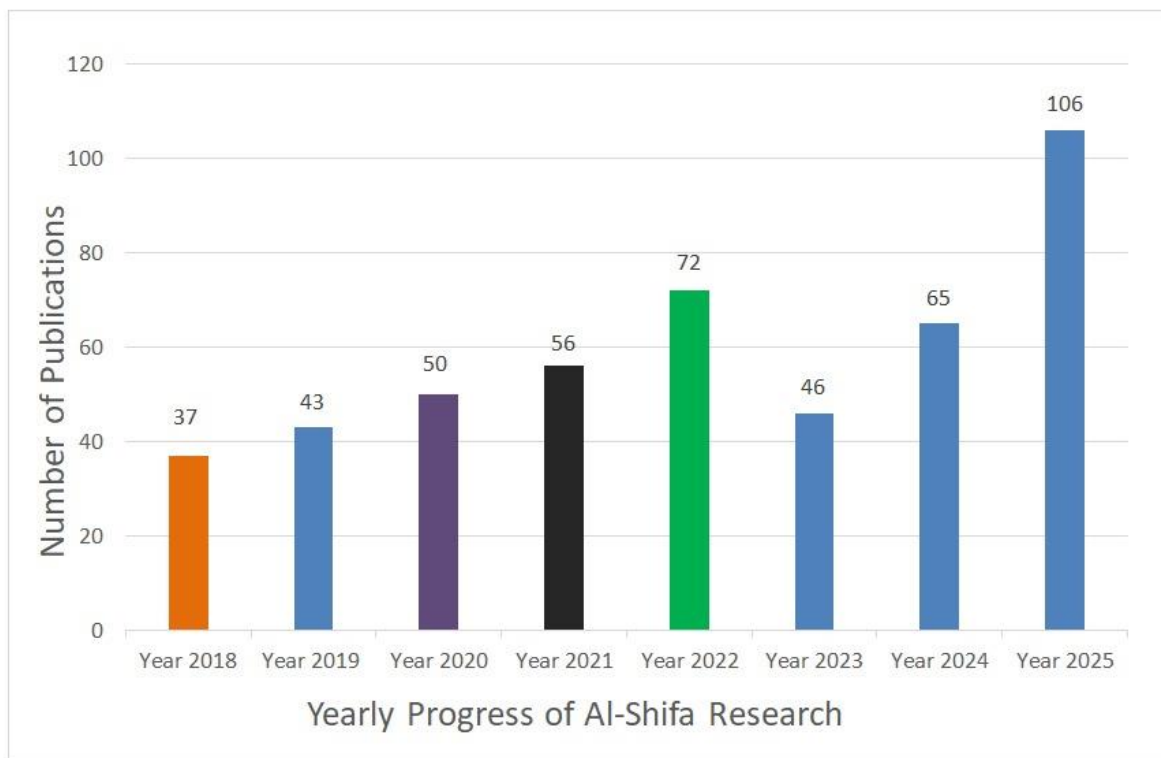




AL-SHIFA ANNUAL RESEARCH REPORT 2025 VOL. 08

Prepared By Al-Shifa Research Centre
Pakistan Institute of Ophthalmology
Al-Shifa Trust Rawalpindi



Message from President



Maj Gen (R) Rehmat Khan

Every year offers us an opportunity to reflect on how far we have come and to redefine where we aim to go. At Al-Shifa Trust, our journey has always been guided by a dual responsibility to deliver exceptional eye care and to contribute meaningfully to the scientific community. What began as a service-oriented mission has steadily evolved into a vibrant academic environment where clinical excellence and research innovation grow side by side.

The past year has been especially encouraging for us as we have not only expanded our clinical services but have also made huge progress in strengthening our academic engagement and broader collaborations across specialties. Our faculty have embarked on innovative projects, refined their methodological approaches and actively participated in national and international forums. For me these accomplishments reflect more than numbers, they represent a growing culture of curiosity, rigor and accountability.

I am proud to acknowledge the extraordinary commitment shown by our faculty members, residents, students and research team. Behind every published paper, clinical trial and presentation lies countless hours of planning data collection, analysis and review. The discipline and dedication shown by our research department has reinforced a culture where inquiry is encouraged and excellence is expected.

Equally inspiring is the spirit of team work and collaboration that defines our institution. Progress here is never the work of an individual, it is built on team effort, shared learning and mutual respect. The close collaboration between our doctors and research teams has strengthened our foundation and helped us better address new challenges.

I also want to express my sincere appreciation and regard for our kind donors. Their steadfast support drives our goal, strengthening our hospital and furthering the global cause of high quality healthcare. Let's reaffirm our dedication to thorough empirically supported research and caring service as we look to the future. I am confident that our institution will continue to make significant contributions to the healthcare at both national and global levels.

Message from Dean



Prof. Dr. Wajid Ali Khan

It brings me great pleasure in sharing that, our continued commitment to high-quality research, ethical practice, and scientific innovation has further strengthened Al-Shifa's role as a trusted institution in clinical and translational medicine.

Over the past year, the faculty and research teams have expanded their scholarly contributions across multiple disciplines. A significant growth in nationally and internationally sponsored clinical trials reflects the confidence placed in our research standards, regulatory compliance, and scientific expertise. These collaborations have enabled us to conduct rigorous researches that contribute to safer therapeutic interventions, improved diagnostic approaches, and evidence based patient care.

The research undertaken at Al-Shifa Trust is guided by long-term vision and responsibility. Our work is designed not only to address present healthcare challenges but also to shape future clinical practices, inform health policies, and strengthen research capacity for generations to come. By fostering multidisciplinary collaboration and mentoring emerging investigators, Al-Shifa is building a sustainable foundation for continued innovation.

As I alongside my team move forward into 2026, we remain dedicated to advancing impactful research, expanding global partnerships, and translating scientific discovery into measurable societal benefit.

Furthermore, I strongly believe our efforts have brought attention towards newer therapeutic and diagnostics pertaining to various illnesses. I am convinced that the exceptionally accomplished and dedicated team at ASRC and Al-Shifa will continue building on this legacy. The achievements of this year re-affirm our collective resolve to pursue excellence and contribute meaningfully to the advancement of healthcare.

Message from Director Research



Prof. Dr. Ume Sughra

As I reflect on another remarkable year at the Al-Shifa Research Centre, I extend my heartfelt gratitude to all authors, researchers, and contributors who have enriched our annual research report. Each edition highlights a diverse array of studies spanning clinical trials, medical research, pharmaceutical sciences, and public health, showcasing the dedication and excellence of our research community at Al-Shifa Research Centre.

This year has been particularly noteworthy. Several high-impact clinical research projects and trials have strengthened Pakistan's research landscape and contributed to global health advancements. Our studies address pressing healthcare challenges, vaccines, and innovative therapeutic approaches. Collaborations with national and international partners have amplified our reach and impact. By fostering a culture of collaboration, innovation, and rigorous inquiry, we empower each team member to excel while collectively delivering solutions that positively impact communities. Through this journey of discovery, we remain committed to scientific integrity and producing research that makes a tangible difference both locally and globally.

As we look ahead, our commitment to producing high-quality, peer-reviewed research remains unwavering. We strive to address pressing global healthcare challenges and elevate our institution's standards, driven by the collective passion and expertise of the Al-Shifa Research Centre and Al-Shifa Trust team. I am deeply humbled by what we have accomplished together and proud to contribute to a shared vision of research excellence that ultimately transforms lives and strengthens the communities we are privileged to serve.



“Every discovery begins with the decision to try.”
— *John F. Kennedy*



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Publications

1. First Pakistan National Eye Cancer Survey

Abstract

Background: This is the report of first eye national eye cancer survey in Pakistan under the auspices of National Committee of Eye Health. Eye care institutions involved in eye cancer control were approached to provide the annual data on tumors of the eye. **Methods:** All major stakeholders involved in prevention and control of eye cancer were requested

How to Cite: Afghani, T., Awan, H., & Khan, A. A. (2025). First Pakistan National Eye Cancer Survey. Asian Pacific Journal of Environment and Cancer, 20250316.<https://doi.org/10.31557/apjec.1514.20250316>

to provide information related to situation analysis of eye cancer services in the country through a questionnaire. Overall, 1705 eye tumors were reported annually. 51% were malignant and 49% were benign eye tumors. From each province of the country, where data was available, benign and malignant tumors were separately identified. **Results:** The data showed that about 877 cases of eye cancers were diagnosed in a year. 38% of these were eyelid cancers, 31% were intraocular tumors, 16 % were ocular surface tumors, while 15% were cancers of the orbit. KpK region had highest percentage of eyelid cancers (72%) followed by 14% of ocular surface tumors, 10% of intraocular tumors and 4% were cancers of the orbit. Sindh province had highest percentage of intraocular cancers (40%) followed by 31% of eyelid cancers, 19% of cancers of the orbit and 10% of ocular surface tumors. Like KpK, Punjab had highest proportion of eyelid malignancies (37%) followed by 29% intraocular cancers, 20% of ocular surface tumors and 14% of orbital malignancies. **Conclusion:** In terms of population, it is estimated that there are 4 cases of eye cancer per million population of Pakistan and an almost similar number of benign eye tumors. Thus, an estimated 8 cases of eye tumors per million population are examined annually. **Keywords:** Eye malignancies- Eye Surveys- Pakistan- Ophthalmology- Tumors of eye.

