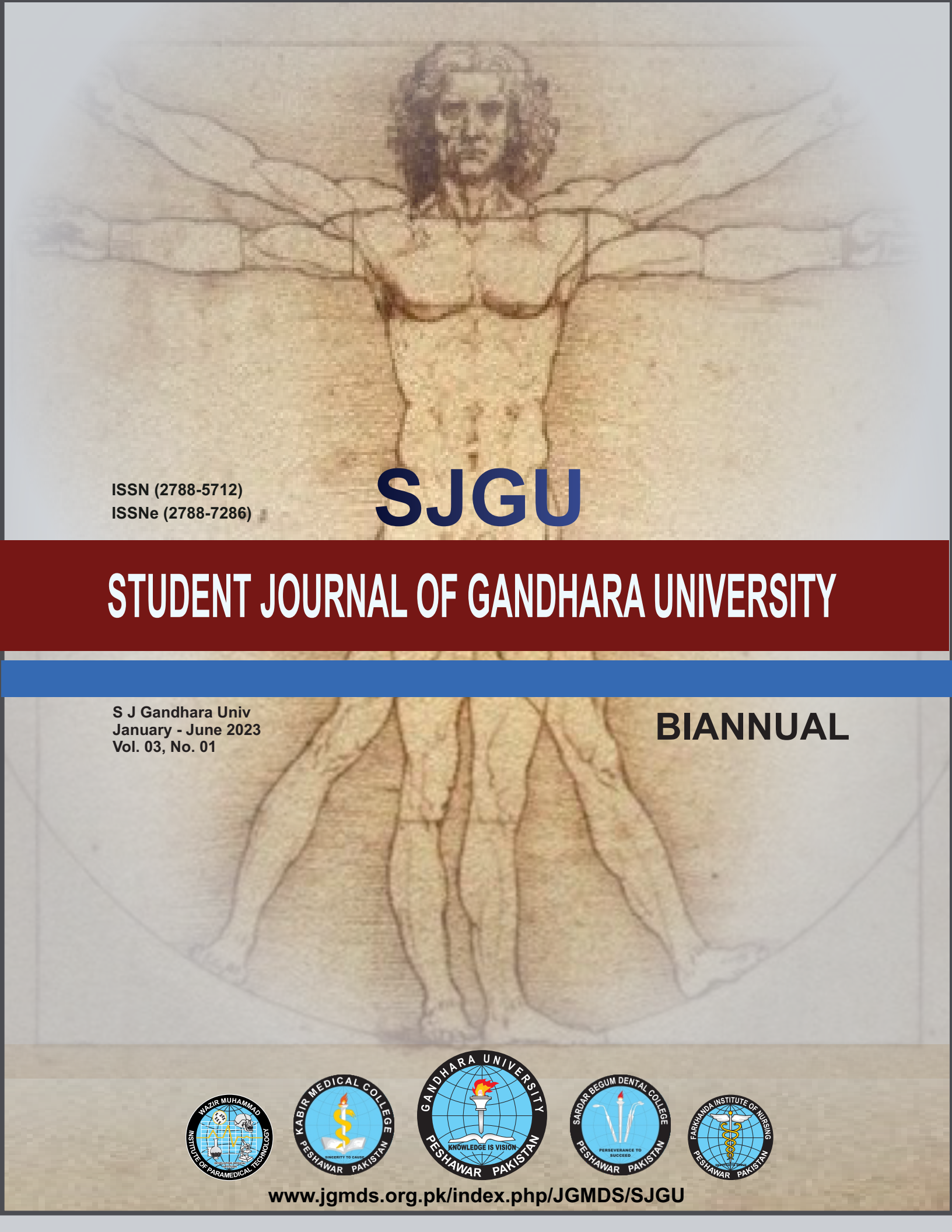

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EDITORIAL

ORIGINAL ARTICLES

IMPORTANCE OF TEACHING MEDICAL ETHICS

Muhammad Mujtaba
Final Year MBBS Student, Kabir Medical College Peshawar,
Student Ambassador, Research Society, Gandhara University, Peshawar

The word ethics came to existence when human beings tried to start the best way to live; ethics circulate morality, none of no human being is born morally high it is the knowledge that is ethics which made teaches them good moral values and the difference between good and bad moral values/principles. The health care system of a country should be as precise as it can be because, in the medical field, the dealing always takes place between patient and doctor, which doctor has the power of how to deal. As Potter Stewart quotes, "Ethics is knowing the difference between what you have a right to do and what is right to do" if the doctor who taught about basic medical ethics before starting his training, he will take care of all the moral values that are cultural, gender and others. Teaching undergraduate students basic ethical principles can save the health service's dignity. For that purpose, in Serbia, the basic ethical principles and the rules of conduct are established for medical professionals.[1] In 2018, a study concluded that in Pakistan, the "code of ethics," designed by the Pakistan medical and dental council, is taught in 3rd year of MBBS as an optional subject in Forensic medicine. About 84.6% of students in the final year emphasize the importance of teaching medical ethics at the undergraduate level because after 3rd year in Pakistan the student started dealing with patients independently. They get to know how vital the "code of ethics" is; as Abhijit Naskar quote, "a life saved is a family saved, there may be medical tools in your hands to treat the patient, but those hands must be that of a loving, warm and conscientious human being".[2]

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FACTORS ASSOCIATED WITH DENGUE IN PESHAWAR DURING 2022. A CASE - CONTROL STUDY

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ABSTRACT

OBJECTIVES

This study aimed to identify clinical and socioeconomic risk factors associated with dengue fever to facilitate early diagnosis and preventive therapy.

METHODOLOGY

A case-control study was conducted at Hayatabad Medical Complex (HMC) and Khyber Teaching Hospital (KTH) in Peshawar, Pakistan, from November 2022 to January 2023. The case group included individuals diagnosed with dengue fever during this period, as recorded in medical records. The control group consisted of patients in the same hospitals who were not diagnosed with dengue fever. A total of 270 samples were collected, with 89 in the case group and 181 in the control group. SPSS Statistics version 20.0 software was used for statistical analysis.

RESULTS

The study revealed several significant associations between various factors and the occurrence of dengue fever. Firstly, individuals with a malfunctioning sewage system were more likely to be diagnosed with dengue fever. Additionally, the type of transportation used played a role, with car users being more susceptible to dengue fever. Moreover, individuals living in urban areas and in proximity to swampy areas had an increased risk of contracting the disease. However, no significant difference in age was observed between the case and control groups. Participation in outdoor sports was found to be associated with dengue fever, while gender did not show a significant correlation. These findings contribute to our understanding of the clinical and socioeconomic risk factors associated with dengue fever and can assist in the early diagnosis and preventive strategies for this disease

CONCLUSION

The importance of a functioning sewage system, transportation choices, residential location, proximity to swampy areas, and participation in outdoor sports as significant factors associated with dengue fever. These findings emphasize the need for targeted interventions and preventive measures to mitigate the impact of dengue fever in affected areas.

KEYWORDS: *Dengue, Urban, Rural, Fever*

INTRODUCTION

Dengue is a mosquito-borne infectious disease caused by the dengue virus, having four genetically different serotypes: DENV- 1,2,3,4.[1,2] The ancestor of these viruses has been postulated to have emerged about 1000 years ago in an infectious cycle involving non-human primates and mosquitoes, with transmission to humans having occurred independently for all four virus types only a few hundred years ago.[3,4] Although disease outbreaks clinically consistent with dengue have been reported for centuries, It was not until 1943 in Japan and 1945 in Hawaii that the first two dengue viruses were isolated (named DENV1 and DENV2, respectively).[5] The disease is present in tropical and sub-tropical regions causing grave illness and death.[6] The disease spread through two types of Aedes mosquito, Aedes agypti and Aedes albopictus, affecting people of all ages. Dengue fever shows minor symptoms to life-threatening manifestations ranging from moderate headache, nausea, vomiting, muscular pain, low pulsation and bleeding gums.[7,8] Fundamentally, exposure to an infected A.aegypti mosquito determines an individual's risk for acquiring dengue. By avoiding mosquitoes and eliminating breeding sites around the home and workplace, an individual can somewhat mitigate that risk, although there are factors beyond an individual's immediate control. In the past, dengue epidemics have occurred in the United States as far north as Philadelphia.[9] A. aegypti and A.albopictus are present in the southern and central United States today. Yet, most dengue cases in

the United States are reported in travellers returning from endemic countries.[10] The virus infects about 390 million people every year.[11] According to the WHO, 2.5 billion individuals are at risk for this infection, In the last decade; 120 countries are facing numerous challenges in preventing the transmission of the dengue virus.[12] Asia contributes to about 70% of global Dengue cases.[13] In Pakistan, the first major outbreak of this disease occurred in 2006, reportedly infecting 4800 people and causing 50 deaths.[14] In 2011, an outbreak occurred in Punjab; about 21,597 were affected, and 365 people died.[15] In Khyber Pakhtunkhwa (KPK); Swat, 9048 cases were reported with roughly 70 deaths throughout 2013.[16] In 2017 the entire province was affected, with 20,000 confirmed cases and 61 fatalities, most of which were reported in Peshawar.[17] There have been multiple cross-sectional studies on dengue fever prevalence and factors affecting its prevalence but a case-control study that could correlate factors between different populations with an in-depth analysis of how the class structure could play a role in the incidence of dengue has been given very little thought. Furthermore, no study has been done on the correlation between diabetes mellitus and dengue fever in Peshawar. Comorbidities are reported to increase dengue illnesses predicting host characteristics as risk factors in developing dengue hemorrhagic fever and dengue septic shock.[18] Globally, diabetes mellitus is a highly prevalent disease and a high-risk factor for developing DHF and DSS.[19] Our study aims to correlate risk factors with dengue infection.

METHODOLOGY

A case-control study was conducted in Peshawar, Pakistan's tertiary care hospitals, Hayatabad Medical Complex (HMC) and Khyber Teaching Hospital (KTH), from Nov 2022 to Jan 2023. The samples in the case group included all the people diagnosed with dengue fever from Nov 2022 to Jan 2023 and recorded in medical records. Control samples were patients in these two tertiary care hospitals of Peshawar who were not diagnosed with dengue fever during the same period. The sample size of this study was 270. The number of samples was 89 in the case group and 181 in the control group. The sampling technique used in this study for cases was convenience sampling. We included all those in our case group who had the disease then. And for the control group, we used cluster sampling by making clusters of the total population of Peshawar and then randomly selecting some of the clusters and including all the members of that population in our control group. The study area of our research project in Peshawar. The subjects were interviewed face-to-face to verify the validity of their information, which was recorded in the questionnaire. The main contents of the questionnaire included: general demographic characteristics such as age, gender, address, occupation, blood type, average household income; personal life activities such as outdoor sports or walking; personal hygiene habits such as sewage management; housing situation such as greenery surrounding the house, any ditch in the area, any collected water source, indoor lighting, seasonal pots in the house, ventilators and windows covered by nets, dengue spray in the locality; living conditions such as an average number of persons per room, use of air conditioner or air cooler, sleeping outside in summer; mosquito protection statuses such as the use of mosquito repellents and mosquito nets; knowledge about dengue fever such as the way the virus spreads in the community, treatment for dengue fever, consult a physician or treat at home, drinking more water. This study focuses on 34 variables. Thirty-two out of 34 variables are qualitative such as mosquito repellents, mosquito nets, outdoor sports, clothing, sleeping in the open air in summer, dengue spray in the area, etc. We analyzed our qualitative variables by finding their percentages and frequencies and applying the chi-square test. At the same time, 2 of our variables, i.e. age and annual household income, are quantitative. We analyzed them by finding their mean and standard deviation and applying an independent sample t-test. To find the association between our independent variables and outcome variables, i.e. cases and controls, we used SPSS Statistics version 20.0 software.

