150 complete questionnaires were received, and participation was voluntary. All respondents explained the purpose of this study, and informed consent was obtained from them. Participants who refused to sign the consent form were excluded from this study. Data was collected using a self-administered structured questionnaire. The sampling technique was simple convenience sampling. A pilot study was conducted to assess the validity of the questionnaire, and after pilot testing, the questionnaire was modified accordingly. All collected data were entered in SPSS version 21, and percentages and frequencies were tabulated. Association between different categorical variables was analyzed using the chi-square test, and p values were generated.

RESULTS

The present study comprised 150 dental practitioners working at Sardar Begum Dental College. The mean age of the participants was 26 years (s.d 3.57), age range from 21 to 49 years. The demographic characteristics of the participants are shown in table no 1.

Table 1: The Demographic Characteristics of the Participants

Demographic Variables	N (%)
Gender	
Male	75 (50%)
Female	75 (50%)
Designation	
Faculty	08 (5.3%)
Trainee Medical Officer	57 (38.0%)
House Officer	57(38.0%)
Final Year Student	28 (18.7%)
Practice Experience	
Less than 5 years	134 (89.3%)
5-10 years	14 (9.3%)
More than 10 years	02 (1.3%)
Daily Clinical Hours	
Less than 8 hours	125 (83.3%)
More than 8 hours	25 (16.7%)
Number of Patients Attended in a Day	
Less than 10	116 (77.3%)
10-20	26 (17.3%)
More than 20	08 (5.3%)
Practising	
Right-handed dentistry	137 (91.3%)
Left-handed dentistry	13 (8.7%)
Working Position	
Sitting	100 (66.7%)
Standing	50 (33.3%)

Among the participants, 58.7% had experienced injury from sharp dental instrument and only 28.7% had received post-exposure prophylaxis after the injury. The percentage of the type of instruments causing injury is shown in figure no 1.

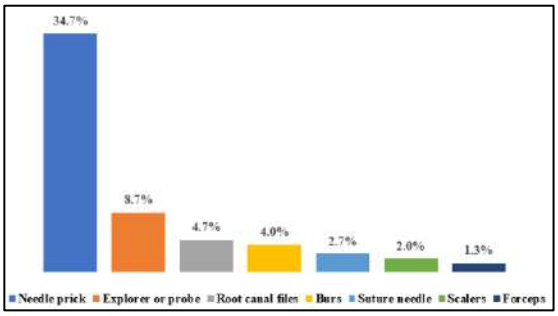

Figure 1: Type of Dental Instruments Causing Injury

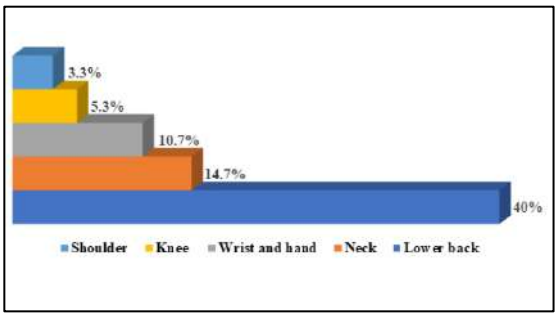

Figure 2: Area of Musculoskeletal Problem

Most of the respondents (70%) (n=105) had been vaccinated against the hepatitis B virus.

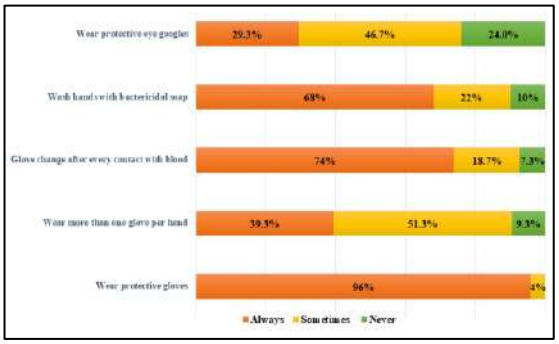

Figure 3: The Cross-Infection Measures Taken by the Respondents

Around 19.3% of the respondents stated that they had experienced an allergy to latex gloves, and only 8% of the dentist had experienced a monomer allergy. About 63.3% of the participants stated that they carry out amalgam restorations or have regular exposure to dental amalgam. Most (72.7%) never had periodic estimation of blood mercury levels or measurement of clinical areas for mercury vapours. When asked about the method of disposing of amalgam at their hospital or clinic, most participants (59.3%) said that they throw it in a dustbin, 10.7% stored excess or waste amalgam in water and 2% stored amalgam in the radiographic fixer. Only 13.3% of the respondents said they use any type of device to measure radiation exposure in the hospital. Approximately 57.3% of the participants said they do not take precautionary measures before taking an X-ray. 56.7% of the participants had held an IOPA film while taking a radiograph. Around 66% of the respondents said they felt stressed due to a large patient load, and 54.7% felt nervous and anxious after work. Half of the participants felt nervous before work, and 37.3% said they woke up at night due to job-related stress. More number of females felt nervous before work (p=0.001).

DISCUSSION

A healthy dentist is one of the essential components of an effective dental practice. Dentists and other dental professionals are routinely exposed to various unique occupational hazards. Despite great technological advancements in recent years, there are several occupational health issues in present dentistry. A total of 150 dental practitioners and final-year students participated in this study with an equal male and female ratio. The majority of them had practice experience of fewer than 5 years and less than