2. Awareness of Keratoconus among the Diagnosed Cases of Keratoconus in Patients Visiting Al Shifa Trust Eye Hospital

Abstract

Keratoconus is a chronic, progressive, non-inflammatory, usually bilateral corneal disorder that causes stromal thinning that leads to corneal apical protrusion, irregular astigmatism, and decreased vision. Its etiology is multifactorial, and it is important to determine its awareness and its association with non-genetic, environmental risk factors to prevent it. **Objectives:** To determine the level of awareness of keratoconus among the diagnosed cases of keratoconus. **Methods:** This descriptive cross-sectional study was conducted at Al Shifa Trust Eye Hospital in five months using a consecutive sampling technique. SPSS version 22.0 was used for Data test Analysis. The Pearson's Chi-square was utilized for cross-tabulation. **Results:** Out of 135 patients, it was seen that participants with a higher level of education (P value 0.0029) and those with positive family history had overall better knowledge about the disease and specific

How to Cite: Ahmed, T., Akhtar, F., Moqeeet, M. A., Shah, H. G., Bukhari, S. F., & Younas, N. (2025). Awareness of Keratoconus among the Diagnosed Cases of Keratoconus in Patients Visiting Al Shifa Trust Eye Hospital: Awareness of Keratoconus in Patients. Pakistan Journal of Health Sciences, 6(9), 49–53.<https://doi.org/10.54393/pjhs.v6i9.3217>

knowledge about eye rubbing as an aggravating 34.8% had fair, and only 17% had good knowledge regarding the disease. **Conclusions:** Despite keratoconus being more common in younger individuals who have internet access, patients still had poor knowledge of the disease. Different strategies can be devised to increase awareness and prevent its progression by eliminating the non-genetic, environmental risk factors, such as eye rubbing and discussing compliance regarding the use of topical anti-allergic medications and regular follow-up visits. **Keywords:** Keratoconus, Cornea, Eye rubbing, Awareness, and Ophthalmology.

3. Analysis of Permanent Severe Visual Impairment and Blindness in Visually Disabled Patients at Public Teaching Hospitals, Rawalpindi

Abstract:

Objective: To determine the prevalence and causes of permanent severe visual impairment and blindness in patients aiming for visual disability certification, visiting public teaching hospitals in Rawalpindi.

Methods: An observational cross-sectional study was carried out from April 2022 to April 2024, obtaining data of visually disabled people, selected via consecutive non-probability sampling. Demographic profile categories & causes of permanent severe visual impairment and blindness were noted. Data were analyzed & reported by descriptive statistics. **Results:** Out of a total of 189 individuals, 67% were males & 32.8% females, 21.7% were less than 18 years of age. 79.6% of eyes had severe visual impairment, while 26.7% eyes were blind. Retinitis pigmentosa (33%), optic atrophy (13.4%), corneal opacity (12%), macular dystrophy (6.8%), and microphthalmia (6.6%) were the leading causes of permanent severe visual impairment & blindness. **Conclusion:** A comprehensive, reliable yet small scale study showing younger age group & male predominance. The prevalence of retinitis pigmentosa is surprisingly high, while glaucoma & diabetic retinopathy contributed less than expected. Al-Shifa Journal of Ophthalmology 2025; 21(3): 187-196. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Gul, Ambreen & Rasool, Wajeeha. (2025). Analysis of Permanent Severe Visual Impairment and Blindness in Visually Disabled Patients at Public Teaching Hospitals, Rawalpindi. 21.

4. Barriers to accessing eye care in Pakistan: a mixed methods study

Abstract

Aims: To support policymakers in enhancing access to eye care for the population aged 45 years and older in Pakistan, this study aims to identify and quantify the barriers that hinder effective eye care delivery to this group. Additionally, it seeks to explore patients' experiences with the Sehat Sahulat (health insurance) programme in the context of eye care services.

Background: Accessible eye care services can reduce avoidable blindness by delivering timely, high-quality interventions. In Pakistan, the lack of primary eye care burdens overcrowded hospitals and combined with economic challenges, limits access for underprivileged populations. To address this, a nationwide health insurance scheme – the

How to Cite: Malik M, Strang N, Hafeez A, Shabbir M, Iftikhar F, Jonuscheit S. Barriers to accessing eye care in Pakistan: a mixed methods study. Primary Health Care Research & Development. 2025;26:e58.doi:10.1017/S1463423625100261

Sehat Sahulat programme (SSP) was introduced to reduce out-of-pocket (OOP) expenses and improve healthcare access for economically disadvantaged groups. **Methods:** Using an exploratory sequential mixed methods design, an initial qualitative phase explored participant experiences and identified specific barriers. The qualitative study provided the basis for the development of a customized survey tool. The survey tool was then used in a second phase to obtain quantitative data to capture the magnitude of barriers and costs associated with accessing eye care in Pakistan. **Findings:** Numerous considerable barriers were identified including illiteracy, long travel times, female gender, old age, mobility issues, and costs, all of which limited access to eye care in Pakistan. Awareness surrounding use of the SSP was poor, with the programme seldom used towards eye care costs. This study highlights patient experiences with eye care in urban and rural Pakistan, including enablers and barriers to accessing eye care. Improvements should focus on educating the public on eye health, increasing availability of eye care services in rural areas, improving accessibility within eye care facilities, addressing gender disparities, and reducing costs associated with eye care treatments, potentially through advancement of the SSP.

5. The Dermis fat graft: Retrospective case series from Pakistan

Abstract:

Introduction: Restoring volume in a shrunken socket is a challenge to oculoplastic surgeons and ocularists. Dermis fat graft is a rewarding and promising technique for cosmetic and functional rehabilitation of the socket. Due to the long surgical time and a separate, distant surgical site, it has a long learning curve. Many surgeons, due to already overstretched lists, do not engage in learning this technique. However, the results are very promising without the innate side effects of synthetic implants. The idea of using autogenous fat from the body's natural reserves to fill the orbital socket was envisioned and proposed by Smith and Petrelli in 1978.¹ Since then, it has been used for augmenting orbital volume. It is very useful in the sense that the fat component provides volume to the socket, while the dermis provides scaffolding over which the conjunctiva can grow. It serves as a good surface for the prosthesis to sit on.² The graft allows vascularization and ingrowth of tissue, which makes its resorption less likely. Being an autogenous structure, it bypasses the demerits of synthetic implants. There is no chance of extrusion or migration. Although implants can provide volume to the socket but require multiple surgeries in paediatric cases to cater to the growing face skeleton. In children, fat grafts have been found to grow as the child grows. As a result, the prosthesis is placed along the antero-posterior axis, providing greater facial symmetry. As it is bulkier than the implants, the volume restored is more, and patients can easily wear a thinner prosthesis.³ This volume provides an impetus for the orbital bones to grow as well, hence promising a better comes is as the child grows.⁴ Therefore, the Dermis Fat Graft (DFG) fills the socket with adequate volume, increases the lining, reshapes and deepens the fornices. Being an autogenous tissue, it does not require any tests for biocompatibility, transport media, special Sumeya Ali Khan, et al⁴³⁹ Pak J Ophthalmol. 2025, Vol. 41(4): 438-442 equipment, or extensive surgical training for harvesting. This interventional case series provides a short term results of DFG results from a tertiary care center of Pakistan. **Methods:** This study was an interventional case series from January 2023 to July 2024. It assessed the outcomes of DFG for an-ophthalmic-sockets. The research was

How to Cite: Khan SA, Manzoor A, Taimur F, Ullah S, Sameen M. The Dermis Fat Graft: Retrospective Case Series from Pakistan: Our Experience at AlShifa. 2025;41(4): 438442. doi:10.36351/pjo.v41i4.2038

conducted at the Department of Orbit and Oculoplastic, Al-Shifa Trust Eye Hospital Rawalpindi. This tertiary care facility is well-equipped with comprehensive ophthalmic services and a dedicated ocularist, making it an ideal setting for this study. The institutional review board approval (ERC-12/AST-25) was sought before study. All patients were enrolled by retrospective assessment of hospital records. Only the patients with complete data were selected. Data retrieved included demographic variables like age, gender, laterality of the operated eye, and past interventional history of either surgery and /or radiotherapy. The cases with anophthalmia due to any reason and good general health with a post-operative follow up at 2 weeks, 6 weeks, 3 months and finally 6 months, were included. The exclusion criteria were systemic comorbidities to prevent surgery, keloid, hypertrophy of scar, discharging socket and severe lid trauma. Twenty-five cases fulfilled the inclusion criteria. Primary DFG was defined as insertion of DFG immediately after enucleation or evisceration. Secondary DFG denoted a history of implant placement in the socket, followed by implant removal and DFG. Lack of volume in the socket was defined as a deep superior sulcus even with the external prosthesis in place. Surgery involved measurement of socket depth and fornices. Measurements were taken in vertical and horizontal dimensions. Scar tissue was released and space created within the socket. Fornix-forming sutures were placed with 4-0 silk, using bolsters when deemed necessary by the operating surgeon. To harvest the graft acircular marking was made with a surgical marker, ensuring the diameter of the graft did not exceed 25 mm. The chosen site was the upper outer quadrant of the gluteal area. The mark was then enclosed in an elliptical shape to ensure adequate closure afterwards. A subcutaneous injection of 1% lidocaine with 200,000 adrenaline was given with a long 25 G needle, ensuring a bleb was raised and a peau 'd' orange appearance at the marked site. The epidermis was then shaved off via a 15-0 blade on a BP handle. It was gently taken off, revealing underlying dermis with a whitish colour and punctate haemorrhages. Once done, the blade was directed vertically downwards into deeper tissue to cut through fat. Scissors were used to lift off the graft. Haemostasis at the donor site was maintained with bipolar cautery. The wound was then closed with prolene 4-0 on a ½ circle, round-body needle, employing horizontal mattress sutures. The graft tissue was trimmed according to the desired size and placed in the socket space. The conjunctiva was sutured via an interrupted 6-0 vicrylspatulated needle to the dermis of the graft. An adequately sized conformer was placed on top, and lids were closed with temporary tarsorrhaphy. A pressure bandage was applied for 48 hours. The patients were discharged on oral antibiotics for 5 days, topical antibiotic and steroid combination drop at qid for 6 weeks, and ointment at night. General wound care was advised. Leg sutures were removed at 10 days after surgery. All patients were seen 2 weeks postoperatively, then at 4 weeks for adequate sizing by the ocularist. The final prosthesis was placed at 6-8 weeks. All patients had their photographs taken at each visit. **Results:** A total of 25 patients fulfilled the criteria. There were 15 males and 10 females. The mean age was 34.1 ± 12.01 years (range 3 to 53 years). All patients reported satisfaction with prosthesis fitting till 6 months of follow-up. The superior sulcus, lid position and prosthesis tilt were assessed compared to the fellow eye. Photographs were taken at each visit. Two patients had significant fat resorption, leading to marked volume loss which required further surgery. Three patients had a conjunctival infection which responded well to one week's course of topical antibiotics. (ED Tobradex, qid, 7 days). None of the patients had any problems at the donor site. **Conclusion:** Autologous dermis fat graft into anophthalmic sockets is a promising technique which proved to have a lot of merits across a broad age range. Funding: This study was not funded by any organization. Patients' Consent: Researchers

followed the guidelines set forth in the Declaration of Helsinki. **Keywords:** Anophthalmos, Dermis Fat Graft, Socket, Orbit, Orbital implant.