RESULTS

Table 1: Association between Various Factors and Dengue Fever

		Status		Chi-Square	P-Value
		Case	Control		
Is your sewage system working properly?	Yes	64	153	6.023	0.014
	No	25	28		
What type of transport do you normally use?	Car	51	77	6.023	0.014
	Bus	17	26		
	Rickshaw	09	30		
	Bicycle	03	05		
	Motorcycle	06	36		
	Other	03	07		
Address	Urban	49	69	6.023	0.014
	Rural	31	97		
	Peri-Urban	09	15		
Is your place of residence close to any swampy area?	Yes	47	63	6.023	0.014
	No	42	118		
Do you participate in outdoor sports?	Yes	46	62	6.023	0.014
	No	43	119		
Gender	Male	54	90	6.023	0.014
	Female	35	91		
Do you participate in outdoor sports?	Yes	46	62	6.023	0.014
	No	43	119		

Table 2: Association between Various Factors and Dengue Fever

	Status	N	Mean	Std. Deviation	t	P-Value	95% Confidence Interval of the Difference	
							Lower	Upper
Age	Case	89	32.83	13.782	-1.336	0.183	-6.238	0.1193
	Control	181	35.35	14.950	-1.374	0.171	-6.143	1.099

DISCUSSION

Dengue fever is one of the most speedily prevailing diseases in the world, with a 30 times increase in the last 50 years. Our study found the risk factors associated with dengue fever in tertiary care hospitals in Peshawar. This study showed a significant relationship between dengue fever and address, urban and peri-urban regions(p=0.014). This is coherent with another study conducted in Hanoi, Vietnam.[20] A significant correlation was found between car travel and dengue fever with a P=0.034. This was consistent with another study conducted in Odisha, India.[21], which found a remarkable association between travelling and dengue fever. The reason for this can be travelling from one place to another where dengue fever has already spread. Our study found a positive association between the open sewage system and dengue fever spread in the community. In consistence with this, results of a case-control study carried out in Vietnam identified that people living near stagnant water like ponds, lakes, or open sewers had higher morbidity rates. People living near stagnant water like ponds, lakes and rivers, open sewers, or favourable mosquito breeding places like garbage collection points had higher morbidity rates. In Brazil, the epidemic was associated with proximity to uncontrolled waterways and stagnant water in tanks, gutters, and cans. In Pakistan, poor condition of the house, such as an uncovered toilet water tank or leaking water pipes, was a highly significant risk factor for the presence of Aedes foci.[22] Our study found a significant association between swampy areas and dengue fever. Swampy areas near houses can be ideal breeding grounds for mosquitoes, including the Aedes species that transmit dengue fever. The standing water in these areas provides a suitable environment for the mosquitoes to lay their eggs and for their larvae to develop. Similarly, a study conducted in Islamabad, Pakistan, showed that the local clustering of cases is likely due to the accumulation of stagnant water that facilitates the breeding of endemic vector species Aedes aegypti.[23] In our study, we found no association between dengue fever and age, while a study conducted in Malaysia found that the prevalence of dengue infection was higher among patients aged 20-40 years than among patients with age <20 years.[24] Our study found a significant association between outdoor sports and dengue fever spread. Another study in Guangdong province, China, found a significant and positive association between outdoor sports and dengue fever spread.[25] They found that people participating in outdoor sports had more probability of contracting dengue fever by 2.27 folds than people who did not participate. In our study, we found no association

between gender and the spread of dengue fever, and it showed that dengue spreads irrespective of gender and is equally prevalent in both males and females. On the contrary, a study was conducted in Uttar Pradesh, India, where they found that dengue fever was more prevalent in males as compared to females, and laboratory results showed this with a ratio of(M: F) 1.54:1.[26]

LIMITATIONS

The use of convenience and cluster sampling techniques may introduce selection bias and limit the generalizability of the findings to the broader population. Additionally, relying on self-reported data from face-to-face interviews may introduce recall and response biases, potentially impacting the accuracy and reliability of the collected information. Furthermore, as the study was conducted in a specific geographical area (Peshawar, Pakistan), the results may not apply to regions with different socioeconomic and environmental characteristics. Future studies with larger and more diverse samples and rigorous data collection methods would help address these limitations and provide a more comprehensive understanding of the risk factors associated with dengue fever.

CONCLUSIONS

Urban location and outdoor activities are important risk factors for dengue. Travelling in a car, swampy water near an individual's residence, improper sewage system and neighbours suffering from dengue may increase the risk for this entity. Targeting dengue awareness, a cleaner environment and effective preventive measures may be promising in dengue prevention.

CONFLICT OF INTEREST: None

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THE PREVALENCE OF STRESS AND ANXIETY AMONG POLYCYSTIC OVARY SYNDROME (PCOS) PATIENTS

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ABSTRACT

OBJECTIVES

This study aimed to determine the prevalence of Stress and Anxiety among PCOS patients.

METHODOLOGY

A cross-sectional study was conducted at the Khyber Teaching Hospital (KTH) and Hayatabad Medical Complex (HMC), Peshawar. A total of 200 PCOS patients were selected from the Gynecology and obstetrics departments of the respective hospitals through convenient sampling. Highly reliable and valid questionnaires were used for data collection, i.e., the Perceived stress scale and Beck Anxiety Inventory. Informed consent was obtained from each patient. Data were analyzed through SPSS Version 26.0.

RESULTS

A significant portion of the female population, comprising 52%, were married. Additionally, most of these females fell within the age range of 14-24 years, accounting for 52.5%. Among these individuals, 50.5% hailed from urban areas. It is worth noting that PCOS patients exhibited considerably elevated stress and anxiety levels, with statistical analysis revealing a p-value of less than 0.005 to support this finding.

CONCLUSION

PCOS patients have a high prevalence of stress and anxiety.

KEYWORDS: *PCOS, Stress, Anxiety*

INTRODUCTION

Polycystic ovarian syndrome (PCOS) was first described in 1935 by Stein and Leventhal. PCOS is a common endocrine disorder affecting females of reproductive age, characterized by hormonal imbalances and various clinical manifestations. It is also known as Schlerocystic Ovaries, Multicystic Ovaries, or Stein-Leventhal Syndrome.[1,2] This condition has a global prevalence of approximately 13% among women in their reproductive years.[3] PCOS is diagnosed based on the Rotterdam criteria, which require the presence of at least two of the following three symptoms: clinical and biochemical hyperandrogenism, ovulation dysfunction, or ovarian cysts on ultrasound examination.[4] It is a complex and multifactorial disorder with genetic, environmental, and lifestyle factors contributing to its development. While PCOS predominantly affects females, it can also have implications for males, albeit with lower frequency. Males may exhibit similar clinical features, such as elevated androgen levels and reproductive dysfunction, leading to the designation of Stein-Leventhal syndrome.[5] The psychological and clinical abnormalities associated with PCOS are significant. Clinically, individuals with PCOS may experience hyperandrogenism, hirsutism, menstrual irregularities, obesity, insulin resistance, and an increased risk of type 2 diabetes and cardiovascular diseases. Psychologically, PCOS is linked to increased rates of depression, anxiety, and stress, which can profoundly impact the overall well-being of affected individuals.[6] Managing PCOS involves a multidisciplinary approach, including lifestyle modifications, weight management, hormonal therapies, and addressing specific symptoms or complications. The National Health Service (NHS) recommends lifestyle changes, such as regular exercise and a balanced diet, to improve symptoms and reduce the risk of long-term complications. Contraceptives, such as progesterone tablets or combined contraceptive pills, are commonly prescribed to regulate menstrual cycles. Fertility-related issues can be addressed through medications like clomiphene, letrozole, and metformin for women seeking to conceive.[7] In addition to the physical and hormonal challenges, individuals with PCOS often face psychological and social burdens. Studies have shown that PCOS patients have a higher prevalence of depression (37%) and anxiety (42%) compared to healthy women.[8] They may experience social phobias, struggle with personal relationships, and endure the societal stigma of the condition.[9] The impact of PCOS on mental health is particularly significant in

younger individuals, and it can contribute to body image concerns and fertility-related distress.[10] In Pakistan, where the prevalence of PCOS in women is notably high (52%), various factors contribute to this burden. Limited awareness and education about PCOS, societal stigma, shyness, and peer pressure further compound the challenges affected individuals face.[11] Consequently, addressing PCOS-related mental health issues and providing comprehensive support and education on the condition are crucial steps toward improving the well-being of those affected by PCOS in Pakistan and globally. This research aims to assess the prevalence of stress and anxiety in PCOS patients diagnosed in Peshawar. By understanding the psychological impact of PCOS and identifying effective interventions, healthcare professionals can provide better support and enhance the quality of life for individuals with PCOS.

METHODOLOGY

A cross-sectional study was conducted at Khyber Teaching Hospital (KTH) and Hayatabad Medical Complex (HMC) in Peshawar to investigate the prevalence of stress and anxiety among PCOS patients. 200 individuals diagnosed with PCOS were selected from the Gynecology and Obstetrics departments of these hospitals using convenient sampling. The study used the Beck Anxiety Inventory and Perceived Stress Scale for data collection, providing standardized measures of anxiety and stress levels, respectively. Before participation, informed consent was obtained from each patient, ensuring their voluntary involvement in the study. The collected data were then analyzed using SPSS Version 26.0

RESULTS

Table 1: Demographics of the Participants

	Frequency	%age
Age in years	14-24	105(52.5%)
	25-35	76(38%)
	36-46	19(9.5%)
Marital status	Married	104(52%)
	Unmarried	96(48%)
Region	Urban	101(50.5%)
	Rural	99(49.9%)

Table 2: Prevalence of Stress and Anxiety among PCOS Patients

	N	Mean	SD	T	95% Confidence Interval		P-Value
					Lower	Upper	
PSS	200	22.66	4.491	71.363	22.03	23.09	<0.005
Anxiety	200	49.61	11.581	60.581	48.00	51.22	<0.005

DISCUSSION

The study aimed to investigate the prevalence of stress and anxiety among patients diagnosed with Polycystic Ovary Syndrome (PCOS) in the selected healthcare facilities. The Perceived Stress Scale (PSS) was used to assess stress levels among PCOS patients. The mean stress score was 22.66, with a standard deviation (SD) of 4.491. This indicates that, on average, the participants reported moderate levels of perceived stress. The t-value of 71.363 was highly significant ($p < 0.005$), suggesting a substantial difference between the observed stress levels and the hypothesized population mean. The 95% confidence interval ranged from 22.03 to 23.09, indicating a narrow range of values in which the population mean is likely to fall.[12,13,14] Furthermore, anxiety levels were evaluated using the Beck Anxiety Inventory. The mean anxiety score was 49.61, with a standard deviation of 11.581. This suggests that the PCOS patients experienced moderate levels of anxiety. Like stress, the t-value of 60.581 was highly significant ($p < 0.005$), indicating a significant difference between the observed anxiety levels and the hypothesized population mean. The 95% confidence interval ranged from 48.00 to 51.22, further supporting the substantial difference observed. Other studies reported similar results.[15] These findings align with previous research indicating that PCOS patients are more prone to experiencing elevated stress and anxiety levels than the general population. The hormonal imbalances, physical symptoms, and challenges related to fertility and body image in PCOS may contribute to psychological distress among affected individuals.[16,17,18] Several studies have reported an increased prevalence of generalized anxiety and higher mean anxiety scores in women with PCOS compared to control women. It is important to address anxiety symptoms in PCOS patients as they can significantly impact health-related quality of life and overall well-being.[19] Adolescents with PCOS are also susceptible to anxiety symptoms, and appropriate evaluation and treatment at an early age may prevent the onset of secondary disorders. Studies have shown a higher prevalence of anxiety symptoms in hirsute adolescent girls with PCOS than in non-hirsute girls. Successful treatment of hirsutism has been associated with improved anxiety scores in adult women with PCOS. However, the relationship between hyperandrogenism and anxiety symptoms in women with PCOS is still not well-established, and further research is needed to evaluate this association.[20] Overall, the existing literature suggests that women with PCOS have a higher prevalence of anxiety symptoms and may be at a greater risk for anxiety disorders than control women. It is crucial for

healthcare providers to routinely screen PCOS patients for anxiety and mood disorders using validated screening tools. Early identification and appropriate management of anxiety symptoms in PCOS patients can significantly improve their quality of life and overall mental well-being. Further research is needed to elucidate the underlying causes and mechanisms of anxiety in PCOS and to develop targeted interventions to address this mental health burden.

LIMITATIONS

The study utilized convenient sampling, which may introduce selection bias and limit the generalizability of the results to the broader population of women with PCOS.

CONCLUSIONS

The significant presence of stress and anxiety symptoms in women with PCOS underscores the importance of addressing mental health in managing and treating this condition. Healthcare providers should be aware of the psychological impact of PCOS and consider incorporating mental health assessments and interventions as part of the holistic care provided to these patients.

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FACTORS ASSOCIATED WITH STROKE IN PATIENTS OF AGE ABOVE 40 YEARS VISITING TERTIARY CARE HOSPITALS OF PESHAWAR

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ABSTRACT

OBJECTIVES

This study aimed to identify the factors associated with stroke in patients of age above 40 years visiting tertiary care hospitals in Peshawar.