eight clinical hours per day. In the present study, more than half of the participants had experienced injury from the sharp dental instrument, with needle prick being the most reported cause of injury, followed by explorer or probe. Approximately 34.7% of the dental practitioners felt their hearing was affected due to the noise of dental instruments. In contrast, a study conducted in Saudi Arabia on dental auxiliaries and dentist practitioners revealed that 16.6% of participants reported hearing impairment in tinnitus.[4] The most reported musculoskeletal problem was back pain. This result is similar to a study conducted in India.[17] In our study, 40% of participants experienced back pain, and 14.7% had neck pain due to working conditions. This result is similar to a study conducted among dental surgeons in teaching hospitals of Peshawar in 2012, where 56% reported experiencing back pain and 41% suffered neck pain.[18] According to a survey in Queensland, Australia younger and less experienced dental practitioners experienced musculoskeletal problems of the neck, upper back, and shoulder. At the same time, no such association was found in our study.[16] Most dental practitioners used indirect vision in this study while treating maxillary teeth. A study on the Indian dental population indicated that only 24.91% used indirect vision. Compared to a study performed in India, where all participants were reported vaccinated against hepatitis B, around 70% of respondents in our study were vaccinated against hepatitis B virus.[17] Almost 96% of participants said they always wear protective gloves while performing dental procedures, and only 29.3%said that they wear protective eye goggles. A dentist survey in India reported that 98% wear protective gloves, and only 12.6% wear protective eyewear.[10] Latex allergy was reported in 19.3% of the participants, and a study in dental schools in Australia reported 9% of latex allergy.[4] In this study,63.3% of participants said they use amalgam restoration or have regular exposure to amalgam. While a study conducted in Bellary city, only 13.6% of dentists still use amalgam for restoration.[9] The majority of them never had a periodic estimation of blood mercury levels. This result corresponds to a study in India where none of the participants had a periodic estimation of blood mercury levels or measurement of clinical areas for measurements of mercury vapours. Over half of the participants (56.7%) had held an IOPA film while taking a radiograph. While a study in India stated that 64.71% of the participants had held an IOPA film while taking a radiograph.[17] About 66% of dentists said they feel stress related to a large patient load. This result is similar to a survey in which 86.2% of respondents experienced stress due to a large patient load.[9] Almost 37.3% of the respondents wake up at night due to job-related stress. A study in India stated that 60% of dental practitioners had trouble sleeping at night.[9]

LIMITATIONS

Data were only gathered from one dental teaching hospital. Thus, data from dental clinics and more dental teaching hospitals is proposed for future investigations.

CONCLUSION

The findings of this study demonstrate that more than half of the dentists suffered injuries from sharp dental instruments. Most of the respondents report having musculoskeletal issues due to their work. Amalgam restorations are performed in dental practices by more than half of dentists. A large number of dentists experienced anxiety both before and after work. More women reported feeling stressed out before going to work. The most common musculoskeletal issue cited by dental practitioners was lower back pain. It is critical to address any dental techniques or postures causing this issue. It is advised that dental professionals and students attend courses and seminars to reduce these risks. Continuous education and proper intervention studies are required to lessen the complication of these hazards.

CONFLICT OF INTEREST: None

FUNDING SOURCES: None

REFERENCES

1. Huaylah SH, Al-Qahtani TA, Sandeepa NC. Occupational hazards and preventive practices among dentists in Saudi Arabia: A cross sectional survey. Saudi Dent J. 2019;31:S31–2.
2. Bhuvaneshwari S, Shveta J, Kaur J, Soni P, Zahra F, Jerry JJ. Assessment of Various Dental Occupational Hazards and Safety Measures among Dentists of Odisha, India. J. Contemp. Dent. Pract. 2021;21(10):1165–9.
3. Hailu K, Lawoyin D, Glascoe A, Jackson A. Unexpected hazards with dental high speed drill. Dent J (Basel). 2017 Mar 1;5(1).

4. Shaik MA, Mohammed NS. Occupational Hazards in Modern Dentistry. Int. J. Exp. Dent. Sci.2013 Jun;2(1):33–40.
5. Ramaswami E, Nimma V, Jakhete A, Lingam A, Contractor I, Kadam S. Assessment of occupational hazards among dentists practicing in Mumbai. J Family Med Prim Care. 2020;9(4):2016.
6. Baig NN, Aleem SA. Occupational hazards among dental surgeons in Karachi. J Coll Physicians Surg Pak. 2016 Apr 1;26(4):320-2.
7. Choi HJ, Hwang TY, Jeon MJ. Awareness of occupational hazards and personal protective equipment use among dental hygienists. Yeungnam Univ J Med. 2019 Jan 31;36(1):20–5.
8. Sannam Khan R, Ahmad F, Merchant MS. Checking the toxicity of extracts (LC50) Azadirachta indica (Neem) leaf extract and twig extract View project oral patholgy, tobacco effects on oral mucosa View project Prevalence of Work Related Musculoskeletal Disorders (MSD) among Dentists [Internet]. Vol. 4, Article in Int. J. Contemp. Med. 2017. Available from: www.ijcmr.com
9. V R, D B. Occupational Hazards among Dentists: A Descriptive Study. J Oral Hyg Health. 2015;03(05).
10. Bhuvaneshwari S, Shveta J, Kaur J, Soni P, Zahra F, Jerry JJ. Assessment of Various Dental Occupational Hazards and Safety Measures among Dentists of Odisha, India. J. Contemp. Dent. Pract. 2021;21(10):1165–9.
11. Author C, Biradar S v. ISO4 Occupational Hazards in Dentistry-A Review. ISO4 [Internet]. 2018;(27):67–73. Available from: www.asianpharmtech.com
12. El-Naji W, AlWarawreh AM, Al-Saraireh SA, Al-Shawabkeh AD, AlQudah MA, AlWarawreh AM. Occupational hazards among Jordanian dentists. PODJ. 2019 Jul 27;39(2):129-32.
13. Bennadi DA, Reddy VE, Thummala NR. Preventive and curative measures adopted by dentists to combat occupational hazards–a cross sectional study. Int J Pharm Pharm Sci. 2015;7(10):416-8.
14. Siddiqui MK, Taqi M, Naqvi S, Raza SA, Bawany H, Hasan Z. Levels of perceived stress according to professional standings among dental surgeons of Karachi: a descriptive study. BMC oral health. 2022 Dec;22(1):1-8.
15. Alamri A, Elsharkawy MF, Alafandi D. Occupational Physical Hazards and Safety Practices at Dental Clinics. Eur J Dent. 2022
16. Leggat PA, Smith DR. Prevalence of percutaneous exposure incidents amongst dentists in Queensland [Internet]. Vol. 51, Aust. Dent. J. 2006. Available from: http://www.cdc.gov/ncidod/hip/Blood/Exp_to_Blood.pdf
17. Chopra SS, Pandey SS. Occupational hazards among dental surgeons. Med J Armed Forces India. 2007;63(1):23–5
18. Afridi S, Jamil B, Gilani SI. Frequency of musculoskeletal pain in dentists working in public and private sector dental hospitals of Peshawar, Pakistan. J Pak Dent Assoc. 2012;21(4):197-201.