6. Correlation of vitamin D levels with Myopia in Children: A Cross-Sectional Survey at a Tertiary Care Hospital in Rawalpindi.

Abstract

Objectives: To assess the link between vitamin D levels and myopia in children. **Methods:** This cross-sectional survey was carried out at Farooq Hospital from August 2023 to January 2024. 100 children of both sexes, ages 3 to 12, who presented to paediatric OPD with vitamin D levels below 10 ng/ml were included in the trial after written parental agreement was obtained. The sample size was calculated using the formula $n = z^2 \cdot P(1-P)/d^2$, keeping a confidence level of 95%, an anticipated population proportion of 80, and an absolute precision of 0.08 (14). Children less than 3 or more than 12 years, already having any other refractive error, cataract, glaucoma, corneal/retinal disorders or congenital malformation of the eye, systemic disorders like Diabetes Mellitus, connective tissue disorders (Marfan & Ehler Danlos syndrome), Downs syndrome, and vitamin D and calcium supplements were excluded from the study. The ethical review board of Akhtar Saeed Medical College, Rawalpindi, reviewed & approved the whole protocol. An ophthalmologist from Farooq Hospital conducted the eye examination of the patients in Eye OPD. All patients were subjected to noncycloplegic measurements of autorefractometry for both eyes using Canon RK-F1 full autorefractor followed by cycloplegic refraction for the accurate diagnosis of myopia. Myopia was defined as ≤ -0.5 DS. A pre-designed questionnaire was used to gather data. The patient's serum vitamin D (1, 25 dihydroxycholecalciferol) levels were measured using 2 millilitres of blood, which was then forwarded to the laboratory at Farooq Hospital. With SPSS version 23, statistical analysis was carried out. Welch Two sample t-test was applied. A p-value less than 0.05 was considered significant. **Results:** The analysis was performed for the 100 patients, who had a mean age of 7.04 ± 2.38 years. There were 54 girls (54%) and 46 boys (46%) having vitamin D deficiency. Myopia was seen in 38 patients, while 62 patients were found to have normal refractive errors. Of the 38 myopic patients, 21 (55.3%) were girls, while 17 (44.7%) were boys (Figure 1). The association of myopia with age is evident from Figure 2 ($p = 0.005$). Lastly, there was no significant association between myopia and vitamin D deficiency (Figure 3). Both groups had an almost equal range of vitamin D levels. **Results:** Of the 100 children, 38 (38%) had myopia. mean age was 7.04 ± 2.38 years. The sample consisted of 54 females (54%), and 46 boys (46%). Myopia and vitamin D deficiency had no significant association ($p=0.115$). However, myopia was linked to older age ($p=0.005$). It was more common in females than males (55.3%). **Conclusion:** This study raises the possibility that a vitamin D deficit may not substantially raise the prevalence of childhood myopia. Further research must look at various genetic and environmental factors that affect the development of myopia. Al-Shifa Journal of Ophthalmology 2025; 21(2): 76-81. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Shaikh, S. A., Mushtaq, N., Gill, N., Mohammad, K., Awan, A. H., & Tariq, A. (2025). Correlation of vitamin D levels with Myopia in Children: A Cross-Sectional Survey at a Tertiary Care Hospital in Rawalpindi. *Ophthalmology*, 21(2), 76-81.

7. Awareness of Contact Lens Related Ocular Complications Among Opticians in Division Mirpur AJ&K

Abstract

To assess the awareness of contact lens-related complications among opticians in Division Mirpur, Azad Jammu & Kashmir (AJ&K). **Methods:** A cross-sectional study was conducted in optical shops across Division Mirpur from April to September 2023. The total number of recruited participants was 53; however, data from one participant was excluded due to incomplete responses, resulting in 52 analyzed datasets. Data was analyzed using SPSS version 10. **Results:** All participants were male, with 23.0% aged 20–30 years, 42.3% aged 31–45 years, and 34.6% aged 46–60 years. Regarding professional qualifications, 13.5% held a contact lens dispensing diploma, 21.2% had completed a contact lens course, 7.7% had other qualifications, and 57.7% had no formal training. A total of 43 opticians provided contact lens fitting services, while 9 did not. Awareness of complications varied, with 46.2% recognizing dry eye, 25.0% bacterial keratitis, 17.3% corneal ulcers, 9.6% giant papillary conjunctivitis, and 5.8% corneal neovascularization, fungal, and Acanthamoeba keratitis. **Conclusion:** Most opticians in Division Mirpur have inadequate awareness of contact lens-related complications. To promote safe contact lens use, all types of lenses should only be prescribed and fitted by an optometrist/ophthalmologist. Public health initiatives and training programs are essential to enhance opticians' knowledge and reduce preventable eye complications. Al-Shifa Journal of Ophthalmology 2025; 21(3): 130-138. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Affan, M., Qureshi, S. I., Sadiq, M. I., Qayyum, M., & Sadiq, M. U. Awareness of Contact Lens Related Ocular Complications Among Opticians in Division Mirpur AJ&K.

8. Preliminary Survey Report of Eye Cancers in Pakistan

Abstract

Objective: To estimate the magnitude of eye cancer and its annual frequency, extrapolated from major eye care centres of the country. **Study Design:** Observational study. **Place and Duration of the Study:** Data were obtained from ten dedicated eye care institutions of three provinces of Pakistan, from January to December 2022. **Methodology:** This is the report of the first eye cancer survey in Pakistan under the auspices of the National Committee of Eye Health. Eye care institutions, along with major stakeholders involved in the prevention and control of eye cancer, were requested to provide the annual data on tumours of the eye as well as information related to the situation analysis of eye cancer services. **Results:** The number of eye tumours reported in one year was 1705; 51% were malignant and 49% were benign. Eight hundred and seventy-seven cases of eye cancers were diagnosed in a year; 38% were eyelid cancers, 31% were intraocular tumours, and 16% were ocular surface tumours, while 15% were cancers of the orbit. KPK had the highest percentage of eyelid cancers (72%), and Sindh had the highest

How to Cite: Afghani, T., Awan, H., & Khan, A. A. (2025). Preliminary Survey Report of Eye Cancers in Pakistan. Journal of the College of Physicians and Surgeons-Pakistan: JCPSP, 35(6), 784-788.

percentage of intraocular cancers (40%). **Conclusion:** It is estimated that there are 4 cases of eye cancer per million population of Pakistan and an almost similar number of benign eye tumours. Thus, it is estimated that 8 cases of eye tumours per million population are examined annually. Cost and lack of facilities were found to be major limitations towards eye cancer control. **Keywords:** Eye malignancies, Eye surveys, Pakistan, Ophthalmology, Tumours of eye.

9. Assessment of Changes in Corneal Endothelial Characteristics in Primary Open-Angle Glaucoma

Abstract

Patients with glaucoma undergo significant changes in corneal endothelial characteristics due to chronically elevated Intraocular pressure (IOP). **Objectives:** To compare endothelial cell density between primary open-angle glaucoma (POAG) patients and age-matched non-glaucomatous controls. Also to explore the relationship between endothelial cell density and intraocular pressure. **Methods:** This case-control study was conducted at Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan. It included 41 eyes of patients with POAG aged between 35-70 years

and 41 eyes of age-matched non-glaucomatous subjects were taken as controls. The POAG was diagnosed based on intraocular pressure, optic disc changes, and visual field defects. All participants went through a comprehensive ocular evaluation that included slit-lamp examination, gonioscopy and intraocular pressure assessment. The endothelial cell density was assessed via specular microscopy. SPSS version 26.0 was utilized to perform statistical analysis. **Results:** The average corneal endothelial cell density in healthy control subjects was 2484.51 ± 286.44 cells/mm², but those with POAG showed a statistically significant decline, measuring 2345 ± 270.29 cells/mm² ($p=0.02$). A notable decrease in endothelial cell density was seen in patients using dorzolamide 2262.00 ± 287.15 relative to patients not using dorzolamide 2451.28 ± 209.56 ($p=0.02$). Endothelial cell density and the average Intraocular pressure revealed a weak inverse correlation ($r= -0.204$, $p=0.06$). **Conclusions:** It was concluded that POAG patients show reduced corneal endothelial cell density. It also suggests that endothelial cell density declines with higher intraocular pressure and increased disease severity, making it a possible biomarker of disease progression in POAG.