METHODOLOGY

A case-control study was conducted on 400 patients visiting Peshawar's OPDs of tertiary care hospitals. The hospitals are Lady reading hospital MTI Peshawar, Khyber teaching hospital MTI Peshawar, Naseer teaching hospital Peshawar and Hayatabad Medical Complex MTI Peshawar. The study was conducted over five months, from 3rd October 2021 to 3rd March 2022, using a structured questionnaire which includes 200 cases and 200 controls.

RESULTS

Based on the result, it was found that males (50.6%) were more prone to stroke than females There is a statistically significant association between education ($\chi^2 = 36.525$, $p < 0.001$), job Status($\chi^2 = 12.297$, $p = 0.015$), exercise ($\chi^2 = 7.447$, $p = 0.006$), positive cardiac history ($\chi^2 = 14.035$, $p = 0.001$), stress ($\chi^2 = 21.790$, $p = 0.001$) and stroke status.

CONCLUSION

The results reveal significant associations between multiple factors and stroke occurrence. Education level, job status, cardiac history, and stress were found to be significantly related to the likelihood of experiencing a stroke. These findings suggest that factors such as higher education, certain job categories, a negative cardiac history, and lower stress levels may be associated with a decreased risk of stroke.

KEYWORDS: *Stroke, Peshawar, Health, Hypertension*

INTRODUCTION

In 1970, the World Health Organization defined stroke as rapidly developed clinical signs of focal (or global) disturbance of cerebral function, lasting more than 24 hours or leading to death, with no apparent cause other than of vascular origin. Stroke is the major cause of death in the current electronic world. Asian countries such as Pakistan and India have a higher ratio. In 2018 a study was conducted in a Pakistan city named Hayatabad to find out the prevalence of stroke in that area. It is concluded that the Hayatabad region, considered a high-class city, has 10%. The majority of patients belong to age 60+.[1] Different Studies were conducted in which they identified the risk factors of stroke: hypertension, alcohol history, family history, smoking, other chronic heart diseases, Diabetes Mellitus, usage of oral contraceptives, lifestyle, and socio-economic status.[2,3] Further study suggests that with age over 60, people living in urban areas, unemployment that leads to stress and low formal education is also the cause of stroke in the Khyber Pakhtunkhwa region of Pakistan.[4] The major risk factor for stroke to be known is hypertension. A study was conducted in Sindh, Pakistan, to calculate the risk factor of hypertension with stroke. They conducted that most stroke patients of 60 and above age have hypertensive and diabetes mellitus.[5] As time passes, the ratio of strokes is increasing day by day and now become the 3rd major cause of death use of tobacco, less physical activity, eating junk food, obesity, high blood pressure, sleep, kidney diseases, and complicated pregnancy is getting common day by day, and all the above causes are the risk factors of Stroke.[6] Adults with an innate heart condition (ACHD) represent a bunch with an inflated risk of stroke. Anemia stroke structure regarding 80% of all strokes. Innate heart lesions, significantly cyanotic lesions, confer associated with nursing inflated risk of apoplexy and silent brain infarcts in adults. In the modern era of children born with congenital heart disease, life expectancy increases but as they reach adolescence, the percentage rises very abruptly.[7,8,9,10] Another study was conducted during covid-19 outbreak time in the USA to find the racial factor, concluding that blacks are at high stroke risk compared to non-black.[11] Diabetes leads to stroke through vascular endothelial dysfunction, increasing early-age arterial stiffness, systemic inflammation, and

capillary basal membrane thickening. In type 2 diabetics, early left ventricular diastolic filling abnormalities are commonly seen. Diabetes is an essential modifiable risk factor for stroke, particularly ischemic stroke.[12] Cigarette smoking has long been known to increase the risk of stroke in any form. Smokers are at least two to four times more likely to have a stroke than non-smokers, with non-smokers who haven't smoked in over ten years. If you use tobacco products, you're six times more likely to suffer a stroke if you smoke 20 cigarettes daily than if you do.[13] Another cohort study was conducted to determine the association of stroke with metabolic syndrome. After collecting data, they applied Cox proportional hazard model to estimate the risk of ischemic heart disease, and they found out that individual obesity is not a not-alone factor, but it somehow increases the chance of having a stroke when combined with other risk factors.[14] In Uganda, the ratio of strokes among children was a real concern. After that, they did a study and found that children with sickle cell anaemia have more than a 6.8% chance of having a stroke in early childhood, which increases as the adolescent age begins.[15] There is a conflict regarding gender and their association with stroke. A study was conducted in which they concluded that gender has no association with stroke, but further investigation will be needed to prove that conflict.[16] No such details studies have been done in the district of Peshawar previously to identify factors associated with stroke above 40 years, and still, many factors have been identified. Therefore, this study will enhance stroke association in those above 40 and help future studies and interventions.

METHODOLOGY

A case-control study was conducted on 400 patients visiting Peshawar's OPDs of tertiary care hospitals. The hospitals are Lady reading hospital MTI Peshawar, Khyber teaching hospital MTI Peshawar, Naseer teaching hospital Peshawar and Hayatabad Medical Complex MTI Peshawar. The study was conducted over five months, from 3rd October 2021 to 3rd March 2022, using a structured questionnaire that included 200 cases and 200 controls. Ethical approval was taken from ORIC Gandhara University Peshawar. The inclusion criteria for cases include the age of the study population above 40. The patients should be residents of district Peshawar while for controls the age should be 40 or above that, and those with no history of stroke. The exclusion criteria for cases include patients with a history of stroke whose age is less than 40 and not a resident of district Peshawar. For controls, age was also one of their criteria and age should not be less than 40. A structured questionnaire was formed by the medical students, which the Kabir Medical College community department approved. Before filling out the questionnaire, verbal consent was taken from every participant. Analysis was done using SPSS 20.

RESULTS

The results of the chi-square test for the relationship between education and stroke status showed a statistically significant association between education and stroke status ($\chi^2 = 36.525$, $p < 0.001$). The p-value of 0.001 indicates that the observed differences in the distribution of stroke cases across different levels of education are unlikely to have occurred by chance. Specifically, among those who had a stroke, the frequency distribution across education levels was as follows: 114 were illiterate, 5 had primary education, 52 had secondary education, and 29 had higher education. Among those who did not have a stroke, the frequency distribution across education levels was: 77 were illiterate, 5 had primary education, 35 had secondary education, and 83 had higher education. The chi-square test for the relationship between job status and stroke showed a significant association between job status and stroke occurrence ($\chi^2 = 12.297$, $p = 0.015$). The p-value of 0.015 suggests that the observed differences in stroke cases across different job categories are unlikely to have occurred by chance. Among individuals who had a stroke, the frequency distribution across job categories was as follows: 102 were jobless, 34 had private jobs, 19 had government jobs, 32 were labourers, and 13 were retired. Among individuals who did not have a stroke, the frequency distribution across job categories was: 82 were jobless, 41 had private jobs, 40 had government jobs, 22 were labourers, and 15 were retired.

Table 1: Relationship between Exercise and Stroke Occurrence

Stroke	Do exercise	Don't do any exercise	Chi-Square	P-Value
Yes	99	101	7.447	0.006
Yes	99	101		

Table 2: Relationship between Cardiac history and Stroke Occurrence

Stroke	Positive cardiac history	Negative cardiac history	Chi-Square	P-Value
Yes	64	136	14.035	0.001
No	32	168		

Table 3: Relationship between Stress and Stroke Occurrence

Stroke	Any stress in the last 4-5 years	No stress in last 4-5 years	Chi-Square	P-Value
Yes	140	60	21.790	0.001
No	94	106		

DISCUSSION

Our study examined the relationship between various factors and stroke occurrence. There is a significant association between education level and stroke occurrence ($\chi^2 = 36.525$, $p < 0.001$). Individuals with higher education levels had a lower likelihood of experiencing a stroke compared to those with lower education levels. This finding aligns with previous research indicating that higher education is linked to better health outcomes, including reduced incidence of cardiovascular diseases.[18] Possible explanations for this association may include the adoption of healthier lifestyles, increased health literacy, and access to better healthcare resources among individuals with higher education. Job status is significantly related to stroke occurrence ($\chi^2 = 12.297$, $p = 0.015$). Jobless individuals had a higher incidence of stroke compared to those with private jobs, government jobs, labourer occupations, or retirement status. Exercise is significantly associated with stroke occurrence ($\chi^2 = 7.447$, $p = 0.006$). Individuals who reported not engaging in any exercise had a higher likelihood of experiencing a stroke compared to those who engaged in regular exercise. This result is consistent with the existing literature, which consistently emphasizes the beneficial effects of physical activity on cardiovascular health and stroke prevention.[19] Encouraging regular exercise as a preventive measure for stroke should be a key component of public health initiatives. Positive cardiac history is significantly related to stroke occurrence ($\chi^2 = 14.035$, $p = 0.001$). Individuals with a positive cardiac history had a higher incidence of stroke compared to those with no cardiac history. Experiencing stress in the last 4-5 years is significantly associated with stroke occurrence ($\chi^2 = 21.790$, $p = 0.001$). Individuals who reported experiencing stress had a higher likelihood of experiencing a stroke compared to those who reported no stress. the findings suggest that higher education, engaging in exercise, having a negative cardiac history, and managing stress levels may be associated with a reduced risk of stroke. Our research is supported by another study conducted in 2018 on risk factors of stroke.[20] Cardiac diseases, such as congestive cardiac heart failure, don't pump enough blood to the brain and give rise to stroke. These findings align with previous studies highlighting the role of cardiac health and psychological factors in stroke risk.[21] Diet greatly affects the health of individuals. Our study found that consumption of red meat, vegetables, and fruits has a Positive association with stroke. Our study showed a Positive association of red meat with stroke (p=0.001) and standard deviation (standard deviation 0.865) and Also having positive association for vegetable consumption (p=0.001), standard deviation (standard deviation 0.719) and fruits consumption (p=0.001), standard deviation (std. deviation 1.070) with stroke. Our study is similar to another survey in 2019 in South India in which stroke patients were compared with controls. Stroke patients reported a lower intake of green leafy vegetables (P= 0.0001) and fruits (P= 0.0022) and showed a higher intake of red meat products (P= 0.04).[18] Our study found that education positively correlates with stroke. Our research has 400 respondents, including 200 cases and 200 controls. Of stroke patients, 114 are educated, 05 have very little education, 52 have an education of less than or up to 10 years, and 29 have an education of more than ten years, while in controls, 77 are uneducated, 05 have very little education 35 have an education less than or up to 10 years, and 83 have the education of more than ten years showed a strong association with stroke with p-value (p=0.001). A similar study in 2020 showed that education has a positive association with stroke. Higher education level was associated with a decreased rate of total stroke and ischemic stroke incidents, but not hemorrhagic ones. There might be a protective causal association between education and ischemic stroke.[19]

LIMITATIONS

A multinational study would help gather data from more participants, and more findings could have been unrevealed. This data was collected in Covid-19 time, so the authors face problems as they, too, have to follow all the SOPs rules, and the study is retrospective, so the chances of bias are higher.

CONCLUSIONS

There are significant associations between several factors and the occurrence of stroke. Specifically, education level, job status, cardiac history, and stress were found to be significantly related to the likelihood of experiencing a stroke. Higher education, certain job categories, a negative cardiac history, and lower stress levels appear to be associated with a reduced risk of stroke. However, it is important to note that these findings indicate correlations and further research is needed to investigate the underlying mechanisms and establish causality between these factors and stroke occurrence.

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PREVALENCE OF HYPERTENSION AND PERCEIVED STRESS AMONG EMPLOYED AND UNEMPLOYED WOMEN OF KHYBER PAKHTUNKHWA (KPK), PAKISTAN

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ABSTRACT

OBJECTIVES

This study aimed to determine the Prevalence of hypertension and perceived stress among employed and unemployed women of Khyber Pakhtunkhwa (KP), Pakistan.

METHODOLOGY

A community-based cross-sectional study was conducted in different regions of Khyber Pakhtunkhwa in November-December 2022. A convenient sampling technique was used, and a total of 500 women participated in the study. The data was recorded through a perceived stress scale. The hypertension was assessed through medical history. Their blood pressure was also recorded via sphygmomanometer during the data collection. A pilot study was done on 10% of the population. Data were analyzed using SPSS statistical package version 23.0.