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ORAL HEALTH KNOWLEDGE & PRACTICES IN PRE-CLINICAL DENTAL STUDENTS

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ABSTRACT

OBJECTIVES

This study aimed to evaluate the knowledge and practices of pre-clinical dental students regarding oral health.

METHODOLOGY

This descriptive cross-sectional study was conducted at Sardar Begum Dental College from June to August 2022. Data was collected via an online questionnaire that comprised 15 close-ended questions. The study population were pre-clinical dental students, and convenience sampling was used.

RESULTS

Almost 75% of dental students knew the adverse effect of sugar consumption on oral health.65.2% stated that calculus could be removed by tooth brushing and flossing. The majority (95.5%) knew about tobacco smoking causing periodontal disease.63.1% of the participants replaced their toothbrushes every three months, and only 12.6% replaced their toothbrushes after fraying bristles.

CONCLUSION

More than half of the pre-clinical students in this study had no knowledge about interdental aids and stated that calculus could be removed by tooth brushing and flossing. Most of them knew the adverse effects of systemic diseases, tobacco smoking and sugar consumption on oral health. More than half of the respondents floss daily and brush their teeth twice daily.

KEYWORDS: *Dental, Toothbrushing, Oral Health, Dentists, Dental Calculus, Oral Hygiene*

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INTRODUCTION

Dentists are considered leaders and future providers of oral health care.[1] They play a vital role in educating their patients, families, friends and community regarding oral health.[2] Dental students health views and attitudes can impact the public's standard of oral health education.[3] Dental practitioners specialize in oral health education and promotion, so their health knowledge, attitude and practice must be adequate and up to the mark.[4] oral health attitudes and beliefs are influenced by parents in the early years of life.[5] The dentistry curriculum would equip students with the required knowledge, attitude, and behaviour. It may impact their oral self-care practices and their ability to inspire their patients to practice excellent oral health habits.[6] Oral health is an essential component of overall health and well-being.[7] Dental diseases such as dental caries, periodontal diseases and tooth loss are considered serious public health problems across the globe.[8] Oral health activities such as daily brushing, rinsing, flossing, and frequent dental appointments are

required to prevent the rapid building of plaque, which can contribute to long-term health concerns.[9] Oral diseases are associated with behaviour, and improving oral health practices and reducing sugar intake can reduce the risk of periodontal diseases and dental caries.[10] According to previous studies, dental students were highly motivated and had a positive attitude toward their dental health. Their dental education could have influenced their willingness to seek and get treatment.[11] Because first-year dental students may have insufficient oral hygiene practices before joining medical school, it is vital to conduct regular oral health screening programmes and encourage these newcomer dental students to take better care of their oral and general health.[12] This study aims to assess the knowledge and practices of pre-clinical dental students regarding oral health.

METHODOLOGY

This descriptive cross-sectional study was conducted among first-year dental students at Sardar Begum Dental College, Peshawar. Data was collected using simple convenience sampling from June 2022 to August 2022. An online questionnaire was sent to all the pre-clinical students at Sardar Begum Dental College, and 111 complete questionnaires were received. Informed consent was obtained from every participant. The questionnaire comprised 15 closed-ended questions regarding demographic variables, knowledge and practice of oral health. Data were analyzed using SPSS 21, and the chi-square test was applied to check the association between different categorical variables.

RESULTS

This study comprised 111 students with a mean age of 20.6 ± 1.6. 75% of the respondents stated that they know the adverse effect of sugar consumption on oral health, and 79.5% said they know about the role of fluoride in caries reduction. Most of them (60.7%) did not know about interdental aids. Around 73.6% stated that scaling is important to maintain good oral hygiene and 65.2% stated that calculus could be removed by brushing and flossing. The majority of them, 86.6%, stated that they knew about the effects of different systemic diseases on oral health, and 95.5% knew about tobacco smoking causing periodontal diseases. In the next section, students were asked questions about oral hygiene practices. The toothbrushing practices of dental students are shown in Figures 1 and 2. Most dental students (91.1%) stated that flossing is important, but only 56.3% floss daily. Approximately 72.1% of the respondents rinsed their mouths after every meal.

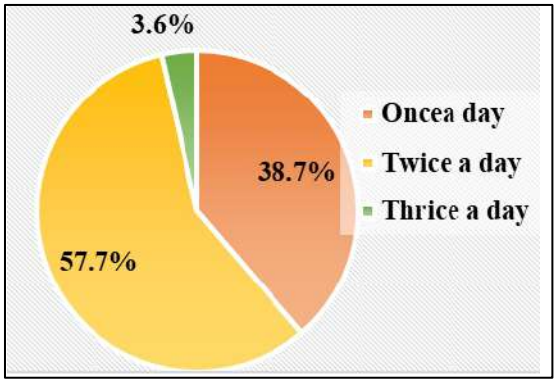

Figure 1: Tooth Brushing Per Day

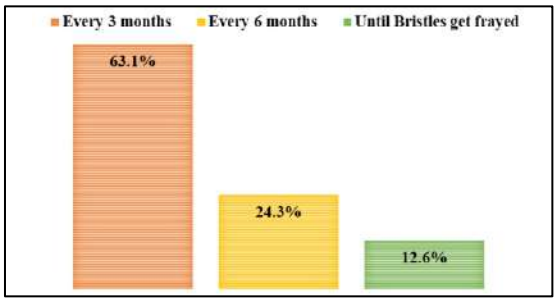

Figure 2: Replacement of Tooth Brush

DISCUSSION

In this study, most pre-clinical students (75%) were aware of the adverse effects of sugar consumption on teeth. In contrast, a study on students in Kuwait showed that only 19.3% were aware that sugar consumption could lead to tooth decay.[13] Around 60.7% of dental students did not know about interdental aids. In contrast, a survey in India on dental students stated that most (74%) knew about interdental aids.[14] Approximately 95.5% knew the adverse effects of tobacco smoking on periodontal health, and 86.6% were aware of the adverse effects of various systemic illnesses on the oral cavity. When students were asked about the frequency of tooth brushing in a day, more than half of them said a day thrice, 38.7% of them reported twice a day, and only a small number of the respondents brushed once a day. This result contrasts with a study conducted on dental students in Rajasthan, India. More than half of them brushed their teeth twice a day, 45.6% brushed once daily, and only 3.3% of the first-year dental students brushed a day thrice.[15] Males and females had no difference in tooth brushing