How to Cite: Tanveer, T., Ali, M., Ahmed, A., Rasool, N., Anwar, A., Hussain, K., & Akhtar, F. (2025). Assessment of Changes in Corneal Endothelial Characteristics in Primary Open-Angle Glaucoma: Corneal Endothelial Characteristics in Primary Open-Angle Glaucoma. Pakistan Journal of Health Sciences, 6(3), 41–47. <https://doi.org/10.54393/pjhs.v6i3.2829>

10. Frequency of Diabetes Mellitus in Cataract Patients Visiting Civil Hospital, Karachi

Abstract

Objective: To determine the prevalence of diabetes mellitus among cataract surgery patients. It aimed to explore the relationship between elevated blood sugar levels and cataract formation, assess the impact of diabetes on surgery outcomes, and recommend strategies for integrating diabetes management into ophthalmic care. **Methods:** This cross-sectional study was conducted at a tertiary care hospital over period of six months, involving 163 participants

How to Cite: Usama, F., & Khokhar, A.R. (2025). Frequency of Diabetes Mellitus in Cataract Patients Visiting Civil Hospital, Karachi. Al-Shifa J Ophthalmol, 21, 135-40.

aged 30 to 70 years, recruited through non-probability consecutive sampling. Patients with cataracts in one or both eyes were included, while those with secondary or congenital cataracts were excluded. Informed consent was obtained, assessments included visual acuity tests, slit lamp exams, and blood glucose measurements. Descriptive and inferential statistics were analyzed using SPSS version 22. **Results:** Of the 163 patients, 54.6% were female and 45.4% male, with a mean age of 56.36 years. Bilateral cataracts were present in 65% of cases, with Nuclear Sclerosis being the most common (63.2%), followed by Posterior Subcapsular cataracts (18.4%). Blood sugar levels varied, and 14.1% had levels exceeding 200 mg/dL, indicating diabetes mellitus. While no significant correlation was found between demographics and high blood sugar, the study showed a significant link between diabetes and accelerated cataract formation. **Conclusion:** The study suggests that diabetes mellitus accelerates cataract development, emphasizing the need to integrate diabetes management into ophthalmic care. Future research should focus on longitudinal studies and advanced tools like OCT for better early detection and management of diabetic eye complications. Al-Shifa Journal of Ophthalmology 2025;21(3): 124-129. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

11. Age-Related Effects of Donor on Corneal Transplantation and Clinical Study of Causal Allograft Rejection in Pakistan

Abstract

Background: Corneal transplantation is a widely performed surgical procedure for treating corneal blindness. Donor-related factors, particularly age, are known to influence graft survival and rejection rates. While younger donor corneas exhibit higher endothelial cell density, their potential for increased immunogenicity remains a concern. This study evaluates the impact of donor age on corneal transplantation outcomes in Pakistan. **Objective:** To assess the influence of donor age on graft clarity, visual acuity, and allograft rejection rates following corneal transplantation. **Methods:** A retrospective

How to Cite: Junaid, M., Kamran, A., Suriyakala Perumal, & Ali, I. (2025). Age-Related Effects of Donor on Corneal Transplantation and Clinical Study of Causal Allograft Rejection in Pakistan. *Journal of Health and Rehabilitation Research*, 5(2), 1–6. <https://doi.org/10.61919/jhrr.v5i2.1748>

observational study was conducted from February 2013 to June 2016 in collaboration with the Rawalpindi Eye Donor Organization, The Shifa Eye Trust, and Saba Deseret Eye Hospital. A total of 300 patients underwent corneal transplantation, categorized by donor age: <40 years (n=105), 40–60 years (n=120), and >60 years (n=75). Surgical techniques included Penetrating Keratoplasty (PK) (70%), Descemet's Stripping Endothelial Keratoplasty (DSEK) (20%), and Descemet Membrane Endothelial Keratoplasty (DMEK) (10%). Postoperative outcomes were assessed at 12 months. Data were analyzed using SPSS v25, with chi-square tests for categorical variables and logistic regression for predictors of rejection. **Results:** At 12 months, 80% (n=240) of grafts remained clear, while 20% (n=60) developed opacity. Visual acuity improved to 20/40 or better in 85% (n=255) of patients. The overall rejection rate was 15% (n=45), highest in young donor grafts (21%), followed by middle-aged (13%) and older donor grafts (8%) (p=0.046). Patients undergoing DSEK and DMEK had significantly lower rejection rates than PK (p<0.01). **Conclusion:** Donor age did not significantly affect graft clarity or visual acuity but influenced rejection rates, with younger donor grafts exhibiting a higher risk. Advanced surgical techniques and

postoperative steroid management improved outcomes. Future research should focus on optimizing donor selection criteria and long-term graft survival strategies.
Keywords: Corneal transplantation, Donor age, Allograft rejection, Clinical outcomes.

12. Surgical Outcomes of Mitomycin C Augmented Trabeculectomy in Congenital Glaucoma

Abstract

Purpose: To evaluate outcomes of augmented trabeculectomy in lowering IOP in eyes with Congenital Glaucoma and to report the post-operative complications. **Study Design:** Retrospective chart review. **Place and Duration of Study:** Al-Shifa Trust Eye Hospital, Rawalpindi from July 2022 and April 2024. **Methods:** This study evaluated the outcomes of Mitomycin C-augmented trabeculectomy in 78 children (102 eyes) under 3 years of age with primary or secondary congenital glaucoma. All patients were followed for one-year post-surgery. Intraocular pressure (IOP) was measured under sedation using a hand-held Perkins applanation tonometer at various intervals up to 12 months. Surgical success was defined as achieving an IOP of ≤ 19 mm Hg, categorized into absolute success (without medications) and qualified success (with medications). Failure was defined as uncontrolled IOP despite topical therapy. Data were analyzed using SPSS version 23. **Results:** Of the included eyes, 59.8% had primary congenital glaucoma (PCG) and 40.2% had secondary congenital glaucoma (SCG). The mean age was 18.24 ± 9.22 months, and 41% were boys. The mean IOP at 12 months was significantly reduced compared to baseline, with no significant difference between PCG and SCG groups ($p=0.76$). Postoperative complications were minimal; only 11.76% required further intervention, mostly anterior chamber reformation. One case each of retinal detachment and bleb leak was successfully managed. **Conclusion:** Mitomycin C-augmented trabeculectomy is a safe and effective procedure for both PCG and SCG, with comparable success rates between the two groups at one year.

How to Cite: Uzair N, Altaf S, Naveed Malik S, Zafar R, Najmi S. Surgical Outcomes of Mitomycin C Augmented Trabeculectomy in Congenital Glaucoma: Doi:10.36351/pjo.v41i4.2113. pak J Ophthalmol [Internet]. 2025 Sep. 30 [cited 2025 Dec. 1];41(4). Available from: <https://mail.pjo.org.pk/index.php/pjo/article/view/2113>

13. Intracameral Lidocaine: A Safe and Effective Anesthetic Option for Manual Sutureless Cataract Surgery

Abstract

Objective: To assess the effectiveness of intracameral lidocaine in manual sutureless cataract surgery (MSCS), focusing on intraoperative pain control, surgical duration, postoperative recovery and complication rates. **Methods:** A prospective observational study was conducted over 12 months at Al Mustafa Trust Medical Center on patients undergoing MSCS. Each patient received 0.1 mL of 1% intracameral lidocaine injected into the anterior chamber at the start of surgery as the primary anesthetic. Efficacy was evaluated based on intraoperative pain using the Visual Analog Scale (VAS), surgical duration, postoperative best-corrected visual acuity (BCVA) at one month, and complication rates. Data were

How to Cite: Khan, Q. A., Qureshi, M. U. A., Bhatti, R. S., Maqbool, A., & Malik, Y. I. (2025). Intracameral Lidocaine: A Safe and Effective Anesthetic Option for Manual Sutureless Cataract Surgery. Ophthalmology, 21(2), 82-88.

analyzed using descriptive statistics, Student's t-test, and chisquare tests, with statistical significance set at $p < 0.05$. **Results:** The mean intraoperative pain score on the VAS was 2.1 ± 0.8 , indicating effective pain control, as a VAS score below 3 is clinically acceptable. The mean surgical duration was 14.2 ± 1.6 minutes. Complications were minimal, with transient corneal edema occurring in 2% of cases. This rate is lower compared to retrobulbar anesthesia, which carries risks of retrobulbar hemorrhage (1.7%) and optic nerve injury (0.01%), and comparable to sub-Tenon's anesthesia, which has a complication rate of approximately 2.5%. **Conclusion:** Intracameral lidocaine is a safe, effective, and patient-friendly anesthetic option for MSCS, providing adequate pain control, efficient surgical duration, and satisfactory postoperative visual outcomes with minimal complications. Al-Shifa Journal of Ophthalmology 2025; 21(2): 82-88. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

14.Comparative Analysis of Academic Performance of Medical Students with Eye Diseases and Healthy Eyes

Abstract

Objectives: To examines the relationship between ocular diseases and academic performance among medical students. **Methods:** Conducted as an observational comparative study at Mohiuddin Teaching Hospital, data were collected through questionnaires completed by a consultant ophthalmologist, alongside academic grades provided by the medical education department. **Results:** A total of 418 medical students participated. The results show no statistically significant association between ocular disease and student grades, with a p-value of 0.267, indicating that any observed differences were likely due to chance. **Conclusion:** The study suggests that factors other than eye health may play a more critical role in academic success for medical students. However, the study is limited to a single institution, and the findings should not be generalized without further research across diverse populations and settings. Al-Shifa Journal of Ophthalmology 2025; 21(1): 37-42. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Shah, F. A., Mirza, U. T., Sadiq, M. U., Fatima, S., Shoaib, M., & Riaz, S. Comparative Analysis of Academic Performance of Medical Students with Eye Diseases and Healthy Eyes.