RESULTS

*The mean age of the participants was 38.20±7.504 years, of which 27.6% were employed while 72.4% were unemployed. The result shows a statistically significant association between hypertension and perceived stress among employed women. It was evident that the highest percentage of women (72%) with a blood pressure of 180/120 mmHg or higher had high **stress**. It was also seen that a large percentage of women (53.8%) with a blood pressure of 120-129/less than 80 mmHg had the lowest **stress**. Similarly, the results also showed a statistically significant association between hypertension and stress in unemployed women. It was seen that most of the women with a blood pressure of 130-139/80-89 mmHg had the highest percentage of stress, while most of the unemployed women with a blood pressure of 180/120 or higher reported the least amount of stress.*

CONCLUSION

It was concluded that a significant positive relationship existed between the prevalence of hypertension and perceived stress in employed and unemployed females of Khyber Pakhtunkhwa (KP), Pakistan.

KEYWORDS: *Hypertension, Stress, Anxiety, Employed*

INTRODUCTION

The modern era is a time of competition and science and technology. where everyone is striving for success and luxury life. No doubt the competition and workload among employed and unemployed individuals have dramatically increased in the recent decade, leading to stress and hypertension. Hypertension is a multifunctional disorder defined as blood pressure above the normal range; estimated to be a systolic blood pressure of 130mm of Hg and a diastolic pressure of about 85 to 89mm of Hg.[1] It is influenced by various components including predisposing genetic factors, and obesity, salt intake, physical activity, alcohol consumption and gender.[2] Molecular genetic studies have now identified mutations in 8 genes that cause Mendelian forms of hypertension. The kidney has a major role in controlling the body's blood pressure through an extensive pathway including the salt absorption pathway. The salt absorption pathway is prompted by the renin-angiotensin system. Mutations in these pathways have been discovered that eventually affect blood pressure. Stress is common throughout the world that results in various psychological diseases. The concept of stress was first introduced by Hans Salye in 1936 and defined as "The non-specific response of the body to any demand, whether it is caused by, or results in, pleasant or unpleasant conditions". World health organization (WHO) Global Burden of Disease Survey estimates that by the year 2020 stress-related psychological conditions will be highly prevalent and will be second to coronary heart diseases.[3,4,5] The stress of women in the workplace and at home has badly impacted their life standards.[6] Studying the factors related to stress among healthcare workers has the utmost importance due to their

contribution to the health sector with maximum work output and optimal life standard.[7] Unemployed individuals have poorer mental health that is further worsened by poverty. Disappointment, worries, stress, social isolation, crime and frustration are crucial contributors to individual poor mental health. According to American Psychological Association (APA,2015), an unemployed individual has lower self-esteem which leads to anxiety and self-doubt. Studies suggest that unemployment is the lower level of Psychological health problem among unemployed individuals.[8,9] A cross-sectional study suggested that higher stress is associated with a higher prevalence of hypertension, diabetes mellitus and obesity in women but not in men.[10] Several other studies have been done that show the strong effect of stress on the incidence of hypertension among women.[11] Research conducted in America to study the relationship between perceived stress and hypertension and the effect of social networks has suggested that among Asian American men, those with a high level of perceived stress were more likely to develop hypertension as compared to those with a low level of perceived stress.[12] Another study has been conducted that shows chronic exposure to psychological stress has a crucial role in developing pathophysiological hypertension and Cardiovascular diseases.[13,14] As very little research study has been conducted on hypertension and perceived stress and its alarming rise among employed and unemployed females of KP, Pakistan has convinced the minds of researchers toward the crucial need for a research study on the contributors of perceived stress and hypertension. This research aims to bridge the gap of the research study and to find out the relation between hypertension and stress and its degree of variance among employed and unemployed females of Khyber Pakhtunkhwa (KP), Pakistan.

METHODOLOGY

A community-based cross-sectional study was conducted in different regions of Khyber Pakhtunkhwa from November 2021-December 2022. Convenient sampling was utilized to recruit participants for this study. The women were approached in various communities and invited to participate based on their availability and willingness. A total of 500 women were included in the study, ensuring an adequate sample size to achieve statistical power and representativeness of the target population. The Perceived Stress Scale was used to measure the stress of the participants. The presence of hypertension was determined through two methods: medical history and blood pressure measurements. Participants were asked about their medical history, specifically if they had previously been diagnosed with hypertension by a healthcare professional. The participant's blood pressure was recorded using a sphygmomanometer during data collection. Blood pressure measurements were taken according to standardized procedures, with participants in a seated position after a resting period. Informed consent was obtained from each participant before their inclusion in the study. Confidentiality and privacy of participants' information were ensured throughout the research process. The study protocol was reviewed and approved by the relevant ethics committee or institutional review board. Prior to the main data collection, a pilot study was conducted on a 10% subset of the target population. The collected data were entered and analyzed using the SPSS statistical package, specifically version 23.0.

RESULTS

The mean age was 38.20±7.504 years out of which 27.6% were employed while 72.4% were unemployed.

Table 1: Association between Perceived Stress and Hypertension in Employed Women

		Perceived Stress In Employed Women			P-Value
		Low Stress (0-13)	Moderate Stress (14-26)	High Stress (27-40)	
Hypertension In Employed Women	120-129/less than 80	07(53.8	0(0.0%)	06(46.2	≤0.001
	130-139/80-89 mmHg	07(15.9	31(70.5	06(13.6	
	140/90 mmHg or more	14(25.0	06(10.7	36(64.3	
	180/120 or higher	0(0.0%)	07(28.0	18(72.0	

Table 2: Association between Perceived Stress and Hypertension in Employed Women

		Perceived Stress In Employed Women			P-Value
		Low Stress (0-13)	Moderate Stress (14-26)	High Stress (27-40)	
Hypertension In Un-Employed Women	120-129/less than 80	14(19.4	34(47.2	24(33.3	≤0.001
	130-139/80-89 mmHg	14(12.2	33(28.7 %)	68(59.1	
	140/90 mmHg or more	07(8.8%	43(53.8 %)	30(37.5	
	180/120 or higher	21(22.1	50(52.6	24(25.3	

DISCUSSION

The presented results in Table 1 and Table 2 demonstrate the association between perceived stress and hypertension among employed and unemployed women, respectively, in the study population. The findings indicate significant relationships between perceived stress levels and the prevalence of hypertension in both employment groups. In Table 1, among employed women, a clear pattern emerges where higher perceived stress levels correspond to higher rates of hypertension. For instance, in the high-stress group, 64.3% of participants had blood pressure readings indicating hypertension (≥140/90 mmHg), while in the low-stress group, only 25% exhibited hypertension. These differences in hypertension prevalence among perceived stress levels are statistically significant ($p \leq 0.001$). This aligns with previous research suggesting a positive relationship between stress and hypertension.[15] Similarly, Table 2 reveals a comparable association between perceived stress and hypertension among unemployed women. Higher perceived stress levels are associated with a greater prevalence of hypertension. For example, in the high-stress group, 37.5% of unemployed women exhibited hypertension, compared to 8.8% in the low-stress group. These differences are also statistically significant ($p \leq 0.001$). These findings are consistent with prior studies that highlight the impact of stress on blood pressure levels.[16] The results from this study are in line with existing literature that emphasizes the positive relationship between perceived stress and hypertension. They provide further evidence supporting the notion that chronic stress may contribute to the development and exacerbation of hypertension in both employed and unemployed women.[17,18] The consistent findings across employment groups highlight the significance of perceived stress as a risk factor for hypertension, irrespective of employment status. It is worth noting that the prevalence rates of hypertension differ between employed and unemployed women within each perceived stress level. For example, among employed women with high perceived stress, 72% had blood pressure readings indicative of hypertension (≥140/90 mmHg), while among unemployed women with high perceived stress, the prevalence was 37.5%. These variations may be influenced by various factors, including differences in stressors, coping mechanisms, and socioeconomic conditions between the two groups. Further studies should focus on these factors to provide valuable insight regarding this problem.

LIMITATIONS

The reliance on self-reported measures for perceived stress and medical history introduces the possibility of recall bias and subjective interpretation. Participants may have different perceptions and interpretations of stress levels, which could affect the accuracy of the data collected. Objective measures such as ambulatory blood pressure monitoring or biomarkers of stress were not included, which could provide a more comprehensive and accurate assessment of stress and hypertension.

CONCLUSIONS

There is a positive relationship between the prevalence of hypertension and perceived stress among employed and unemployed females.

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KNOWLEDGE ATTITUDE AND PRACTICE OF THE TRAINEES TOWARDS THE CROSS–INFECTION AT DENTAL COLLEGES OF KPK

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ABSTRACT

OBJECTIVES

This study assessed the knowledge, attitude, and practice towards cross-infection control.

METHODOLOGY

An observational cross-sectional study assessed the knowledge, attitude and practice regarding cross-infection control among dental practitioners in a teaching hospital. Two hundred eighty dental practitioners from different dental institutes of KPK were taken as respondents. The data collection is well-designed questionnaires and online questionnaires. The data obtained was analyzed using SPSS version 20.

RESULTS

About 98 % of the participants knew about cross-infection and its importance in the dental setting. A mere 52 % of participants responded that they disinfect the dental unit after the procedure of infected or normal patients, and 65 % said that infected patients are treated in separate reserved units where normal patients are not treated.

CONCLUSION

Almost all participants knew about cross-infection and followed the standard protocols and other auxiliary steps to tackle it in their local dental settings. Moreover, most respondents were found to counsel the patients about cross-infection.

KEYWORDS: *Cross Infection, Infection Control, Disinfection*

INTRODUCTION

Dental practitioners work in an environment which has a high risk of exposure to infections, and especially the cross infections transmission is especially high. Dental practitioners, dental assistants and patients all are prone to the dental setting acquired infections. With time the spread of infectious diseases has increased, so we must practice proper cross-infection control measures. The human mouth is a fertile environment for transmitting, inoculating, and growing various contagious and detrimental microorganisms.[1] In dentistry, blood and saliva are the most common routes to spread the infection. Dentists, Staff and Surgical instruments are exposed to oral tissues, saliva and blood which might be contaminated with various micro-organisms.[2] In the oral cavity, the organisms which cause the infection includes Cytomegalovirus (CMV), Hepatitis C Virus (HCV), Hepatitis B Virus (HBV), Herpes Simplex Virus (HSV type 1 & 2), HIV/AIDS, Mycobacterium Tuberculosis, Staphylococci, Streptococci, other viruses and bacteria.[3] We live in an era of eco-epidemiology, with global emergence and re-emergence of many communicable diseases.[4,5] Due to these reasons, Cross-infection and infection in dental clinics have become major concerns.[6] Healthcare professionals must be aware of how infectious diseases spread to reduce danger. To prevent the spread of these infections from patient to patient or from patient to dental staff, the dental environment should follow the proper safety protocols. Different strategies are used to prevent the spread of cross-infection, which includes the barrier technique, sterilization, and disinfection of dental instruments.[7,8] Barrier Techniques mean using protective items against infection transmission during an intraoral or invasive procedure, including appropriate gloves, masks, protective eyewear, etc.[9] Sterilization is a process that, if performed properly, kills all microbes, including bacterial spores, on the surface of dental instruments.[9] Disinfection is a process in which all the microbes are removed except bacterial spores. Disinfection of dental instruments is usually performed with liquid disinfectants.[9] The Centers for Disease Control and Prevention (CDC) distinguishes several levels of sterilization and disinfection of patient-care items according to the level of risk based on the intended use. Items must be cleaned before disinfection or sterilization.[10] Manufacturer's instructions must be followed for the benefit of EPA-registered disinfectants, FDA-cleared sterilants, and high-level disinfectants, and intended use must be clearly stated on the label; if not, do not use the product.

METHODOLOGY

An observational cross-sectional study assessed the knowledge, attitude and practice regarding cross-infection control among dental practitioners in a teaching hospital**.** A total of 280 participants, out of which 122 were Post graduated trainees, and 160 were House officers, were recruited in this study. We got ethical approval from the ethical committee of Gandhara University. Data were collected from February 2023 to March 2023 using online questionnaires. The questionnaire comprised 15 closed-ended questions related to demographic data, knowledge, attitude and practice about cross-infection control. The data obtained were then analyzed using the statistical software SPSS version 20. A chi-square test assessed the association between different categorical variables, and p values <0.05 were considered significant.