frequency. However, in a study on Iranian Dental students, women have a higher frequency of tooth brushing than males.[16] In this present study, the majority (63.1%) of pre-clinical students changed their toothbrushes every three months, while only 12.6% changed their toothbrushes after the fraying of bristles. However, a study on dental students in India stated that around 73.6% of them replaced their toothbrushes after fraying bristles.[16] More than half (56.3%) of the participants floss daily, while a study in Italy stated that only 14.9% of the participants used dental floss daily.[17] A large number (72.1%) of dental students stated that they rinsed their mouths after every meal, while a study on dental students in Bangalore, India, stated that only 40% of the subjects rinsed their mouths daily.[18]

LIMITATIONS

For this study, only pre-clinical students were assessed for their knowledge and practices towards oral health. It is recommended to include pre-clinical and clinical dental students in future studies.

CONCLUSION

It can be concluded from this study that the majority of the pre-clinical dental students knew the adverse effects of systemic diseases on oral health. More than half of them did not know about interdental aids. There was no difference between the tooth brushing frequency of males and females. More than half of first-year dental students stated that they floss daily.

CONFLICT OF INTEREST: None

FUNDING SOURCES: None

REFERENCES

1. Hassan BK, Ali BJ, Alwan AM, Badeia RA. Self-reported oral health attitudes and behaviors, and gingival status of dental students. Clinical, Cosmetic and Investigational Dentistry. 2020;12:225.
2. Ahamed S, Moyin S, Punathil S, Patil NA, Tulshidas Kale V, Pawar G. Evaluation of the oral health knowledge in dental students Ahamed S et al. Vol. 7, J Int Oral Health. 2015.
3. Safiri S, Kelishadi R, Heshmat R, Rahimi A, Djalalinia S, Ghasemian A, Sheidaei A, Motlagh ME, Ardalan G, Mansourian M, Asayesh H. Socioeconomic inequality in oral health behavior in Iranian children and adolescents by the Oaxaca-Blinder decomposition method: the CASPIAN-IV study. International journal for equity in health. 2016 Dec;15(1):1-8.
4. Kumar H, Behura SS, Ramachandra S, Nishat R, Dash KC, Mohiddin G. Oral health knowledge, attitude, and practices among dental and medical students in Eastern India - A comparative study. J Int Soc Prev Community Dent. 2017 Jan 1;7(1):58-63.
5. Al-Omiri MK, Alhijawi MM, Al-Shayyab MH, Kielbassa AM, Lynch E. Relationship between dental students' personality profiles and self-reported oral health behaviour. Oral Health Prev Dent. 2019 Mar 1;17(2):125-9.
6. Al-wesabi AA, Abdelgawad F, Sasahara H, el Motayam K. Oral health knowledge, attitude and behaviour of dental students in a private university. BDJ Open. 2019 Dec 1;5(1).
7. Kay E, Vascott D, Hocking A, Nield H, Dorr C, Barrett H. A review of approaches for dental practice teams for promoting oral health. Community dentistry and oral epidemiology. 2016 Aug;44(4):313-30.
8. Masapu A, Ashok KP, Thirumalasetty SM, Divya GL, Shaik AR, Aishwarya B. Oral hygiene practices and awareness among first-year students of UG professional courses in Rajahmundry: A comparative cross-sectional study. Journal of Dr. NTR University of Health Sciences. 2021 Oct 1;10(4):229.
9. Halboub ES, Al-Maweri SA, Al-Jamaei AA, Al-Wesabi MA, Shamala A, Al-Kamel A, Alsharani A, Eissa N. Self-reported oral health attitudes and behavior of dental and medical students, Yemen. Glob J Health Sci. 2016 Oct 1;8(10):56676.
10. Ali DA. Knowledge of the relationships between oral health, diabetes, body mass index and lifestyle among students at the Kuwait university health sciences center, Kuwait. Medical Principles and Practice. 2016;25(2):176-80.
11. Ahmad FA, Alotaibi MK, Baseer MA, Shafshak SM. The effect of oral health knowledge, attitude, and practice on

periodontal status among dental students. European journal of dentistry. 2019 Jul;13(03):437-43.
12. Halawany HS, Abraham NB, Jacob V, Al-Maflehi N. The perceived concepts of oral health attitudes and behaviors of dental students from four Asian countries. Saudi Dent J 2015 Jul 1;6(2):79–85.
13. Abdulrahim M, AlKandari M, Alomari Q, Baskaradoss JK. Oral health knowledge, attitude and practice among adolescents in Kuwait. International Journal of Adolescent Medicine and Health. 2020 Sep 4.
14. Selvan SR, Sakthi DS. Oral Hygiene Practices, Smoking Habits and Self-Percieved Oral Malodor among Dental Students. Indian Journal of Public Health Research & Development. 2020 Jul 30;11(7):879-84.
15. Nayak P, Mathur A, Shetty N, Makhijani B, Bali A, Manohar B. Self-Reported Oral Hygiene Habits amongst Visually Impaired Students. Journal of Nepalese Society of Periodontology and Oral Implantology. 2019 Jun 25;3(1):6-8.
16. Sistani MM, Virtanen J, Yazdani R, Murtomaa H. Association of oral health behavior and the use of dental services with oral health literacy among adults in Tehran, Iran. European journal of dentistry. 2017 Apr;11(02):162-7.
17. Goodarzi A, Heidarnia A, Tavafian SS, Eslami M. Predicting oral health behaviors among Iranian students by using health belief model. Journal of education and health promotion. 2019;8.
18. Gopikrishna V, Bhaskar NN, Kulkarni SB, Jacob J, Sourabha KG. Knowledge, attitude, and practices of oral hygiene among college students in Bengaluru city. Journal of Indian Association of Public Health Dentistry. 2016 Jan 1;14(1):75.