15.Evaluating the Hospital Preparedness for Emergencies using WHO Hospital Safety Index Tool

Abstract

Objectives: CBRN (an acronym for Chemical, Biological, Radiological, and Nuclear) events are large scale disasters that differ from man- made disasters in that the involved agents additionally cause contamination and specific health hazards. As an institution, hospitals need a specific level of preparedness to enable an effective response to CBRN emergencies. The aim of this study was to assess the presence and placement of a proper hospital response plan to CBRN events. **Methods:** It was an observational cross-sectional study conducted from October 2021 to December 2021 in two public tertiary level healthcare facilities selected through purposive sampling technique. Data was collected using WHO Hospital Safety Index Tool which is a checklist consisting of 151 items divided into four sections or modules. To calculate the hospitals safety index Model-1

How to Cite: Sughra U, Riaz A, Suleman M, Imran MR. Evaluating the Hospital Preparedness for Emergencies using WHO Hospital Safety Index Tool. Pak J Med Sci. 2025 Mar;41(3):676-681. doi: 10.12669/pjms.41.3.10875. PMID: 40103868; PMCID: PMC11911768

was used. **Results:** The sum of the weighted results of the three modules for both hospitals were in category A (0.66 - 1), the results depicted that it is likely that the hospitals will function in emergencies and disasters. **Conclusion:** Both hospitals gave satisfactory results when evaluated on the basis of WHO Hospital Safety Index Tool for emergency preparedness. **Keywords:** CBRN; Disaster; Emergency; Preparedness; Response; Safety.

16. Mutations in retinal cyclic nucleotide-gated channels identified in familial cases of inherited retinal dystrophies from Pakistan

Abstract

Purpose: Cyclic nucleotide-gated (CNG) channels are ligand-gated ion channels that transduce light signals into electrical signals in the retinal photoreceptors. Pathogenic variants in CNG channel genes are reported to cause inherited retinal dystrophies (IRDs). The of CNG channel genes in familial cases of IRDs from eight consanguineous Pakistani families. **Methods:** The current study included consanguineous Pakistani families with at least two affected members. DNA was extracted from

How to Cite: Akhtar Z, Afshan K, Li Y, Altaf S, Asghar A, Sughra U, Khan WA, Kaul H, Chen R, Firasat S. Mutations in retinal cyclic nucleotide-gated channels identified in familial cases of inherited retinal dystrophies from Pakistan. *Mol Vis.* 2025 Sep 2; 31:206-219. PMID: 41306486; PMCID: PMC12645064.

whole blood samples by the phenol-chloroform method. Two affected members from each family were initially analyzed using targeted panel sequencing of 344 known IRD genes. The pathogenicity of candidate variants was assessed using the American College of Medical Genetics and Genomics guidelines. Segregation testing was performed by Sanger sequencing.

Results: Results of eight IRD families revealed a total of four reported variants in *CNGA3* (c.827A>G, c.955T>C, c.1641C>A, c.1810C>T) and three novel variants, including c.1633A>T, c.800G>T, and c.1153T>C in *CNGA1*, *CNGA3*, and *CNGB3* genes, respectively, segregating in each respective family. Among disease-causing variants identified in our study cohort, 87.5% were missense. Furthermore, one of the reported missense variants (i.e., c.1641C>A in *CNGA3*) was segregating in two unrelated families. All identified variants were homozygous and segregated in an autosomal recessive form.

Conclusions: *CNGA3* was the most frequently mutated gene in our study cohort. Only the c.1641C>A variant of *CNGA3* was repeated in two families, showing genetic diversity. The identification of three novel pathogenic variants in CNG channel genes in the present study reaffirms the allelic and genetic heterogeneity of IRDs in the Pakistani population.

17. Ethnic and sex differences in corneal nerves and corneal epithelial cells in healthy population

Abstract

Purpose: We aim to investigate the ethnic and sex differences in corneal nerves and epithelial cell metrics among healthy Chinese and Indian populations. **Methods:** This cross-sectional study included 15,850 corneal nerve and 9,510 corneal epithelial cell images from 328 individuals, categorized into Chinese and Indian ethnicities. *In-vivo* confocal microscopy scans were performed to evaluate corneal nerves and epithelium. Quantitative analytic software was used to obtain 10 corneal nerve and epithelial parameters. **Results:** There were 208

How to Cite: Liu F, Liu C, Yu M, Lee IXY, Mansoor H, Cheng CY, Khan WA, Mehta JS, Liu YC. Ethnic and sex differences in corneal nerves and corneal epithelial cells in healthy population. *Front Med (Lausanne).* 2025 Nov 7;12:1626501. doi:10.3389/fmed.2025.1626501. PMID:41282028;PMCID:PMC12634647.

Chinese participants (101 males, 107 females) in this study with a mean age of 57.0 ± 15.6 years, and 120 Indian participants (58 males, 62 females) with a mean age of 55.8 ± 21.2 years ($p = 0.36$). Compared to Chinese participants, Indian participants exhibited significantly higher values in all nerve parameters, including corneal nerve fiber length, fiber density, branch density, total branch density, fiber area (all $p < 0.001$), fiber width ($p = 0.041$), and fiber fractal dimension ($p < 0.001$). Chinese participants demonstrated significantly larger epithelial size compared to their Indian counterparts ($p < 0.001$). Within the Chinese cohort, females presented with significantly higher corneal nerve fiber length, fiber area, and fractal dimension than males ($p = 0.034$, $p = 0.022$ and $p = 0.033$, respectively). Indian females showed higher epithelial cell circularity compared to Indian males ($p = 0.026$). **Conclusion:** Our study identifies significant ethnic and sex disparities in corneal nerves and epithelium. These should be considered when evaluating corneal metrics in Chinese and Indian populations. **Keywords:** corneal epithelial cell; corneal nerve; ethnicity; in-vivo confocal microscopy; sex.

18. Fenofibrate ameliorates ocular surface inflammation in diabetic keratopathy

Abstract

Purpose: To investigate the efficacy of oral fenofibrate in the amelioration of ocular surface inflammation in diabetes mellitus (DM). **Methods:** In this open-label interventional study, 41 participants with type 2 DM received oral fenofibrate for 30 days. Forty age-matched healthy controls were recruited. Ocular surface objective and subjective assessment, in-vivo confocal microscopy (IVCM) imaging and quantification for corneal dendritic cells (DCs), epithelium and neuromas were performed. Tear inflammatory markers and proteomics were analyzed

with enzyme-linked immunosorbent assay (ELISA) and Data Independent Acquisition experiments before and after treatment. **Results:** Oral fenofibrate treatment significantly improved tear film breakup time ($p = 0.004$), corneal staining evaluated with National Eye Institute-Corneal Fluorescein Staining scores ($p = 0.005$), and ocular surface symptoms assessed with the Ocular Surface Disease Index scores ($p = 0.003$), in DM patients. On IVCM, fenofibrate significantly reduced mean DC area ($p = 0.01$) and mean DC density ($p = 0.02$), while increasing mean DC elongation ($p = 0.004$) and length ($p = 0.01$), suggesting less DC activities. Fenofibrate also significantly increased corneal epithelial cell density ($p = 0.04$). 192 tear proteins were significantly altered after treatment. Fenofibrate significantly up-regulated the expression of anti-inflammatory interleukin-1 receptor antagonist, while significantly reduced the concentrations of pro-inflammatory and inflammatory proteins, including tumour necrosis factor α , nuclear factor kappa B, complement 4 B, cytochrome B5 Type A, and cytochrome B5 Type B (all $p < 0.05$) in tears, via regulation of tricarboxylic acid cycle, oxidative phosphorylation and liver X receptor/retinoid X receptor activation. **Conclusion:** This first clinical trial demonstrated that oral fenofibrate ameliorates diabetic ocular surface inflammation, providing a novel therapeutic option for diabetic keratopathy. **Keywords:** Apoptosis; Cornea; Diabetes; Fenofibrate; Inflammation; Ocular surface.

How to Cite: Mansoor H, Lee IXY, Liu C, Yu M, Toh CJL, Hsu VW, Liu F, Lu D, Lam TC, Tan HC, Zhou L, Liu YC. Fenofibrate ameliorates ocular surface inflammation in diabetic keratopathy. *Ocul Surf.* 2025 May 30;38:31-40. doi:10.1016/j.jtos.2025.05.010. Epub ahead of print. PMID: 40451569.

19. Beyond Surgical Limits: A Case Report of Follicular Variant of Papillary Thyroid Carcinoma with Persistent Disease despite Aggressive Surgical Management

Abstract

The most prevalent type of thyroid gland cancer is called papillary thyroid carcinoma, which typically manifests as a painless thyroid mass in women over 50 years of age. Fine-needle aspiration cytology (FNAC) and ultrasonography (USG) are used to make the diagnosis, and the patient's symptoms and these results determine the course of treatment. We reported a rare case of follicular variant papillary thyroid cancer in a young woman, diagnosed at an unusual age of 22 years, who had three thyroid surgeries intended to completely remove the disease but were unable to do so. The woman was diagnosed with a case of follicular variant of papillary thyroid carcinoma (FVPTC) initially 10 years back, and a hemi thyroidectomy was done for diagnostic purposes. Later on, with the diagnosis of FVPTC, a complete thyroidectomy was done at the same time, and the patient recovered uneventfully. For the next 10 years, the patient remained asymptomatic with no complaint and was on oral thyroxine with six-monthly follow-up with thyroid function tests, which were normal. It was 10 years after the complete thyroidectomy that the patient had a neck USG for a nonthyroidal disease, and it was incidentally found that there was a thyroid remnant in the isthmus region even after the complete thyroidectomy, and this silently persisted for more than 10 years; the thyroidal nature of this tissue was confirmed on thyroid scan and computed tomography. The patient had another surgery (3rd surgery) 10 years after the initial two surgeries, but the surgeon could not find any thyroid tissue with the naked eye and shaved off all the tissue in front of the trachea. The histopathology report later showed only muscle and fibroadipose tissue, revealing the inability to surgically remove this resistant carcinoma even after three surgeries. Following that, the case was discussed in a multidisciplinary team meeting, and it was decided that no further intervention was required in this asymptomatic patient, as the patient was biochemically normal and was planned to be closely monitored with routine follow-ups. Thus, there could be a chance of remnant being left behind even after complete thyroidectomy, and the patient may be totally asymptomatic, giving the impression that this tumor was beyond the limits of surgery in our case. **Keywords:** clinical symptoms; investigations; thyroid cancer; thyroid cancers surgery; thyroid tissue.