RESULTS

Results showed that out of 280 participants, 45.5% were males and 54.4% were females. The results also revealed that 98% of participants knew the importance of cross-infection control in their daily dental setting. About 97% of participants started wearing masks, and 96% wore gloves for every procedure. This study showed that every department used separate containers for the infected patient's instruments.

Table 1: Do You Wear a Mask before Starting the Procedure

Designation	Designation of respondent * Do you wear a mask before starting the procedure. Frequency (%)			
	Yes	No	Chi-Square	P-Value
TMO	114(40.71)	01(0.357)	02.12	0.142
HO	159(56.78)	06(2.14)		

Table 2: Do you wear gloves for the procedure

Designation	Designation of respondent * Do you wear a mask before starting the procedure. Frequency (%)			
	Yes	No	Chi-Square	P-Value
TMO	115(40.71)	0 (0)	06.41	0.008
HO	156(56.78)	09(3.21)		

Table 3: The Respondent Used Disinfectant Spray on Instruments after Treating Every Patient

Designation	Designation of respondent * Do you wear a mask before starting the procedure. Frequency (%)			
	Yes	No	Chi-Square	P-Value
TMO	54(46.95)	61(53.04)	3.695	0.05
HO	95(57.57)	67(40.60)		

Table 4: Do the departments have separate coloured containers for the infected patient's instruments?

Designation	Designation of respondent * Do you wear a mask before starting the procedure. Frequency(%)			
	Yes	No	Chi-Square	P-Value
Prosthodontics	54(46.95)	61(53.04)	13.98	0.030
Orthodontics	95(57.57)	67(40.60)		
Paediatrics	15(100)	0(0)		
Endodontics	13(62)	08(32)		
Oral Maxillofacial Surgery	48(82.75)	10(17.24)		
Periodontics	09(60)	06(40)		
Orthodontics	16(80)	04(20)		

DISCUSSION

The potential for transmission via contact with contaminated instruments, operatory equipment, and environmental surfaces cannot be overlooked. Literature supports this assertion. Consequently, strict adherence to universally recommended guidelines is indispensable to forestall cross-infection dynamics that could potentially endanger dental healthcare providers and patients and the latter's inter-patient interaction.[10,11] The occurrence of aerosol generation, which involves the production of minute particulate matter consisting of water, saliva, blood, microorganisms, and other organic and inorganic debris, is a frequent hallmark of dental procedures. Consequently, the transmission of diseases via droplets and aerosols during travel, which persists in ambient air over an extended period, poses a significant concern within the dental setting.[12] To mitigate the risk of exposure to airborne and blood-borne infections, dental healthcare practitioners should employ Personal Protective Equipment (PPE) proficiently. Such equipment may include gloves, protective gowns, and face masks.[13,14] A study conducted in Jordan showed that most respondents reported wearing gloves (87.9%) and masks (78.9%) frequently while performing dental procedures.[15] Most participants (89.5%) reported changing gloves between patients. However, only 47.4% of them reported changing masks. Also, a study from a South African Province shows that only 52.2% and 65.25% of dental care providers reported wearing gloves and masks, respectively, while only 8.7% changed gloves after each patient.[16] Another study conducted in Saudi Arabia showed that most participants had positive attitudes towards using barrier methods (gloves, facemasks, and eyeglasses) to prevent the spread of infection during dental practice. It was found that (96.9%) and (54.7%) of the participants perceived the necessity of the dentist using a facemask and protective

eyeglasses during dental care.[17] However, our current study shows that a whopping (97.5 %) and (96.8 %) of the respondents wear masks and gloves during the procedure. The study's findings at Tulkarm (Palestine) indicate a reasonable understanding among participants regarding sterilization procedures, as evidenced by a recorded familiarity rate of 70.9% concerning autoclave usage.[18] In our study (98 %) answered in the affirmative regarding the autoclaving of the instruments. The present investigation facilitated the amalgamation of fragmented and incomplete data, thereby enabling the creation of a comprehensive depiction of the state of cross-contamination mitigation methodologies employed in dental clinical settings. The present facilitated the amalgamation of fragmented and insufficient data to construct a depiction of the state of affairs regarding cross-infection prevention measures in dental settings. Additionally, it is imperative to conduct a thorough washing with an antiseptic solution of hands following the implementation of chair-side dental treatments. Various sanitizing measures, including surgical hand scrubs and health care personal hand wash, possess wide-ranging bactericidal activity.

LIMITATIONS

The study may have a limited sample size, which could affect the generalizability of the findings. If the sample is not representative of the entire population of dental trainees in KPK, the results may not accurately reflect the overall knowledge, attitude, and practice of trainees in the region.

CONCLUSIONS

Almost all participants knew about cross-infection and followed the standard protocols and other auxiliary steps to tackle cross-infection in their local dental settings. Moreover, most respondents were found to counsel the patients about cross-infection.

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FUNDING SOURCES: None

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DENTAL PHOBIA EXPERIENCED BY THE PATIENTS IN THE WAITING AREA OF THE DENTAL HOSPITAL

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ABSTRACT

OBJECTIVES

This study aimed to determine the prevalence of dental phobia among patients undergoing dental treatment at a dental hospital.

METHODOLOGY

A cross-sectional study was conducted on 225 patients of Sardar begum dental college, Peshawar, Khyber Pakhtunkhwa, over a period of 2 months. The convenient sampling technique was used, and a questionnaire was shared with the respective patients. The Chi-square test was applied to analyze the results using SPSS version 26.0.

RESULTS

Of the total sample, 29.8% of the patients reported dental phobia. Dental anxiety and phobia were higher among males (45.7%) than females (29%). The anxiety score was highest among the patients of the endodontics ward (52.7 %), followed by oral surgery (51.7%) respectively. The pain was identified as the primary causal trigger.

CONCLUSION

Pain and dental procedures refrain people from seeking timely dental care. Since a significant portion of the population experiences dental phobia, the professional practice should include the therapy of these patients.

KEYWORDS: *Dental Phobia, Anxiety, Fear, Dental Procedures, Behavioral Therapy*

INTRODUCTION

Dental phobia is a common and well-known problem in the dental setting. It is a persistent and irrational fear of receiving dental care.[4] Despite recent innovations and technical advancements in dentistry, dental anxiety remains a major issue affecting both child and adult populations. A "dynamic vicious cycle" linking dental anxiety to poor oral health has been described by several researchers.[1,2,3] According to estimates, 36% of people suffer from dental anxiety or fear, with another 12% experiencing significant dental phobia.[5] The provision of regular dental care daily continues to be a critical concern for both the dental professional and the patient.[6] Younger age groups have higher levels of dental phobia than older age groups, according to recent studies.[7] This anxiety is a substantial barrier to dental attendance, leading to low attendance. Dental avoidance is known, and it can result in bad oral health or the need for specialized dental care.[8,9] Dental anxiety can develop for a variety of reasons, including past traumatic or negative experiences, especially in childhood (conditioning experiences), vicarious learning from anxious family members or peers, individual personality traits like neuroticism and self-consciousness, a lack of understanding, exposure to frightful depictions of dentists in the media, coping mechanisms and the perception of one's body image.[10] Removing a tooth is said to increase anxiety and be a stressful experience due to its physical and psychological effects.[11] Modern dentistry has failed to advance towards minimal invasiveness.[12] As 25% of all general practitioners can identify symptoms in their patients, anxiety disorder is widespread.[13] Patients with dental phobia may delay seeking dental care until they experience severe pain or discomfort, which can result in more invasive and costly treatments. On the other hand, dental phobia can be a source of stress for dental professionals, who must manage the anxiety and fear of their patients while providing high-quality care. This research article contributes to the growing literature on dental phobia and its impact on patients and dental professionals. The findings of this study can inform the development of interventions to manage dental phobias, such as cognitive-behavioural therapy, hypnotherapy, and pharmacological interventions. The study's results may also guide the development of patient-centred approaches to dental care that consider patients unique needs and fears with dental phobia.

METHODOLOGY

A cross-sectional study was conducted on 225 patients

of Sardar begum dental college, Peshawar, Khyber Pakhtunkhwa, over a period of 3 months. Patients under 18 and those in the paediatric ward were excluded. The convenient sampling technique was used, and a questionnaire was shared with the respective patients. The Chi-square test was applied to analyze the results using SPSS version 26.0.

RESULTS

In this research, 225 patients participated, out of which 94 were males and 131 were females.

Table 1: Dental Phobia Reported by Patients

	Frequency	%age
yes	67	29.8
no	130	57.8
dont know	28	12.4

Table 2: Relation between Gender and Dental Phobia

	Dental Phobia		%age
	Yes	No	
Male	43	51	45.7
Female	38	93	29

Table 3: Prevalence of dental phobia in different clinical departments

	Frequency of Dental Phobia		%age
	Yes	No	
Prosthodontics	28	49	36.3
Oral Surgery	15	14	51.7
Endodontics	21	40	52.5
Periodontology	16	41	39

Table 4: Reason for Fear of Dental Treatment

	Frequency	%age
Unknown	40	17.8
Pain	105	46.7
Bleeding	29	12.9
Info From Others	16	7.1
Embarrassment	35	15.6

DISCUSSION

Dental phobia is a fear that can prevent people from seeking dental care, leading to poor oral health. Dental clinics are implementing strategies to address it, such as creating a comfortable waiting area, offering sedation, and educating patients on procedures. Understanding the underlying causes of dental phobia and taking steps to mitigate it can help improve patient outcomes and ensure that individuals receive the dental care they need for optimal oral health. The prevalence of dental phobia was found to be higher in males as compared to females. This shows that the anxiety levels shown during sitting in the waiting area and chair before having dental treatment demonstrate the need for well-trained supporting staff to be aware of anxious patients. Regarding gender, we found that males scored higher on fear measures in the selected population. Research conducted by the University of Toronto showed no significant difference between the genders concerning dental phobia.[14] Cultural variations, sample characteristics, and availability of dental care may cause discrepancies between the two types of research. In another study, male gender and high trait anxiety were major factors underlying severe dental fear and avoidance in the study cohort, indicating that gender roles and societal expectations can influence behavior and attitudes towards health care.[15] Dental anxiety was high in patients waiting for endodontics and oral surgery treatment. Dental anxiety is a common phenomenon experienced by individuals of all ages, affecting their willingness to seek dental treatment and potentially compromising their oral health. Recent statistics have revealed alarmingly high levels of dental anxiety among patients waiting for specific dental treatments, including endodontic, oral surgery, periodontology, and prosthodontic procedures.[16] This might be due to instruments (injection, periosteal elevators) used in the process and a lack of information about the procedure. Hence, developing potential strategies is required to mitigate dental phobia and improve health outcomes. The most common cause of dental phobia reported by the participants was pain and embarrassment. This suggests that the fear of experiencing pain plays a significant role in the widespread fear of dental treatment. Also, individuals may feel self-conscious or embarrassed about the condition of their teeth, leading to anxiety and fear of dental visits. Due to fear of pain, embarrassment and bleeding, patients are reluctant to appear for dental treatment. It is also supported by a study conducted on children and adolescents psychology, which showed similar results regarding the fear of pain as a prominent factor.[17] This similarity strengthens the notion that pain significantly contributes to dental phobia across different populations. Another study highlighting the crucial role of embarrassment in dental phobia indicated that participants described emotions of vulnerability and embarrassment, which caused them to avoid dental care and made them more anxious when confronted with dental procedures.[18] Often, a multifaceted strategy is needed to overcome dental anxiety. To establish a secure and comforting atmosphere for nervous patients, dentists and dental professionals can use good communication, empathy, and trust-building, techniques for controlling behaviour, calming down and finding distractions.

LIMITATIONS

This study was performed on patients above age 18 and not on patients in the pediatric ward. This study also

doesn't signify any survey about the anxiety of treatment for a certain dental department but as a whole. This study also had self-reported data, which might have introduced bias into the study.

CONCLUSIONS

Pain and dental procedures refrain people from seeking timely dental care. Since a significant portion of the population experiences dental phobia, the professional practice should include the therapy of these patients.

CONFLICT OF INTEREST: None

FUNDING SOURCES: None

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8 ***Abdus Samad*** - *Concept & Design*

IMPACT OF SLEEP PATTERNS ON ACADEMIC PERFORMANCE IN MEDICAL AND DENTAL STUDENTS: A CROSS-SECTIONAL STUDY

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ABSTRACT

OBJECTIVES

The study aims to find the impact of sleep patterns on academic performance in medical and dental students.