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PSYCHOLOGICAL PROBLEMS OF MEDICAL STUDENTS OF DISTRICT PESHAWAR

Muhammad Mujtaba[1], Farwa Shoaib[2], Aqsa Gul[3], Mahnoor Muneeb[4], Shahkinan[5], Somia Shah[6], Adnan Inayat[7]

ABSTRACT

OBJECTIVES

To find out the psycho logical problems of medical students of Peshawar.

METHODOLOGY

A cross-sectional descriptive study was conducted on 110 students at different private medical colleges in Peshawar. The study time duration was three months. For data collection, a standardized structured questionnaire was used to identify the psychological issues of the medical students.

RESULTS

Out of 110 students, 72 were male and 38 were female students. 51.8% of the students were from middle-class families. Most of the students reported that they had a moderate level of Anxiety (62.7%), tension (55.5%), fear (48.2%), depression ((54.5%) and educational difficulties (46.4%) whereas insomnia (51.8%) was mild among them.

CONCLUSION

Medical students are overwhelmed with psychological issues which are affecting their productivity as well. There should be mental health-related programs in medical institutes to facilitate the well-being of the students.

KEYWORDS: *Psychosocial Problem, Anxiety, Stress, Medical University, Medical Students*.

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INTRODUCTION

Psychological issues can adversely affect the balance and harmony of life. The prevalence of psychosocial problems among medical students is relatively high. Depression is the main psychological problem in medical students, which includes depressed mood, loss of interest, disturbed sleep, loss of appetite, and poor concentration.[1] Medical student also go through anxiety accompanied by tension and physical changes like a rise in blood pressure.[2] Stress, common among medical students, can lead to inefficient patient care. The stressful factors include stressful environment, competitiveness, sleep deprivation, curricular (old theoretical structure) and institutional factors. medical

students show low psychosocial well-being compared to other students of the same age while having a higher ratio of depression/anxiety or other psychological problems among the medical students.[3] Mental well-being is associated positively with empathy and negatively with suicidal ideation and unprofessional behaviours. Systemic reviews and meta-analyses showed that mental health problems mostly would be depression, anxiety, and burnout, affecting female students in the general public.[4] The medical school aims to train their students in such a way as to fulfil society's healthcare needs, which is usually achieved through its discipline curriculum in long-term clinical practice, which requires hard work, motivation, intelligence, patience, and stamina of students. Individuals between 18 to 24 years are at high risk of psychological problems, which are more prevalent among medical students.[5] Getting medical education is very stressful, and medical students are recognised as a hub of an intense environment. These all make a negative impact on their studies and mental health.[6] During their studies, medical students are very prone to different stresses, such as adjusting to a new environment, academic pressure, and planning to get vacancies in their speciality. Medical students hardly find time to work on their health.[8] The potential negative effects of emotional distress on medical students include impairment of functioning in classroom performance, clinical practice and social, emotional, physical, and family problems which may affect their overall health.[9] The medical field is considered a very noble profession as it is continuous learning. Because of high expectations from family, society and patients, psychological well-being is at high risk.[10] Worldwide 10-20% of Children and adolescents experience psychological problems. During medical school, students utilize various coping strategies to manage it.[11,12] This study aimed to figure out the psychological issues of medical students in Peshawar. It will guide us to organize health-related programs for the students to improve their well-being.

METHODOLOGY

A cross-sectional descriptive study was conducted on 110 students at different private medical colleges in Peshawar. The study span was three months. A structured questionnaire was used to identify the psychological issues of the students. The sampling technique applied was convenient sampling. Informed consent was taken from the participants before the start of the study. Those who gave consent were included in the study. After data collection, means and standard deviation were calculated.

RESULTS

A total of 110 students from different medical colleges in Peshawar, the participants of this study included 72(65.5%) males and 38(34.5%) females.

Table: 1 Demographic of the Students

			Mean ± SD
Gender	Male	72 (65.5%)	1.35±0.478
	Female	38 (34.5%)	
Socio Economic Status	Low	42 (38.2%)	1.58±0.669
	Middle	57 (51.8%)	
	High	11 (10.0%)	

Table: 2 Psychological Problems of the Students

Variable	Mild	Moderate	Severe	Mean± SD
Anxiety	38 (30.0%)	69 (62.7%)	8 (7.3%)	2.45± 0.629
Tension	43 (39.1%)	61 (55.5%)	6 (5.5%)	2.50± 0.602
Fears	48 (43.6%)	53 (48.2%)	9 (8.2%)	2.65± 0.629
Insomnia	57 (51.8%)	43 (39.1%)	10 (9.1%)	2.57± 0.656
Depression	48 (43.6%)	60 (54.5%)	2 (1.8%)	2.58± 0.531
Educational Difficulties	50 (45.5%)	51 (46.4%)	9 (8.2%)	2.63± 0.633

DISCUSSION

Medical students experience test anxiety and psychosocial distress. Anxiety is considered one of the major problems as it affects the psychological well-being and motivation of medical students. Universities must consider test anxiety as one of the problems which more likely to affect medical students psychological well-being and motivation. Providing psychological intervention for test anxiety in the first semester would be an advantage for medical students to secure good scholastic performance and overcome the sequel of test anxiety.[13,14] According to the research "The Associations of Common Psychological Problems with Mental Disorders among College Students. A total of 66.6% of students were having high, 29.3% medium and 4% moderately depressed mode while in our study only 1.8% of the total population have high, 54.5% medium and 43.6% moderately depressed mode, coming to another factor such as anxiety in our study 7.3% very severe, 30.0% severe and 62.7% low while in that study the values are 66.11% very severe, 28.88% severe and 5% moderate anxiety.[15] Another study

was conducted in the West Indies in which they found that about 48% of medical students are depressed while in our study only 54.5% are severely depressed.[16] Another cross-sectional study was conducted in Syria to determine psychosocial and psychological problems they suggested that only 60.6% of students were having depression 48% moderate, 19.33% severe and 32.54% whereas 42.39% moderate,34.2% severe and 23.36% very severe anxiety.[17] Another study suggested that 68.5% of respondents had mild to severe depressive symptoms and 54.4% had mild to severe anxiety symptoms while in our study 98.1% of respondents have mild to severe depression and 92.7% had mild to severe anxiety.[18] A study reported that medical students in clinical years had symptoms of sleep deprivation and stress associated with poor academic performance.[19] in our study, the students reported moderated levels of stress and educational difficulties whereas insomnia symptoms were mild. In contrast, another study reported that 1/3 of medical students encounter insomnia.[20]

LIMITATIONS

The sampling technique should be changed in other studies to figure out more extensive results and have generalizability. Another limitation was that the associations among the variables were not found.