How to Cite: Khurshied S, Nisa M, Abdul Malik W, Mansoor H, Sabih R. Beyond Surgical Limits: A Case Report of Follicular Variant of Papillary Thyroid Carcinoma With Persistent Disease Despite Aggressive Surgical Management. *Cureus*. 2025 Apr 9;17(4):e81978. doi: 10.7759/cureus.81978. PMID: 40351970; PMCID: PMC12065971.

20. Pediatric blepharokeratoconjunctivitis: review of epidemiology, pathophysiology, and current treatments

Abstract

Purpose of review: This review aims to provide a comprehensive overview of the epidemiology and clinical features of pediatric blepharokeratoconjunctivitis (BKC), with a focus on elucidating the underlying pathophysiology and evaluating new therapeutic strategies. **Recent findings:** Ongoing research continues to refine the

How to Cite: Awan R, Khan S, Khan WA. Pediatric blepharokeratoconjunctivitis: review of epidemiology, pathophysiology, and current treatments. *Curr Opin Ophthalmol*. 2025 Jul 1; 36(4):314-321. doi: 10.1097/ICU.0000000000001141. Epub 2025 Apr 21. PMID: 40279250.

management of pediatric BKC. Recent evidence suggests that disease remission can be achieved in approximately 95% of cases through an integrated approach involving topical or systemic antibiotics, corticosteroids, topical immunosuppressants, and lid hygiene. Notably, a significant advancement in the treatment of Demodex blepharitis is the FDA approval of 0.25% lotilaner ophthalmic solution, which has demonstrated safety and efficacy with twice-daily application over six weeks. **Summary:** Pediatric blepharokeratoconjunctivitis is a chronic inflammatory condition affecting the eyelids, conjunctiva, and cornea. It is underdiagnosed and associated with significant vision-threatening complications. While there is no established consensus on the most effective therapeutic strategy, management currently includes lid hygiene, topical/systemic antibiotics, corticosteroids, immunosuppressants, lubricants, and dietary supplements. Challenges arise from its chronicity, recurrence, and lack of standardized treatment protocols. This underscores the importance of early diagnosis, education, and continued research on treatment methods to prevent severe outcomes. **Keywords:** demodex; meibian gland dysfunction; ocular surface inflammation; pediatric blepharokeratoconjunctivitis.

21. Evaluating the Efficacy of Artificial Intelligence-Driven Chatbots in Addressing Queries on Vernal Conjunctivitis

Abstract

Background: Vernal keratoconjunctivitis (VKC) is a recurrent allergic eye disease that requires accurate patient education to ensure proper management. AI-driven chatbots, such as Google Gemini Advanced (Mountain View, California, US), are increasingly being explored as potential tools for providing medical information. This study evaluates the accuracy, reliability, and clinical applicability of Google Gemini Advanced in addressing VKC-related queries. **Objective:** To assess the performance of Google Gemini Advanced in delivering medically accurate and relevant information about VKC and to

evaluate its reliability based on expert ratings. **Methods:** A total of 125 responses generated by Google Gemini Advanced for 25 VKC-related questions were assessed by two independent cornea specialists. Responses were rated on accuracy, completeness, and potential harm using a 5-point Likert scale (1-5). Inter-rater reliability was measured using Cronbach's alpha. Responses were categorized into highly accurate (score of 5), minor inconsistencies (score of 4), and inaccurate (scores 1-3). **Results:** Google Gemini Advanced demonstrated high inter-rater reliability (Cronbach's alpha = 0.92, 95% CI: 0.87-0.94). Of the 125 responses, 108 (86.4%) were rated highly accurate (score of 5) while 17 (13.6%) had minor inconsistencies (score of 4) but posed no potential for harm. No responses were classified as inaccurate or potentially harmful. The combined mean score was 4.88 ± 0.31 , reflecting strong agreement between raters. The chatbot consistently provided reliable information across diagnostic, treatment, and prognosis-related queries, with minor gaps in complex grading and treatment-related discussions. **Discussion:** The findings support the use of AI-driven chatbots like Google Gemini Advanced as potential tools for patient education in ophthalmology. The chatbot exhibited strong accuracy and consistency, particularly in addressing general VKC-related queries. However, areas for improvement remain, especially in providing detailed guidance on treatment protocols and ensuring completeness in responses to complex clinical questions. **Conclusion:** Google Gemini Advanced demonstrates high reliability and accuracy in delivering medical information about VKC,

How to Cite: Saad M, Moqet MA, Mansoor H, Khan S, Sharif R, Khan FU, Naqvi AH, Ali W. Evaluating the Efficacy of Artificial Intelligence-Driven Chatbots in Addressing Queries on Vernal Conjunctivitis. Cureus. 2025 Feb 26;17(2):e79688.doi:10.7759/cureus.79688. PMID: 40161163; PMCID: PMC11951947.

making it a valuable tool for patient education. While its responses are consistent and generally accurate, expert oversight remains necessary to refine AI-generated content for clinical applications. Further research is needed to enhance AI-driven chatbots' ability to provide nuanced medical advice and integrate them safely into ophthalmic patient education and clinical decision-making. **Keywords:** artificial intelligence (ai); chatgpt; co-pilot; google gemini; health sciences; medical education; medical research; patient care.

22.Spectrum of metastatic tumours to orbit over the last twenty years in a tertiary care eye hospital-A retrospective study

Abstract

Objective: To assess the type and presentation patterns of tumours metastasising to orbit. **Methods:** The retrospective study was conducted at the Al Shifa Trust Eye Hospital, Rawalpindi, Pakistan, and comprised data of all patients with orbital metastatic lesions over a 20-year period, from January 1, 2004, to December 31, 2023. Data was analysed using SPSS 22. **Results:** Of the 30 patients, 17(56.7%) were males and 13(43.3%) were females. The highest incidence of orbital metastatic disease was among those aged <10 years 9(30%) and >60 years 11(36.7%). Roof was the commonest site of involvement within the orbit 13(43.3%). Proptosis was the main feature at presentation. Diagnosis was made clinically in 14(46.7%) patients and histologically in 16(53.3%). All the 30(100%) cases were referred to the oncology service for further management. Of them, 2(6.7%) patients were lost to follow-up, 20(66.7%) died within one year of diagnosis, and 8 (26.6%) patients were still under treatment. **Conclusions:** The diagnosis of orbital metastasis should always be considered for orbital lesions in all age groups, especially in patients with a known cancer elsewhere. Orbital metastasis usually becomes evident at an advanced stage of underlying malignancy, leading to a high mortality rate. **Keywords:** Orbital metastasis, Orbital tumours, Orbital malignancies.

How to Cite: Tahir F, Afghani T, Ahmad S, Manzoor A, Taimur F, Khan SA, Saad M. Spectrum of metastatic tumours to orbit over the last twenty years in a tertiary care eye hospital-A retrospective study. J Pak Med Assoc. 2025 Feb;75(2):259264.[doi:10.47391/JPM.A.20794](https://doi.org/10.47391/JPM.A.20794). PMID: 39948787.

23.Percutaneous Sclerotherapy with Bleomycin for Orbital Lymphangioma: A Case Report

Abstract

Lymphangiomas, or lymphatic malformations, are benign, multi-cystic, hamartomas which are localized vascular malformations believed to arise during embryonic period.¹ Lymphatic malformations most frequently occur in pediatric populations in the region of head and neck and they account for about 25% of benign pediatric vascular tumors and about 4% of all vascular tumors.¹ Orbital lymphangiomas have a prevalence of 1.1 to 5.3 cases per 10,000 live births and are equally common in both males and females.² Histopathologically, lymphangiomas consist of endothelium lined, thin-walled dilated lymphatic spaces, filled with eosinophilic proteinaceous material. Management of lymphangiomas is challenging. We report a case of a 9-year-old female who had orbital lymphangioma and was treated with sclerotherapy. Outcomes of treatment and review of literature is presented here.

How to Cite: Tanveer T, Ahmad S, Tahir F, Akram F. Percutaneous Sclerotherapy with Bleomycin for Orbital Lymphangioma: A Case Report:Doi:10.36351/pjo.v41i4.2128 . pak J Ophthalmol [Internet]. 2025 Sep. 30 [cited 2025 Dec. 1];41(4). Available from:<https://pjo.org.pk/index.php/pjo/article/view/2128>

24. Assessment of Quality of Life in Mothers of Visually Impaired Children

Abstract

Objective: To assess the factors that affect mothers' quality of life (QOL) and the association of various demographic variables with QOL of the respondents.

Study design: A cross-sectional survey. Place and Duration of the Study: Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan, from April to September 2023.

Methodology: Mothers of visually impaired children were selected through non-probability consecutive sampling. WHO QOL-BREF was used to analyse the QOL of the respondents. The Chi-square test of

How to Cite: Rubab, Z. E., Tahir, M., Zafar, U., & Rehman, N. U. (2025). Assessment of Quality of Life in Mothers of Visually Impaired Children. *Journal of the College of Physicians and Surgeons--Pakistan: JCPSP*, 35(1), 116–121. <https://doi.org/10.29271/jcpsp.2025.01.116>

association was applied to determine the factors of QOL of the respondents. **Results:** Out of 264, the majority of the visually impaired children were females (n = 144, 54.5%) and belonged to 5-8 years of age (n = 115, 43.6%). It was also noted that the majority of children had mild levels of visual impairment (n = 182, 69%). More than half of the mothers of visually impaired children were married to their cousins (n = 144, 54.5%) and belonged to rural areas (n = 140, 53%). Most of the mothers perceived that they had a good quality of life (n = 96, 36%) and were satisfied with their health status (n = 107, 40%). Mothers with poor QOL were slightly more in numbers compared to those with good QOL (n = 134, 51% vs. n = 130, 49%). **Conclusion:** Mothers of visually impaired children exhibited poor QOL in all four domains. Major related factors associated with poor QOL of mothers were the age of the child, cause of disability, duration of disability, and duration of caregiving. While mother's related factors included marital status, outside family marriage, education, income level, number of children, and residence. **Key words:** Mothers, Quality of life, Rawalpindi, Tertiary care hospitals, Visually impaired children.