METHODOLOGY

A cross-sectional study was conducted on 400 medical and dental students at Kabir Medical College and Sardar Begum Dental College, Peshawar, Khyber Pakhtunkhwa, over a period of 4 weeks (1 month) from March to April. The convenient sampling technique was used, and a questionnaire was shared with the students based on sleep duration and exam percentage of students. The Chi-square test was applied to analyze the results using SPSS version 20.0.

RESULTS

Of 400 students, 273 (68.3%) were from MBBS and 127 (31.8%) from BDS. Out of 273 students of MBBS, 205 students sleeping pattern was for less than 6 hours. Out of 127 students of BDS, 82 students slept for less than 6 hours. There was no significant association between academic performance and sleep duration.

CONCLUSION

We conclude that there is no such impact of sleep on the academic performance of medical and dental students. The students who had poor sleep patterns did not demonstrate unsatisfactory academic performance.

KEYWORDS: *Sleep, Medical, Dental, Students, Questionnaire*

INTRODUCTION

Sleep is an important part of human life, necessary for education, gaining, practising, and physical and mental health. Students study capacity, academic achievements, and educational attainment are affected by it.[1] Sleep and wakefulness patterns will change in humans with age, environment, medications, activities, and psychiatric illness.[2] An ample amount of sleep will affect the mental health and performance of students during examination and their grades obtained as medical students have to learn more that's why adequate sleep is difficult for them.[3] Sleep affects the brain's different processes, like understanding things, memory, and knowledge and retention, by increasing them.[4] Memory retention, incorporation, and assimilation of memory occur during sleep, and proper or sufficient sleep avoids concentration difficulties.[5] Most affected groups by sleep disorders are students.[6] In recent research in the UK, 24% of students faced problems with sleeping recommended duration and slept less than 7 hours per night, and 45% of students complained of not being able to wake up properly early in the morning. The frequency of sleep patterns of daytime sleeplessness would be 12%_16% among the general population.[7] In the US, 11.5% of undergraduate students were found to have delayed sleep phase syndrome (DSPS). Australian studies found the prevalence of DSPS in students (17%) to be higher than in adults (6-7%). Studies related to DSPS have also been conducted in Japan, Norway, and Taiwan.[8] Poor academic performance due to less sleep is an important issue worldwide.[9] Sleep is an important factor of wealthy academic and personal life in college, but up till now, very little attention has been given to finding good sleeping patterns. This study was designed to find a relationship between healthy sleeping time and the academic performance of medical students so that we may be able to motivate medical students to get more restorative sleep habits by using academic success as motivation.[10] Poor sleep quality has been reported in 16% of Malaysian medical students and 40.6% of Iranian medical students, with the highest prevalence in their interns, 62.6% of Indian students, and 77% of Pakistani medical students.[11] Sleep has also been linked to cognitive activities. It has been pointed out that poor retention of information occurs if individuals are deprived of sleep before learning. Moreover, data is organized, consolidated, incorporated and stored during sleep. Sleep helps us reorganize and store information, especially during REM.[12] Less sleep also causes poor metabolism of the prefrontal cortex of the cerebrum, due to which judgment and decision-making abilities decrease.[13] Given the significance of sufficient sleep

quality and quantity and the shortage of information concert to sleep habits with their impact on medical students, we hope to get the relationship between sleep and its effect on academic performance.[14] In the Peshawar district, until now, there is not any research about the impact of sleep pattern on academic performance of medical students, so we are doing this research to find out the statistics.

METHODOLOGY

A cross-sectional study was conducted on 400 medical and dental students of Kabir Medical College and Sardar Begum Dental College, Peshawar, Khyber Pakhtunkhwa, over a period of 4 weeks (1 month) from March to April. The convenient sampling technique was used, and a questionnaire was shared with the students based on sleep duration and exam percentage of students. The data collection instruments were demographic (name, age, gender, course, and sector). It has 18 questions. The Chi-square test was applied using SPSS version 20.0 to find the relationship between sleep patterns and students academic performance.

RESULTS

A total of 400 students filled out the questionnaire. All were included in the final data collection. There were 273 (68.3%) from MBBS and 127 (31.8%) from BDS. Out of 273 students of MBBS, 205 students slept for less than 6 hours. We found that academic performance was not significantly associated with sleep duration.

Table 1: Average Daily Sleep Duration of MBBS and BDS Students

How many hours do you sleep on average per night?	Students	
	MBBS	BDS
Less than 6 hours	205	82
7-8 hours	59	36
More than 8 hours	09	09

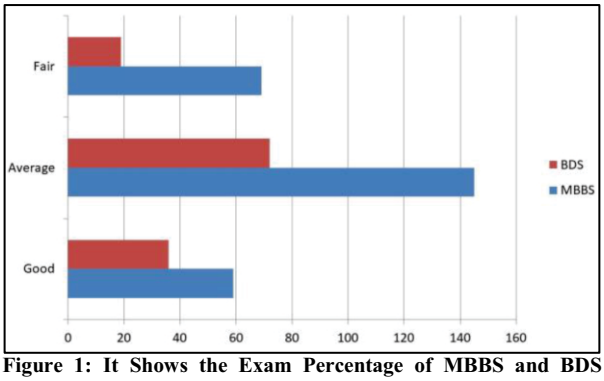

Figure 1: It Shows the Exam Percentage of MBBS and BDS Students

DISCUSSION

The study aimed to determine how sleeping habits affected medical students' academic performance. The results do not support the claim that any specific pattern influences medical students' academic success. There is no significant difference between the two variables sleeping pattern and academic performance. Hence we cannot confidently forecast that students outcomes will be enhanced by changing a particular sleeping way. However, the possibility is not eliminated. Our study showed that outstanding students of both MBBS and BDS slept for more than 6 hours, but the majority of students who usually were good and satisfied were also mostly in the category with less sleep. As the sleeping pattern is not related to academic performance, we can explore other aspects of the routine of students that may have an effect, like eating habits, exercise, mood and perceived stress.[15] Poorer academic performance was related significantly to a reduction in nighttime sleep.[16] Another study conducted by Abdulghani et al. discovered that sleeping for 6-10 hours was associated with higher academic scores Seblewengel Lemma et al. discovered that students with higher sleep quality scores performed better academically (P value=0.001), whereas sleep duration was not associated with academic performance in the final model.[17,18] Recently, Machado-Duque et al. demonstrated that poor sleep quality, determined by low sleep efficiency <65%, was significantly related to poor academic achievement at the end of the semester in medical students.[19]

LIMITATIONS

Students of BDS were less than the students of MBBS. This research is based on our institution. We didn't involve other medical colleges, whether private or public. We didn't mention hostilities and day scholars properly. The results of this study were limited to the accuracy of students' responses obtained from the self-administered questionnaires.

CONCLUSIONS

There is no such impact of sleep on the academic performance of medical students. The study results conclude that students with poor sleep patterns did not demonstrate unsatisfactory academic performance. It did not appear that obtaining a good sleep ensured a student would receive a better grade.

CONFLICT OF INTEREST: None

FUNDING SOURCES: None

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4. ***Muhammad Shahkar*** - *Concept & Design; Data Acquisition*
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EFFECTS OF ABNORMAL UTERINE BLEEDING ON REPRODUCTIVE HEALTH

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ABSTRACT

OBJECTIVES

The study aimed to determine the effects of Abnormal Uterine Bleeding on the reproductive, social, and financial health of patients and their quality of life.

METHODOLOGY

The cross-sectional study was carried out among different Hospitals in Peshawar, and the duration was two months. A total of 200 patients were selected from the Gynaecology and Obstetrics departments of respective hospitals through purposive sampling. Informed consent was obtained from each patient asked to complete the questionnaires. Data were analyzed through SPSS Version 26.0.

RESULTS

Of 200 patients, 17.5% experienced metrorrhagia, 37.0% had menorrhagia, 26.0% had irregular heavy menstrual bleeding, and 19.5% had oligomenorrhea. Pelvic pain was reported by 85% of AUB patients, while 25% of patients with oligomenorrhea did not experience pelvic pain. Non-educated individuals in Pakistan often seek medical attention for AUB after marriage due to contraceptive methods, such as pills (23.5%), injections (14.0%), and tubal ligation (9.5%). A high ratio of AUB cases (36.5%) was observed in the age group of 20-30. General effects included difficulty performing household chores, fatigue, and mood disturbances. Severe cases desired a hysterectomy; most needed a break from their busy schedules. Dilatation and curettage were completed in approximately 23.0% of patients.

CONCLUSION

The diverse manifestations of abnormal uterine bleeding (AUB) include different bleeding patterns and associated pelvic pain. It underscores the need for comprehensive management strategies to address the physical and emotional effects experienced by AUB patients, considering the potential impact on their daily lives and treatment preferences.

KEYWORDS: *Atypical Uterine Bleeding, Reproductive Health, Anemia, Fibroids*

INTRODUCTION

Abnormal Uterine Bleeding (AUB), also known as Atypical Uterine Bleeding, refers to vaginal bleeding from the uterus that is abnormally frequent, lasts excessively longer, is heavier than normal, and is irregular.[1,2] AUB is a relatively common condition, and approximately 20% of reproductive-aged women self-report at least one symptom of AUB over a year.[6] AUB can have significant implications for women's health. It can lead to iron deficiency anemia and negatively impact their quality of life.[3] One of the underlying causes of AUB is the presence of submucous fibroids in the uterus, which can contribute to increased uterine bleeding.[4] The presence of AUB is of particular concern for adolescents and their parents, often leading to anxiety.[7] Comprehensive and detailed patient history is essential to diagnose AUB, and obtaining maximum patient compliance is crucial.[8] Diagnostic procedures for AUB typically involve assessing symptoms, conducting blood work, medical imaging, and possibly a hysteroscopy.9 Prolonged bleeding lasting over six months is a significant concern.[10] The effects of AUB extend beyond the physical symptoms, impacting women socially and financially. Women affected by AUB often face challenges in their daily lives, such as difficulty fulfilling their profess ional responsibilities, education, and household chores. They may experience fatigue and even consider undergoing a hysterectomy to alleviate their symptoms.[11] The most common cause of AUB in adolescence is anovulation, which is frequent in the first 2-3 years after menarche and associated with the immaturity of the hypothalamic-pituitary-ovarian axis.[12] Several terminologies are associated with AUB. Heavy menstrual bleeding refers to excessive bleeding within a regular menstrual cycle, polymenorrhagia indicates irregular heavy bleeding, and oligomenorrhea signifies decreased bleeding with a cycle length of 40-35 days. Overall, understanding AUB's effects and underlying causes is crucial for providing appropriate

care and support to women experiencing this condition. Further research in this area can improve management strategies and better outcomes for affected individuals.

METHODOLOGY

A cross-sectional study was conducted in various hospitals in Peshawar, including Khyber Teaching Hospital, Hayatabad Medical Complex, and Lady Reading Hospital. The study focused on these hospitals Gynecology and Obstetrics departments and involved 200 patients. The patients were selected using purposive sampling, considering specific criteria. The inclusion criteria encompassed patients experiencing Abnormal Uterine Bleeding (AUB) symptoms. Both married and non-married women in their reproductive years were included in the study. On the other hand, the exclusion criteria involved patients with ovarian masses, endometrial masses, and endometrial carcinomas. Before data collection, informed consent was obtained from each patient. They were also requested to complete questionnaires as part of the data-gathering process. The collected data were analyzed using SPSS Version 26.0, a statistical software tool.