CONCLUSION

Medical students are overwhelmed with psychological issues and the ratio is getting increasing day by day. Most psychosocial problems are heading towards severity.

CONFLICT OF INTEREST: None

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REFERENCES

1. Nayak BS, Mohammed S, Mohammed S, Mohammed S, Mohammed J. An Evaluation of the Psychosocial Problems of Medical Students as Compared to Students of other Faculties. J Community Med Health Educ. 2019;9(663):2.
2. Al Saadi T, Zaher Addeen S, Turk T, Abbas F, Alkhatib M. Psychological distress among medical students in conflicts: a cross-sectional study from Syria. BMC medical education. 2017 Dec;17(1):1-8.
3. Pacheco JP, Giacomin HT, Tam WW, Ribeiro TB, Arab C, Bezerra IM, Pinasco GC. Mental health problems among medical students in Brazil: a systematic review and meta-analysis. Brazilian Journal of Psychiatry. 2017 Aug 31;39:369-78.
4. Ngasa SN, Sama CB, Dzekem BS, Nforchu KN, Tindong M, Aroke D, Dimala CA. Prevalence and factors associated with depression among medical students in Cameroon: a cross-sectional study. BMC psychiatry. 2017 Dec;17(1):1-7.
5. James BO, Thomas IF, Omoaregba JO, Okogbenin EO, Okonoda KM, Ibrahim AW, Salihu AS, Oshodi YO, Orovwigho A, Odinka PC, Eze GO. Psychosocial correlates of perceived stress among undergraduate medical students in Nigeria. International journal of medical education. 2017;8:382.
6. Shawahna R, Hattab S, Al-Shafei R, Tab'ouni M. Prevalence and factors associated with depressive and anxiety symptoms among Palestinian medical students. BMC psychiatry. 2020 Dec;20(1):1-3.
7. Rajkumar E, Sooraj KV, Sandeep BH, Harish C. Psychosocial problems among students of Central University of Karnataka: A comparative study. International journal of Scientific study. 2015;3(9):44-7.
8. Cuttilan AN, Sayampanathan AA, Ho RC. Mental health issues amongst medical students in Asia: a systematic review [2000–2015]. Annals of translational medicine. 2016 Feb;4(4).
9. Anuradha R, Dutta R, Raja JD, Sivaprakasam P, Patil AB. Stress and stressors among medical undergraduate students: A cross-sectional study in a private medical college in Tamil Nadu. Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine. 2017 Oct;42(4):222.
10. Nayak BS, Mohammed S, Mohammed S, Mohammed S, Mohammed J. An Evaluation of the Psychosocial Problems of Medical Students as Compared to Students of other Faculties. J Community

Med Health Educ. 2019;9(663):2.
11. Ahmed M, Prashantha B. Perceived stress and source of stress among undergraduate medical students of Government Medical College, Mysore. Int J Community Med Public Health. 2018;5(8):3513-8.
12. Otim M, Al Marzouqi AM, Subu M, Damaj N, Al-Harbawi S. Prevalence of generalised anxiety disorders among clinical training students at the university of sharjah. Journal of Multidisciplinary Healthcare. 2021;14:1863.
13. Grover S, Sahoo S, Bhalla A, Avasthi A. Psychological problems and burnout among medical professionals of a tertiary care hospital of North India: A cross-sectional study. Indian journal of psychiatry. 2018 Apr;60(2):175.
14. Adhikari B, Maharjan N, Baskota G, Bhaila A, Shrestha HS. A comparative study of stress among medical and dental students. Asian Journal of Medical Sciences. 2021 Feb 1;12(2):30-5.
15. Rasheed AG, Hussein AG. Depression, anxiety, and stress among medical students of College of Medicine, Hawler Medical University, Erbil, Iraq. Zanco Journal of Medical Sciences (Zanco J Med Sci). 2019 Aug 1;23(2):143-52.
16. Nayak BS, Mohammed S, Mohammed S, Mohammed S, Mohammed J. An Evaluation of the Psychosocial Problems of Medical Students as Compared to Students of other Faculties. J Community Med Health Educ. 2019;9(663):2.
17. Al Saadi T, Zaher Addeen S, Turk T, Abbas F, Alkhatib M. Psychological distress among medical students in conflicts: a cross-sectional study from Syria. BMC medical education. 2017 Dec;17(1):1-8.
18. Lun KW, Chan CK, Ip PK, Ma SY, Tsai WW, Wong CS, Wong CH, Wong TW, Yan D. Depression and anxiety among university students in Hong Kong. Hong Kong Med J. 2018 Sep 24;24(5):466-72.
19. Alsaggaf MA, Wali SO, Merdad RA, Merdad LA. Sleep quantity, quality, and insomnia symptoms of medical students during clinical years: relationship with stress and academic performance. Saudi medical journal. 2016 Feb;37(2):173.
20. Dąbrowska-Galas M, Ptaszkowski K, Dąbrowska J. Physical activity level, insomnia and related impact in medical students in Poland. International Journal of Environmental Research and Public Health. 2021 Mar 17;18(6):3081.

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ASSOCIATION OF TOBACCO SMOKING WITH ORAL HYGIENE AMONG THE STUDENTS OF PESHAWAR

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ABSTRACT

OBJECTIVES

The aim of the study was to assess the association between tobacco smoking and dental hygiene among the students.

METHODOLOGY

A cross-sectional study was conducted on 222 students of Peshawar, Khyber Pakhtunkhwa over a period of 4 months from May 2022 to August 2022. The convenient sampling technique was used google forms were shared with the respective students. The Chi-square test was applied to analyze the results using SPSS version 26.0.