25. Clinical Outcomes of Upper Eyelid Blepharoplasty

Abstract

Objective: To observe effect of surgery on upper eyelid blepharoplasty in an Asian population. **Methods:** This retrospective study was conducted at Armed Forces Institute of Ophthalmology from May 2023 to July 2023. This study included patients from 30 to 70 years of age. Patients with upper double eye lid (dermatochalasis) and xanthelasma were included in this study. Patients were counseled about the risk of surgery. Subcutaneous 0.5% lignocaine, approximately

How to Cite: Sameen, M., & Rebecca (2025). Clinical Outcomes of Upper Eyelid Blepharoplasty. *Pakistan journal of medical sciences*, 41(5), 1318–1321. <https://doi.org/10.12669/pjms.41.5.10950>

0.6 ml was given after skin marking in each eye. Distance between eyelid margin and inferior margin eyebrow was marked 21mm, to avoid lagophthalmos. Wound approximation was done with 7-0 vicryl interrupted sutures. Follow up was done at day one and two weeks after upper lid blepharoplasty. **Results:** After a follow up of 02 weeks of 35 subjects who underwent upper eyelid blepharoplasty, 24(68.4%) were females while 11(31.4%) were males. The mean average age + SD in years was 53.45± 1.06. All subjects underwent bilateral upper eyelid blepharoplasty in one sitting. Redo surgery was done in one (2.84%) subject after six months. Eyelid oedema was Grade-II on day one postoperatively and was absent after two weeks of follow up in all subjects. However, no lagophthalmos was seen in any of the subject. **Conclusion:** Upper Eyelid blepharoplasty is the procedure of choice of correcting double eyelid and xanthelasma. It not only improves periorbital cosmesis but also

plays an important part in improving patient vision and contrast. **Keywords:** Aesthetic Surgery; Blepharoplasty; Dermatochalasis; Upper eyelid; Xanthelasma.

26.Characteristics of Patients Treated for Orbital Infections: A Retrospective Study at a Tertiary Care Hospital

Abstract

Introduction: The orbital tissues of the eye can be affected by infections, a serious clinical illness that can have potentially fatal consequences. The study aimed to identify the demographic data, the categories of orbital infections based on Chandler's classification, and the underlying causes of orbital infections to ascertain the characteristics of patients admitted with orbital infections. We also looked at the management practices and their results.

Materials and methods: The Department of ENT - Head and Neck Surgery at the Pakistan Institute of Medical Sciences Hospital in Islamabad was the chosen site of this retrospective study. A total of 63 patients were included in the study. Data including patients' age, gender, type of orbital infection, inciting cause, management carried out, and treatment success were extracted from their discharge forms between January 2022 and December 2024. Following statistical analysis, the information collected was presented as tables and figures. **Results:** Out of the total, 40 (63.49%) patients were female. The median age of patients was 34.5 years. Most patients were diagnosed with subperiosteal abscesses (33, 52.38%). The most common cause was sinusitis, which was present in 41 (65.07%) patients. Out of the total, 47 (74.60%) patients were successfully managed conservatively using broad-spectrum antibiotics and symptomatic treatment, and 12 (19.05%) underwent surgical intervention to drain the abscess. **Conclusions:** The orbital infections were most common in middle-aged female patients, with subperiosteal abscess being the most common type. Sinusitis was the most common cause. Most patients were managed successfully with intravenous antibiotics, with few needing surgical intervention. **Keywords:** cellulitis orbit sinusitis antibiotics; conservative management; orbital cellulitis; sinusitis; successful treatment outcome; treatment choices.

How to Cite: Khurshied, S., Shah, H. G., Abdul Malik, W., Maqbool, A., Hussain, K., & Zahid, M. A. (2025). Characteristics of Patients Treated for Orbital Infections: A Retrospective Study at a Tertiary Care Hospital. *Cureus*, 17(2), e79004. <https://doi.org/10.7759/cureus.79004>

27.Functionally deficient UBOX5 variants and primary angle-closure glaucoma

Abstract

Primary angle-closure glaucoma is a major cause of irreversible blindness worldwide afflicting >20 million people. Through whole exome sequencing, we analysed the association between gene-based burden of rare, protein-altering genetic variants and disease risk in 4,667 affected individuals and 5,473 unaffected controls. We tested genes surpassing exome-wide significance ($P < 2.5 \times 10^{-6}$) for replication in a further 2,519 cases and 472,189 controls. We observed carriers of rare, protein-altering variants at UBOX5 (observed in 154 out of 7,186 affected individuals [2.1%] and in 3,975 out of 477,197 unaffected controls [0.83%]) to be associated

How to Cite: Li, Z., Chng, W. L., Liu, Z., Do, T., Nakano, M., Chen, L. J., Loo, Y., Chan, A. S. Y., Topouzis, F., Nongpiur, M. E., Ozaki, M., Nakano, S., Kubota, T., Perera, S. A., Husain, R., Wong, T. T. L., Cheng, C. Y., Ho, C. L., Abu-Amero, K., Wong, H. T., ... Khor, C. C. (2025). Functionally deficient UBOX5 variants and primary angle-closure glaucoma. *Nature communications*, 16(1),7620. <https://doi.org/10.1038>

with 2.13-fold increased risk of PACG (95%ci, 1.69 - 2.69; $P = 1.25 \times 10^{-10}$). We performed substrate trapping assays coupled with mass spectrometry and observed Binding Immunoglobulin Protein (BIP) as a key substrate for UBOX5. Biological assays showed UBOX5 acts by ubiquitinating BIP. We evaluated the functional status of 35 UBOX5 variants and observed that functionally deficient variants were enriched in affected individuals compared to controls. We validated this finding in an independent collection where 3 persons carrying functionally deficient variants were observed out of 208 cases (1.4%), whereas none were observed in 600 controls. Our findings suggest the UBOX5-BIP signalling pathway might be involved in biology of primary angle-closure glaucoma.

28.A comparison of general anesthesia versus local anesthesia in open globe injuries: A systematic review and meta-analysis

Abstract

Objective: Local anesthesia represents an alternative to general anesthesia in selected patients undergoing repair for open globe injuries. This study aimed to evaluate and compare visual acuity and clinical outcomes in such patients. **Methods:** A systematic literature search was conducted across PubMed, Embase, Scopus, Cochrane Library, and Google Scholar. Adults (≥ 18 years) hospitalized with open globe injuries were included. Out of 551 articles screened, four observational studies met the inclusion criteria. Standardized Mean Differences (SMD) for continuous and Risk Ratios (RR) for dichotomous outcomes were pooled using the Inverse Variance method with a Random Effects model. Outcomes included visual acuity, wound location, wound length, and operative time. **Results:** Four retrospective case series comprising 1,690 patients were included. All studies had low risk of bias per the Newcastle-Ottawa Scale. No significant difference was observed in best corrected visual acuity between groups (MD = -0.18; 95% CI: -0.45 to 0.08; $p = 0.17$; $I^2 = 55\%$). Patients in the local anesthesia group had more anterior wound locations (MD = 1.33; 95% CI: 1.06-1.66; $p = 0.01$; $I^2 = 65\%$). Wound length (MD = -4.97; 95% CI: -5.95 to -3.98; $p < 0.00001$; $I^2 = 0\%$) and operative time (MD = -33.32; 95% CI: -40.82 to -25.82; $p < 0.00001$; $I^2 = 0\%$) were significantly shorter. **Conclusion:** Local anesthesia was associated with more anterior wounds, shorter wound length, and reduced operative time without compromising visual outcomes. It may be a safe and effective alternative to general anesthesia in selected open globe injuries. **Keywords:** general anesthesia; local anesthesia; ocular trauma; open globe injuries.

How to Cite: Abbas, J., Arooj, H., Tariq, S., Rustam, Z., Hussain, J., & Wang, B. (2025). A comparison of general anesthesia versus local anesthesia in open globe injuries: A systematic review and meta-analysis. *European journal of ophthalmology*, 11206721251378183. Advance online publication. <https://doi.org/10.1177/11206721251378183>

29.Corneal Curvatures, Anterior Chamber Depth and Axial Lengths in Pakistani High Myopic Cases

Abstract

Objectives: To determine correlations between the myopia and the Axial Length of the eye and the values of other ocular biometrics like corneal curvature and anterior chamber depth in high myopic patients of Pakistan. **Methods:** Total 77 patients with refractive error of more than -5.00 D were included in this cross-sectional study. Ocular biometrics like axial length, keratometric readings and

How to Cite: Matloob, Afia & Bano, Saira & Hameed, Mustafa. (2025). Corneal Curvatures, Anterior Chamber Depth and Axial Lengths in Pakistani High Myopic Cases. Vol. 21. 50.

anterior chamber depth were documented. Axial lengths of eyes were measured by A-scan Ultrasonography. The mean value and ranges of ocular biometrics were calculated. Data was analyzed using SPSS version 22. **Results:** Mean axial length of study participants was 26.3895 ± 1.54274 mm, ranging from 21.56 mm to 29.21 mm. Mean keratometric values were (K1 of 44.41 D and K2 of 45.36 D). Our results showed no significant association between Axial Length (AL) and Anterior Chamber Depth (ACD), 2.998 ± 0.47680 with $p > 0.05$. **Conclusion:** Myopia progression was directly associated with axial length. However, there is no statistically significant relationship of keratometric values and Anterior Chamber Depth (ACD) with severity of myopia. Al-Shifa Journal of Ophthalmology 2025; 21(1): 50-55. © AlShifa Trust Eye Hospital, Rawalpindi, Pakistan