RESULTS

Table 1: Pelvic Pain and Bleeding Type

		Pelvic Pain	
		Yes	Yes
Bleeding Type	irregular menstrual spotting	26	09
	regular heavy menstrual bleeding	65	09
	irregular heavy menstrual bleeding	50	02
	less bleeding	29	10

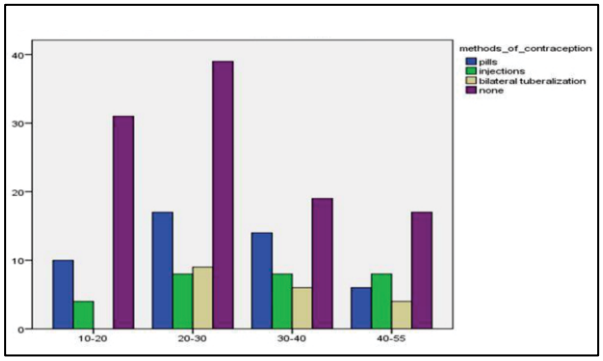

Figure 1: Methods of Contraception Concerning Age

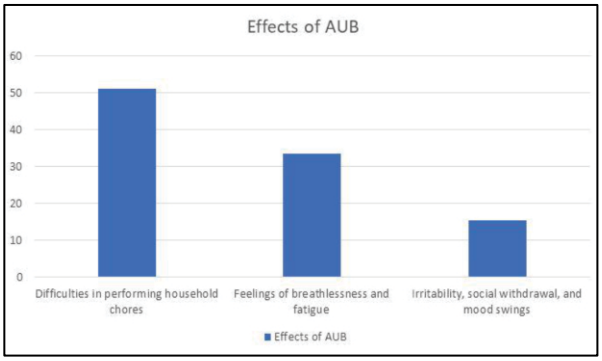

Figure 2: Effects of a Typical Uterine Bleeding

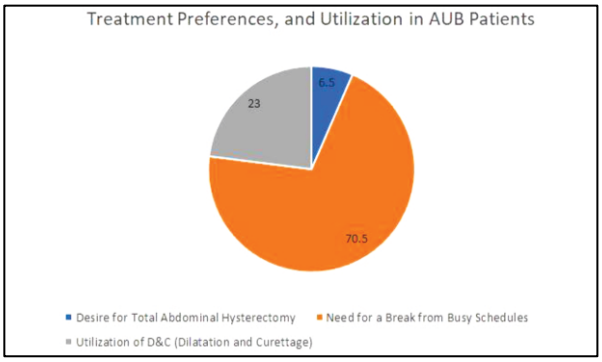

Figure 3: Treatment Preferences and Utilization in AUB Patients

DISCUSSION

Abnormal uterine bleeding (AUB) is a significant factor contributing to women's infertility, and certain types of cancers can exacerbate this condition.[13] Endometrial cancer is the most common gynecologic malignancy, with over 60,000 cases reported annually in the United States and an estimated 10,000 deaths.[14] AUB is frequently diagnosed in adolescent females, and efforts have been made in recent years to standardize the nomenclature, evaluation, and management of AUB in this population. Terms such as "abnormal uterine bleeding" and "heavy menstrual bleeding" have replaced previous terminologies like "dysfunctional uterine bleeding," "menorrhagia," "metrorrhagia," and "menometrorrhagia". Given the high prevalence of AUB in adolescents and its impact on quality of life, healthcare providers should be knowledgeable about evidence-based care. However, there still exists variability in practice.[15] When evaluating AUB in adolescents, the focus should be on non-structural causes, which are more common in this age group, as opposed to etiologies more prevalent in adult females.[16] AUB is a common problem that significantly affects the quality of life of affected adolescents. The primary underlying condition in AUB during adolescence is

often anovulation. During the evaluation process, pregnancy, trauma, and sexually transmitted diseases should be ruled out, regardless of the patient's medical history. It is important to note that AUB may be the first sign of underlying bleeding disorders during this period.[17] While mild cases of AUB may only require observation, severe cases with life-threatening bleeding may necessitate high doses of combined oral contraceptives, intravenous estrogen, and interventional procedures.[18] In this research, it was observed that a correlation between AUB and the COVID-19 pandemic. During the pandemics peak, approximately 15% of the population experienced AUB. However, after initiating country-wide COVID-19 vaccination, the percentage of AUB increased to around 35%. Over the past year, the prevalence of AUB has stabilized at 17%. These findings suggest a potential association between COVID-19 vaccination and atypical uterine bleeding. Further studies are needed to investigate this relationship in more detail. AUB significantly contributes to women's infertility; certain cancers can worsen the condition. Efforts have been made to standardize the diagnosis and management of AUB in adolescents. The evaluation should focus on non-structural causes, which are more prevalent in this age group. AUB substantially impacts adolescents quality of life, and appropriate care should be provided based on the severity of the condition.

LIMITATIONS

This study was conducted in a limited scope, as it only visited four hospitals in Peshawar. Additionally, the sample size used for research was relatively small, which may impact the generalizability of the findings.

CONCLUSIONS

The diverse manifestations of abnormal uterine bleeding (AUB) include different bleeding patterns and associated pelvic pain. It underscores the need for comprehensive management strategies to address the physical and emotional effects experienced by AUB patients, considering the potential impact on their daily lives and treatment preferences.

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PREVALENCE AND RISK FACTORS OF OBESITY AMONG MEDICAL STUDENTS: A CROSS SECTIONAL STUDY

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ABSTRACT

OBJECTIVES

The aim of this study was to find out the prevalence and risk factors of obesity among medical students: A Cross-Sectional Study.

METHODOLOGY

A cross-sectional descriptive study was conducted to determine the prevalence of obesity among medical students from different colleges in Peshawar. The study was conducted between November 2022 and January 2023, and a non-probability convenience sampling technique was employed to collect 400 of the sample size. Prior to conducting the interviews, informed consent was obtained from the students who met the inclusion criteria of the study. A structured questionnaire was used to gather data, which included information on the socio-demographic profile of the participants as well as their lifestyle, including social activities and circle. The study specifically targeted medical students between the ages of 20 and 26 who were enrolled in medical colleges within the district. The collected data was analyzed using SPSS version 20.0 to derive relevant insights and statistical findings.

RESULTS

The study included medical students from different socio-demographic backgrounds. Most participants belonged to the middle socio-economic status. The age distribution ranged from 18 to 27, with the majority falling within the 21-24 age range. About half of the participants had a normal BMI, while a significant proportion were overweight or obese. The participants' course of study and family history did not show significant associations with BMI. However, vegetable consumption, activity level and age showed a strong correlation with BMI status.

CONCLUSION

The prevalence of obesity among medical students in Peshawar. Vegetable consumption, activity level and age are associated with BMI categories, emphasizing the importance of a healthy lifestyle.

KEYWORDS: *Medical Students, MBBS, BDS, BMI, District Peshawar, Obesity*

INTRODUCTION

According to the World Health Organization (WHO) data from 2016, there has been a nearly threefold increase in the number of obese individuals worldwide compared to 1975 (WHO, 2016). Another survey revealed a high prevalence of pre-obesity among individuals aged 18, with a frequency of obesity estimated at 650 million.[1] In Switzerland, the obesity rates are reported to be 11% in men and 9% in women, while in Europe, the rates are 20% and 23% respectively.[2,3] Furthermore, it is projected that by 2050, the percentage of overweight and obese adults in Mexico may rise to 88%.[4] Stress, irregular diet patterns, and lack of exercise are significant contributing factors to obesity, which are commonly observed in the routines of medical students.[5,6] Numerous studies conducted on medical students and healthcare professionals worldwide have concluded that they are at a higher risk of developing obesity.[7,8] In Nepal, data from 2016 indicated that approximately 28.77% of men and 32.87% of women had a BMI above the normal range.[9,10] Environmental and genetic factors play a role in abnormal weight, with the surrounding environment being a key factor contributing to the obesity epidemic.[11] Despite being regarded as representatives of a healthy lifestyle for the general population, healthcare providers, including medical professionals, are susceptible to factors such as insufficient sleep and lack of exercise, which have been scientifically associated with high-calorie diets and obesity.[12,13] A study conducted on medical students in Lahore identified risk factors for obesity, including calorie intake, male gender, and lack of physical activity.[14,15] The purpose of this cross-sectional study was to learn about the knowledge, attitude, and practice concerning obesity

among medical university students of district Peshawar, Pakistan.

METHODOLOGY

A cross-sectional descriptive study was conducted on a sample of 400 medical students from various medical colleges in District Peshawar. Non-probability convenience sampling technique was utilized to collect the data. Participants provided informed consent before participating in the study. A structured questionnaire was used to gather data, which included demographic information and questions related to the social and lifestyle aspects of medical students. Only students enrolled in medical colleges located within District Peshawar were included in the study, while students from medical colleges outside the district were excluded. Statistical analysis was performed using SPSS version 26.0.

RESULTS

Among the 400 participants, 186 (46.5%) were male and 214 (53.5%) were female. The participants were categorized into four age groups: 18-20 years (n=58, 14.5%), 21-22 years (n=172, 43.0%), 23-24 years (n=157, 39.3%), and 25-27 years (n=13, 3.3%). Among the medical students, there were 280 (70%) pursuing MBBS and 120 (30%) pursuing BDS. The mean weight of the participants was 65.94±13.104 kg, with a mean height of 163.27±12.257 cm. The mean Body Mass Index (BMI) was calculated as 24.96±5.63.

Table 1: The Demographics of the Participants

Socio-demographic Profile	high	06(1.5%)	2.09±0.332
	middle	353(88.3%)	
	low	41(10.3%)	
Age	18-20	58(14.5%)	2.31±0.756
	21-22	172(43.0%)	
	23-24	157(39.3%)	
	25-27	13(3.3%)	
BMI	Normal	202(50.5%)	2.48±0.846
	Overweight	105(26.3%)	
	Obese	60(15%)	

Table 2: Association of BMI with the Course of Studies, Family History, Vegetable Diet, Physical Activity & Age

		BMI				Chi-Square	P-Value
		Underweight	Normal	Overweight	Obese		
Course	MBBS	24	156	80	53	4.493	0.213
	BDS	09	45	25	07		
Family History	Positive	21	91	53	25	5.124	0.163
	Negative	12	111	52	35		
	Everyday	05	24	10	09	40.236	0.001
	2 times a week	23	99	72	41		
	More than 3 times a week	03	77	16	10		
	Not taking vegetable	02	02	07	0		
Physical Activity	Light	05	25	04	03	16.141	0.013
	Moderate	27	166	86	50		
	Active	01	11	15	7		
Age	18-20	11	34	09	04	25.796	0.002
	21-22	14	90	38	30		
	23-24	07	71	53	26		
	25-27	01	07	05	0		

DISCUSSION

Obesity among medical students is often attributed to their hectic lifestyle, irregular routines, and lack of physical activity, which can contribute to weight issues. In our study conducted on 400 medical students in District Peshawar, the mean BMI was found to be 24.96±5.63, and 41.3% of the students were classified as overweight. Similarly, a study conducted on 290 medical students at the Asian Institute of Medicine, Science, and Technology University in Malaysia reported a mean BMI ranging from 23 to 24.9, with 14.8% of students falling into the overweight category.[16,17] In our study, BMI showed a significant association with physical activity (p-value = 0.013), indicating that students with lower physical activity levels were more likely to be overweight. This finding aligns with studies conducted in the Balkans, which also demonstrated a direct link between a lack of physical activity and weight-related diseases and obesity in young people.[18,19,20] However, our study differed from the Balkans study, as our findings indicated a higher prevalence of overweight students who were not engaged in regular physical activity.[21,22] Regarding family history, our study did not find a significant association between BMI and family history (p-value > 0.05, i.e., 0.163). Conversely, a study

conducted in Goteborg, Sweden during 1968-1969 showed a significant positive association between obesity and BMI. Notably, the association of BMI with obesity was independent of age in both studies, but our study did not yield the same significant results.[23] In terms of vegetable intake and healthy food consumption, our study demonstrated a significant association, with higher vegetable intake leading to a healthier lifestyle and reduced risk of being overweight or obese. In contrast, a study conducted in the Faculty of Medicine at the University of Yaoundé in Cameroon reported a high prevalence of malnutrition due to low consumption of vegetables and fruits, along with poor eating practices such as high sugar and fried food consumption.[24] Overall, our study suggests that medical students who engage in regular physical activity and consume a higher amount of vegetables are less likely to be obese. However, further research is needed to explore the complex factors contributing to obesity among medical students and develop effective interventions to promote healthier lifestyles.

LIMITATIONS

The study restricts the ability to establish causal relationships between variables, as it only provides a snapshot of data at a specific point in time. The study relied on self-reported data, which may be subject to recall bias and social desirability bias, potentially affecting the accuracy of the collected information.

CONCLUSIONS

In conclusion, this study highlights the prevalence of obesity among medical students in Peshawar. The findings suggest that vegetable consumption is associated with lower BMI categories, emphasizing the importance of a healthy diet. However, no significant associations were found between BMI and course of study or family history, indicating the need for further investigation.

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FREQUENCY OF COMMON ORAL DISEASES IN PATIENTS PRESENTING TO THE OPD OF SARDAR BEGUM DENTAL COLLEGE PESHAWAR; A CROSS -SECTIONAL STUDY

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ABSTRACT

OBJECTIVES

This study aimed to assess the prevalence of common oral diseases among patients visiting the Outpatient Department of Sardar Begum Dental Hospital in Peshawar.