RESULTS

The results showed that 24.32 per cent of tobacco-smoking students maintained oral hygiene whereas 49.54 per cent of the non-smokers didn't maintain oral health. Most of the students were not going for routine dental checkups (17.56) therefore accumulation of the calculus was high (25.22). 51.80 per cent of the tobacco-smoking students went for scaling whereas students whereas not practice flossing.

CONCLUSION

Poor oral hygiene and dental checkup among smokers lead to calculus formation and other dental problems.

KEYWORDS: *Tobacco, Dental Hygiene, Peri-Implantitis, Dental Stains, and Dental Pain*

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INTRODUCTION

Oral health can have an impact on the overall quality of life and daily performance. Improvements in oral hygiene have been proven to reduce the prevalence of oral diseases, which are tied to an individual's behaviour.[1] According to WHO estimates, more than one billion people smoke tobacco at this time, and tobacco use is responsible for about five million annual fatalities.[2] Numerous major ailments, including cancer, cardiac conditions, low birth weight, and many other health issues are all associated with tobacco use.[3] Oral side effects from tobacco usage are numerous. It also has a negative effect on oral health, increasing the likelihood of periodontal (gum) diseases. Additionally, smokers are more likely to experience dental implant failure than non-smokers, and smokers are also more likely to experience peri-implantitis.[4] Studies on the epidemiology of tobacco smoking have shown that it significantly increases the incidence of periodontal diseases.[5] Smoking frequency

correlates with an increase in disease severity. Smokers develop significantly increased dental calculus than non-smokers, and the proportion of calculus increases with smoking frequency.[6] Smoking has been identified as a contributing factor in about 50% of periodontitis cases in the US. Smoking is linked to oral problems like periodontal disease, gingival recession, tooth loss, dental caries, discolouration of teeth, halitosis, benign mucosal conditions, and precancerous and malignant oral lesions, according to epidemiological research.[7,8] The previous study's data analysis reveals important results that can be. used to lower smoking rates and enhance schoolchildren's oral health. Smoking is a behaviour that generally starts in adolescence.[9] About 80% of smokers have smoked before the age of 18 years. According to the studies, smoking prevalence among male students ranged from 13.4 to 39.9 per cent, whereas it was less among female students (0.7-25.5 per cent).[10] According to the findings of a meta-analysis, smoking rates were high among male students at universities, respectively.[11] Since students constitute a considerable part of society and since the number of students is increasing in universities, smoking must be carefully considered in this group.[12] Incorporating greater awareness of the detrimental consequences of tobacco use on oral health into strategies that focus on awareness campaigns to quit smoking.[13,14] Therefore, this study aimed to find out the association of tobacco smoking with the oral hygiene of the students to provide them with better awareness programs and health facilities

METHODOLOGY

A cross-sectional study was conducted on 222 students of Peshawar, Khyber Pakhtunkhwa over a period of 4 months from May 2022 to August 2022. The convenient sampling technique was used google forms were shared with the respective students. The undergraduate students were added rest of the population was put in exclusion criteria. The chi-square test was applied to analyse the results by using SPSS version 26.0

RESULTS

A total of 110 students from different medical colleges in Peshawar, the participants of this study included 72(65.5%) males and 38(34.5%) females.

Table 1: Association of Tobacco Smoking with Maintaining Oral Hygiene

Tobacco Smoking	Maintaining Oral Hygiene	Not Maintaining Oral Hygiene	Chi-square	P-Value
Yes	54 (24.32%)	16 (7.20%)	47.820	<0.001
No	42 (18.9%)	110 (49.54%		

Table 2: Association of Tobacco Smoking with Routine Dental Check-Ups

Tobacco Smoking	Routinely Doinga Dental Checkup	No Dental Checkup	Chi-Square	P-Value
Yes	31 (13.9%)	39 (17.56%)	0.779	0.377
No	77 (34.68%)	75 (33.78%)		

Table 3: Association of Tobacco Smoking with Calculus Accumulation

Tobacco Smoking	Calculus Removal	No Calculus Removal	Chi-Square	P-Value
Yes	56 (25.22%)	14 (6.30%)	9.201	0.002
No	90 (40.54%)	62 (27.92%)		

Table 4: Association of Tobacco Smoking with Scaling

Tobacco Smoking	Did Scaling Procedure	Didn't get Any Scaling Procedure	Chi-Square	P-Value
Yes	115 (51.80%)	32 (14.41%)	2.855	.240
No	46 (20.72%)	22 (09.90%)		

Table 5: Association of Tobacco Smoking with Tooth Brushing

Tobacco Smoking	Replacing Toothbrush After Every 3 Months	Replacing Toothbrush After Every 6 Months	Replacing Toothbrush After bristles Get frayed	Chi-Square	P-Value
Yes	46 (20.72%)	14 (6.30%)	10 (4.50%)	1.127	0.569
No	94 (42.34 %)	40 (18.01 %)	18 (8.1%)		

Table 6: Association of Tobacco Smoking with Flossing

Tobacco Smoking	Doing Flossing	Not Doing Flossing	Chi-Square	P-Value
Yes	26(11.7 %)	44(19.81 %)	1.252	.263
No	45(20.27 %)	107(48.1 9%)		

DISCUSSION

Tobacco users also reported more oral health problems. Our study results showed that most of the tobacco-smoking students were not maintaining oral hygiene, visiting for routine dental checkups, and practising flossing due to