METHODOLOGY

A cross-sectional study was conducted at the Outpatient department of Sardar Begum Dental Hospital, Peshawar using a convenient sampling technique. A total of 270 patients participated in the study. The data was collected from patients by using a self-administered questionnaire. Informed consent was taken from the patients. Data were analyzed using SPSS version 26.0.

RESULTS

The study included a total of 270 patients, of which 132 (49.9%) were male and 138 (51.1%) were female. The most diagnosed oral diseases among the participants were caries (29.3%), irreversible pulpitis (23.3%), gingivitis (12.2%), reversible pulpitis (11.4%), and broken dental root (BDR) (7.4%). These five conditions accounted for a combined prevalence of 83.7% out of the 25 different diagnoses evaluated in the study. This study also showed no association between the prevalence of these diseases with the age and gender of the patients.

CONCLUSION

Caries, irreversible pulpitis, gingivitis, reversible pulpitis, and BDR were the most prevalent oral diseases.

KEYWORDS: *Oral Diseases, Dental Caries, Gingivitis, Gender*

INTRODUCTION

Ideal oral health entails being free of all conditions that affect the oral cavity, such as chronic orofacial pain, oral and throat cancer, salivary gland tumors, oral ulcers, birth defects like cleft lip and palate, periodontal disease, tooth decay, tooth loss, and other conditions. Despite great improvements in oral health some decades ago, diseases of the oral cavity remain a major public health problem worldwide. Oral health is a low priority in Pakistan due to which a large part of the population has untreated oral diseases. Good oral hygiene is the foundation for a healthy mouth and prevents 80% of all dental problems.[1] Although Oral disease is one of the most common public health issues worldwide with significant socio-economic impacts, it is frequently neglected in public health policy. The oral data extracted from the Global Burden of Disease Study in 2010 show that caries, periodontal disease, edentulism, oral cancer and cleft lip/palate collectively accounted for 18,814,000 disability-adjusted life-years; and the global burden of periodontal disease, oral cancer and caries increased markedly by an average of 45.6% from 1990 to 2010 in parallel with the major non-communicable diseases like diabetes by 69.0%.[2] Assessing the prevalence and trend of dental caries is crucial for its management at a community level. Carious lesions that are left untreated are painful and result in functional limitations and disability.[3,4] The occurrence of dental caries among adults is high, affecting almost 35% of the world's population.[5] Some well-known causes of tooth loss are dental caries and periodontal diseases.[6,7,8] In addition to affecting oral health, it also negatively impacts overall health and quality of life, especially in low-income countries.[9] The WHO Country Area Profile Program database is updated with information on the prevalence of caries.[10] In the case of periodontal diseases, its prevalence not only varies in different regions of the world but a higher prevalence and severity of periodontal disease are reported in Asian countries.[11] Periodontal diseases are chronic infectious diseases that cause inflammation of those specialized tissues which surround and support the teeth.[12,13] Periodontal diseases are further divided

into two major categories: (i) Gingivitis - reversible gingival inflammation which is nondestructive and related to a nonspecific bacterial challenge, (ii) Periodontitis - inflammation of teeth-supporting tissues (periodontal ligament, cementum, and alveolar bone) which is destructive in nature and related to some specific periodontal pathogens.[14] Majority of the population is suffering from moderate-grade of periodontitis that initiates at an early age, and clinical manifestations of the disease appear after 35 years of age, which if left untreated will ultimately result in loss of teeth.[15] Identifying a link between periodontal diseases and some systemic conditions or events, can improve the care and attention given to systemic health, either as a therapeutic or preventive strategy. Periodontal diseases are indicated to be more prevalent in developing countries than in developed countries.[16] Not much is known about the prevalence of oral diseases found in the people of Peshawar and its neighbouring areas. Such information is beneficial for evaluating the oral health needs of the community and for planning effective strategies for disease management, and the prevention of more serious oral diseases. The aim of this cross-sectional study is to estimate the prevalence of common oral diseases in patients presented to the Out-Patient department of Sardar Begum Dental Hospital Peshawar.

METHODOLOGY

A cross-sectional study was conducted at the Outpatient department of Sardar Begum Dental Hospital, Peshawar. This study was carried out on a total of 270 patients using a convenient sampling technique. The data was collected from patients visiting the Out-Patient Department of the hospital and a well-designed self-administered questionnaire was used as the data collection tool. The duration of the study was one month. There was a total of 8 questions aimed to assess the prevalence of oral diseases and demographics like name, age and gender were recorded. Patients under the age of 18 were excluded while patients over the age of 18, irrespective of gender were included. Informed consent was taken prior to data collection and ethical approval was taken from the ethical committee of Gandhara University, Peshawar. SPSS version 23 was used for analyzing the data.

RESULTS

This study included a total of 270 patients, out of which 132 (48.9%) were male and 138 (51.1%) were female. This study showed no association between the prevalence of these diseases with the age and gender of the patients.

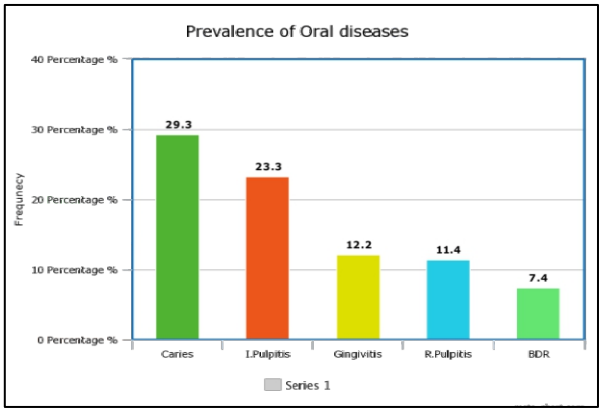

Figure 1: It Shows the Prevalence of Oral Diseases

DISCUSSION

Common oral diseases such as dental caries, periodontal disease, and gingivitis have a high prevalence worldwide. These conditions affect a significant portion of the global population, contributing to oral health issues and impacting overall well-being. Preventive measures, oral hygiene practices, and regular dental care are crucial in reducing the prevalence and burden of these common oral diseases. According to a meta-analysis of previously conducted research in Pakistan, the prevalence estimate of dental caries at the national level was 56.62%. The prevalence estimate of dental caries in Sindh was 58.946%, and in Punjab, it was 55.445%, whilst, in Baluchistan and KPK combined, it was 51.168%.[17,18] Caries is a preventable disease that is caused by poor oral hygiene and an unhealthy diet. The lack of oral hygiene education, low fluoride intake, and limited access to dental care in the study population may be the contributing factors to the high prevalence of caries found in the residents of Peshawar. Pulpitis is known to be a common complication of untreated caries. The high prevalence of irreversible pulpitis (23.3%) and reversible pulpitis (11.4%) in this study highlights the importance of early diagnosis and treatment of caries to prevent it from affecting the pulp and causing irreversible tooth damage. Another widespread oral condition identified in this study is gingivitis. Gingivitis is an inflammation of the gums that is caused by poor oral hygiene and can lead to periodontitis and tooth loss if left untreated. The prevalence of gingivitis in this study was found to be 12.2%. There is limited information available regarding any previous research conducted on the prevalence of gingivitis specifically in Peshawar as compared to other cities in Pakistan. However, a study conducted at Islamic International Dental Hospital in Islamabad found that the prevalence of gingivitis was 69%.[19,20] Another previous study conducted in Lady Reading

Hospital, Peshawar, Pakistan reported a total sample prevalence of mild, moderate, and severe gingivitis of 64.17%, 29.85%, and 5.97%, respectively.[21,22] The high prevalence of gingivitis in the patients presented to Sardar Begum Dental Hospital Peshawar may be due to the lack of awareness regarding the adverse effects of gingivitis and neglecting the necessary oral hygiene practices for its prevention. Interestingly, this study did not find any significant association between the prevalence of oral diseases and the age and gender of the patients. This discovery conflicts with some earlier studies such as a recent study in Pakistan in the year 2022 found that periodontal status was significantly associated with age and gender.[23] Another study conducted in the year 2017 in Faisalabad found that age and gender were the strongest predictors for both oral hygiene and clinical oral health status.[24] A third study in Pakistan in the year 2021 found a correlation between age, gender, and tooth number with the prevalence and severity of dental caries.[25] Overall, these studies suggest that age and gender are important factors to consider when assessing the prevalence of oral diseases in Pakistan. The reason for our study's failure in finding any association between age and gender maybe be due to our sample size being relatively small and the study population not having a defined age range, which limited our ability to find any associations. Overall, this study provides valuable information on the prevalence of oral diseases among patients visiting a dental hospital in Peshawar. These findings highlight the need for improved oral hygiene education, water fluoridation and access to dental care in the study population to prevent and treat common oral diseases such as caries, pulpitis, and gingivitis. Future research with a larger sample size and a more diverse population could help to further understand the factors contributing to the prevalence of oral diseases in Peshawar. Since oral disease remains a major public health burden in Pakistan. It is of great importance to integrate oral health into the National health agenda via the common risk factor approach. The long-term sustainable strategy for National oral health should focus on health promotion and disease prevention through effective multidisciplinary teamwork.

LIMITATIONS

This study is not specific to any oral disease, it rather includes all the oral diseases presented by the patients to the OPD. It is also not limited to a specific age range and includes all individuals above the age of 18. This study is not gender specific. Only the patients of Sardar Begum Dental Hospitals were assessed. A larger sample over an extended period in different hospitals in Peshawar would have aided more in this research.

CONCLUSIONS

Caries, irreversible pulpitis, gingivitis, reversible pulpitis, and BDR were the most frequently diagnosed oral diseases, emphasizing their significant presence in the population studied. Interestingly, no association was observed between the prevalence of these diseases and the age or gender of the patients, suggesting a need for universal preventive measures and regular dental check-ups to address these common oral conditions.

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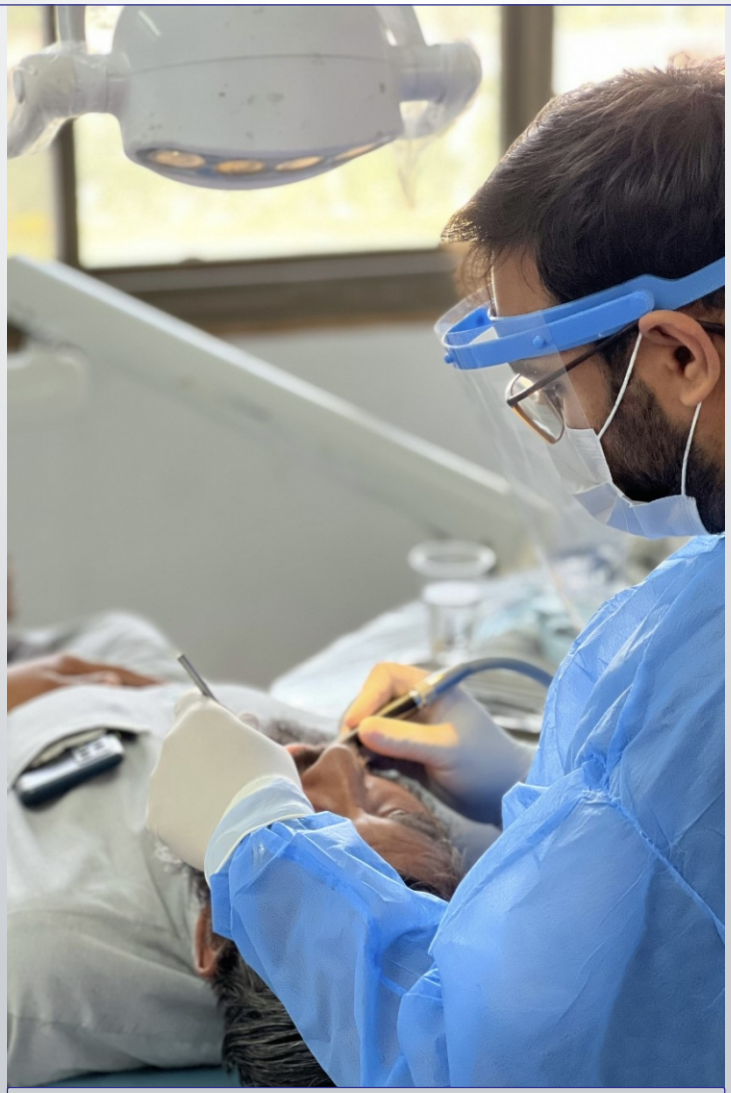

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