which calculus formation was high among them. According to a survey done in Saudi Arabia, the majority of students are aware that smoking has negative health impacts, including bad breath, terrible taste, malodor, caries, periodontal disease, mouth ulcers, and oral malignancies. Intriguingly, both univariate and multivariate analyses of the current study revealed a significant reduction in the likelihood that schoolchildren would smoke due to knowledge about the negative consequences of smoking on dental health. The majority of participants were aware of the oral health effects of smoking, and it's likely that they place a high value on oral health given how important maintaining good dental health is to overall health.[15,16] According to research, eight per cent of male student's smoke, and 83 per cent of them have been smoking for at least five years. Nearly 94 per cent of people wanted to stop using tobacco. Most of the students (68.7 per cent) used two toothbrushes every day, whereas 4.7 per cent used three or more. Oral malodor was reported by 55.8 per cent of students who brushed twice daily compared to 34.6 per cent of students who only brushed once per day. Students who used tobacco reported bleeding gums 17.2 per cent of the time, and smokers reported mouth dryness 20.7 per cent of the time.[17] There is evidence that smoking increases the risk of severe periodontal attachment loss by 2.5 to 3.5 times. Smokers exhibited larger periodontal pockets, greater tooth loss, and more alveolar bone loss than non-smokers in analyses that controlled for oral hygiene practices, patient age, sex, and socioeconomic status. Additionally, research appears that emotional stress and poor dental hygiene interact in a significant way to influence cigarette use. 73.5 per cent of the patients reported brushing twice daily, and 35.6 per cent reported flossing once daily. Brushing and flossing were done substantially less frequently by tobacco users than by nonusers. Smokeless tobacco users had notably poor compliance with daily flossing routines.[18,19] By teaching schoolchildren about the negative effects of smoking on oral health and highlighting the importance of oral health in connection to overall health, it is hoped that the prevalence of smoking can be reduced. There should be supporting media programs to educate adolescents and children about the negative consequences of smoking and promote oral hygiene as well.

LIMITATIONS

This study didn't explore the factors of tobacco smoking, not maintaining oral hygiene, and avoiding dental checkups. The sample size was also small, and a proper sampling technique was not used. Only male students filled out the forms.

CONCLUSION

Poor oral hygiene and dental checkup among smokers lead to calculus formation and other dental problems.

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REFERENCES

1. Ford PJ, Rich AM. Tobacco use and oral health. Addiction. 2021 Dec;116(12):3531-40.
2. World Health Organization. WHO report on the global tobacco epidemic, 2008: the MPOWER package. World Health Organization; 2008 Feb 11.
3. Dawood OT, Rashan MA, Hassali MA, Saleem F. Knowledge and perception about health risks of cigarette smoking among Iraqi smokers. Journal of pharmacy & bioallied sciences. 2016 Apr;8(2):146.
4. Haiduc A, Zanetti F, Zhao X, Schlage WK, Scherer M, Pluym N, Schlenger P, Ivanov NV, Majeed S, Hoeng J, Peitsch MC. Analysis of chemical deposits on tooth enamel exposed to total particulate matter from cigarette smoke and tobacco heating system 2.2 aerosol by novel GC–MS deconvolution procedures. Journal of Chromatography B. 2020 Sep 1;1152:122228.
5. Al-Qurashi H, Al-Farea M, Al-Qurai T, Al-Kadi M, Al-Bassam B, Nazir MA. Comparison of oral hygiene practices and oral health problems among smoker and non-smoker male adolescents in the Eastern Province of Saudi Arabia. The Saudi Journal for Dental Research 2016 Jul 1;7(2):106-11.
6. Suchanecka A, Chmielowiec K, Chmielowiec J, Trybek G, Masiak J, Michałowska-Sawczyn M, Nowicka R, Grocholewicz K, Grzywacz A. Vitamin D receptor gene polymorphisms and cigarette smoking impact on oral health: A case-control study. International

Journal of Environmental Research and Public Health 2020 May;17(9):3192.
7. Javed F, Abduljabbar T, Vohra F, Malmstrom H, Rahman I, Romanos GE. Comparison of periodontal parameters and self-perceived oral symptoms among cigarette smokers, individuals vaping electronic cigarettes, and never-smokers. Journal of periodontology 2017 Oct;88(10):1059-65.
8. Saaby M, Karring E, Schou S, Isidor F. Factors influencing severity of peri-implantitis. Clinical oral implants research 2016 Jan;27(1):7-12.
9. Mun MS, Yap T, Alnuaimi AD, Adams GG, McCullough MJ. Oral candidal carriage in asymptomatic patients. Australian Dental Journal 2016 Jun;61(2):190-5.
10. Murariu A, Forna A, Manolache F, Forna NC. Assessment of the oral health risk factors in young people. Romanian journal of oral rehabilitation. 2017 Jul 1;9(3).
11. Shah AH, ElHaddad SA. Oral hygiene behavior, smoking, and perceived oral health problems among university students. Journal of International Society of Preventive & Community Dentistry. 2015 Jul;5(4):327.
12. Han K, Park JB. Association between oral health behavior and periodontal disease among Korean adults: The Korea national health and nutrition examination survey. Medicine. 2017 Feb;96(7)
13. Balaram P, Sridhar H, Rajkumar T, Vaccarella S, Herrero R, Nandakumar A, Ravichandran K, Ramdas K, Sankaranarayanan R, Gajalakshmi V, Munoz N. Oral cancer in southern India: The influence of smoking, drinking, paan-chewing and oral hygiene. International journal of cancer. 2002 Mar 20;98(3):440-5.
14. Sun CX, Bennett N, Tran P, Tang KD, Lim Y, Frazer I, Samaranayake L, Punyadeera C. A pilot study into the association between oral health status and human papillomavirus—16 infection. Diagnostics. 2017 Mar 1;7(1):11.
15. Selvan SR, Sakthi DS. Oral Hygiene Practices, Smoking Habits and Self-Percieved Oral Malodor among Dental Students. Indian Journal of Public Health Research & Development. 2020 Jul 30;11(7):879-84.
16. Mandil A, BinSaeed A, Ahmad S, Al-Dabbagh R, Alsaadi M, Khan M. Smoking among university students: a gender analysis. Journal of infection and public health. 2010 Dec 1;3(4):179-87.
17. AlSwuailem AS, AlShehri MK, Al-Sadhan S. Smoking among dental students at King Saud University: Consumption patterns and risk factors. The Saudi Dental Journal. 2014 Jul 1;26(3):88-95.
18. Warnakulasuriya S, Dietrich T, Bornstein MM, Peidró EC, Preshaw PM, Walter C, Wennström JL, Bergström J. Oral health risks of tobacco use and effects of cessation. International dental journal. 2010 Feb;60(1):7-30.
19. Al-Shammari KF, Al-Ansari JM, Al-Khabbaz AK, Dashti A, Honkala EJ. Self-reported oral hygiene habits and oral health problems of Kuwaiti adults. Medical Principles and Practice. 2007;16(1):15-21.

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