30. Supernumerary lower LID lacrimal punctum: A detailed case presentation and review

Abstract

Background: Lacrimal drainage apparatus produces and drains tears, the balance of which is important for the maintenance of the ocular surface. Congenital anomalies, although rare, are capable of disrupting the dynamics of tears and may lead to clinical conditions like epiphora or dry eye, e.g. supernumerary lacrimal puncta. Such cases, albeit rarely documented, need to be clinically reported for aiding diagnosis and management. **Objectives:** This study aims to documents the clinical findings of a patient with a supernumerary lower lid lacrimal punctum and, with the help of the literature, to synthesize its clinical importance, diagnosis, and subsequent effect on the patient's ocular anatomy and physiology. **Methods:** The patient was a 56 year old male who

How to Cite: Sohail, Salman & Saad, Muhammad & Haroon, Muhammad & Tahir, Faizan & Safi, Abdul. (2025). SUPERNUMERARY LOWER LID LACRIMAL PUNCTUM: A DETAILED CASE PRESENTATION AND REVIEW. Journal of Medical & Health Sciences Review.2.10.62019/qwytyw85

was screened for cataract surgery at Al Shifa Trust Eye Hospital, Rawalpindi. He was subject to a host of clinical evaluations, as extensive as slit lamp biomicroscopy and as simple as TBUT. Each finding was analyzed for its association with previously documented cases, following which a narrative literature review was conducted. Findings: The patient presented with two extradistinct puncta on the right lower eyelid: a medial round punctum (0.6 mm) and a lateral slit-like accessory punctum. Probing confirmed separate anatomical openings, while syringing and unable to epilate the punctum yielded punctal regurgitation, altered contused pliability regurgitation. TBUT reduced (7 sec R, 9 sec L) although lubricative symptoms in broth occurred. Review Literature (n=52) patients suggest right lower eyelid dominant, with presentations both asymptomatic and symptomatic with tears, dry eye, canaliculitis or conjunctivitis. **Conclusion:** Supernumerary lacrimal puncta arise from the fusion of the excretory ducts of the lacrimal glands or from the breakdown of a primitive continuum. Resulting drainage abnormalities are often of little clinical consequence, and symptoms are rare. Even in the absence of epiphora, the puncta may be clinically significant and warrant differentiation from anatomical variations of prolapse of the amniotic sac. Comprehensive clinical assessment is fundamental, including the nook and corner parts of the conjunctiva. Dacryocystography might enhance understanding of the anatomy of classified or suspected structural changes. Confirming anatomy helps separate diagnosis from the essential walls of burden and pathology to be overshadowed or complex in epiphora and dry eye to facilitate action.

31. Association of Ametropia with Academic Performance and Development of Myopia among School Children

Abstract

Objective: To evaluate the associations between ametropia, academic performance, and myopia development among schoolchildren.

Methodology: This multi center observational cross-sectional cohort study was carried out in Ophthalmology Department at Akbar Niazi Teaching Hospital, Islamabad, as well as at Farooq Teaching Hospital and Holy Family Hospital in Rawalpindi, Pakistan, from January 2022 to June 2023. Initially, an analysis was conducted on students in grades 1 through 9 from Rawalpindi and Islamabad to assess the influence of refractive status on their academic

performance on an annual basis. Additionally, a longitudinal analysis was conducted on the students to assess the trend in academic performance in relation to refractive changes over a 12-month period. The refractive status was assessed utilizing non-cycloplegic autorefractors.

Results: Total 1880 children, regardless of myopia status were analyzed (mean age: 11.2 years; 1051 males and 829 females). The analysis revealed that hyperopia prevalence was associated to low academic score in grade 1, the year students began primary school ($\chi^2 = 0.1$, $p = 0.001$). In contrast, myopia prevalence was associated with high academic score in grades 6 and 8, the years when students were preparing for board examinations for primary or secondary school ($\chi^2 = 0.3$, $p = 0.04$; $\chi^2 = 0.5$, $p = 0.001$). The longitudinal analysis indicated that quicker myopia progression was associated with high score across all grades, after adjusting for factors including parental myopia, BMI, outdoor activities, screen, and reading times (at baseline all grades were as follow; grade 2: $\chi^2 = 0.04$, $p < 0.001$; grade 3: $\chi^2 = 0.05$, $p = 0.001$; grade 4: $\chi^2 = 0.02$, $p < 0.001$; grade 5: $\chi^2 = 0.04$, $p < 0.001$; grade 6: $\chi^2 = 0.05$, $p < 0.001$). **Conclusion:** Refractive errors indicated an association with academic performance among school children. Children who were in high academic performance tended to exhibit more rapid myopia development. **Keywords:** Academic performance, Hyperopia, Myopia, Refractive errors

How to Cite: Mohammad, Khadija & Naseem, Sidra & Khan, Furqan & Batool, Mishal & Tayyab, Ali. (2025). Association of Ametropia with Academic Performance and Development of Myopia Among School Children. Annals of PIMS-Shaheed Zulfiqar Ali Bhutto Medical University. 21. 229-234. 10.48036/apims.v21i1.1324.

32. Exploring the determinants of drug abuse: a cross-sectional study on demographic, socioeconomic, and psychological factors

Abstract

Background: Drug abuse poses a serious threat to youth productivity, affecting both physical health and cognitive abilities. This study aimed to investigate the major contributing factors and underlying determinants of drug abuse among patients receiving treatment at rehabilitation centers in Pakistan.

Methodology: A cross-sectional study was conducted at Fountain House and Ehsas Clinic in Lahore from February 2021 to May 2024, involving 384 patients aged 16–64 years, selected through consecutive non-probability sampling. Individuals with severe mental illness were excluded. Data were collected using a pre-tested questionnaire through structured interviews covering demographics, drug use patterns, and health behaviors. Data were analyzed in SPSS v26.0 with descriptive statistics, Chi-square tests for associations, and

How to Cite: Arif, Rasikh & Khan, Ali & Hammad, Muhammad & Reddy, Basani & Shakoor, Khadija & Jummani, Alishan. (2025). exploring the determinants of drug abuse: a cross-sectional study on demographic, socioeconomic, and psychological factors. Lifestyle Medicine Research and Reviews. 3. 10.37897/LMRR.2025.3-4.1.

binary logistic regression to identify significant predictors of drug abuse. A p-value < 0.05 was considered statistically significant. **Results:** A total of 73.43% reported mental disturbance, 53.39% sought joy, and 41.89% had a family history of addiction. Long-term complications included aggression (20.05%), euphoria (17.19%), and sleep disorders (10.16%). Logistic regression analysis showed significant associations between drug abuse and low income (< 0.05). **Conclusion:** This study highlights critical socioeconomic and psychological contributors to drug abuse in Pakistan. Addressing these factors is essential for reducing addiction rates and improving national productivity and wellbeing. **Keywords:** drug abuse, determinants, Pakistan, substance use, rehabilitation centers

33.Outcomes of nasolacrimal intubation in children aged 1 to 8 years

Abstract

Objective: To evaluate the outcomes of nasolacrimal duct (NLD) intubation in children aged 1-8 years having congenital nasolacrimal duct obstruction (CNLDO) and to compare success rates among different age groups. **Study design:** Retrospective-Observational study. **Place and Duration of study:** Al-Shifa Trust Eye Hospital, Rawalpindi. March-October 2023. **Patients and Methods:** A total of 187 eyes from 162 pediatric patients aged 1–8 years who underwent NLD intubation were included.

After exclusions, 156 eyes were analyzed. Patients were categorized into three age groups: Group A (1.1 to <3 years), Group B (3 to <5 years) and Group C (5 to 8 years). Success was defined by both subjective (resolution of tearing and discharge) and objective criteria (negative regurgitation test). Statistical analysis was performed using SPSS (Version 23.0) and intergroup comparisons were made using the Chi-square test. **Results:** The overall success rate of NLD intubation was 68.59% with younger children demonstrating higher success rates. Group A had the highest success rate (83.67%) followed by Group B (64.86%) and Group C (58.93%), with a statistically significant difference (p = 0.0385). Complications occurred in 25 cases; tube extrusion (7 patients), cheese wiring of the puncta (5 patients), mucocoele, nasolacrimal fistula, and chronic dacryocystitis (1 patient each). **Conclusion:** This study highlights that nasolacrimal intubation is more effective in younger children. The findings suggest that early intubation might prevent the need for multiple surgeries and reduce complications.

How to Cite: Najmi, S., Altaf, S., Yousaf, A., Uzair, N., Murtaza, R., & Anwar, A. (2025). Outcomes of nasolacrimal intubation in children aged 1 to 8 years: Nasolacrimal Intubation in Children. *Foundation University Medical Journal*, 7(1), 3-8.

34.Syndromic forms of inherited retinal dystrophies: a comprehensive molecular diagnosis of consanguineous Pakistani families using capture panel sequencing

Abstract

Background:Inherited retinal dystrophies (IRDs) represent a clinically and genetically heterogeneous group of genetic disorders that involve photoreceptors and/or retinal pigment epithelium degeneration. IRDs may occur as an isolated condition or may represent an ocular manifestation of a multisystemic disorder referred as syndromic IRD. To increase the understanding of the molecular determinants of

How to Cite: Asghar, A., Wazir, S., Fatima, S., Bilal, H., Shoaib, M., Rehman, S. U., & Firasat, S. (2025). Syndromic forms of inherited retinal dystrophies: a comprehensive molecular diagnosis of consanguineous Pakistani families using capture panel sequencing. *Molecular Vision*, 31, 69.

syndromic IRD-related genes in the Pakistani population, we revealed the genetic profile of 13 consanguineous Pakistani families using capture panel sequencing. Methods: We performed comprehensive molecular testing on 72 IRD segregating Pakistani families using targeted capture panel sequencing of 344 known genes. The pathogenicity of candidate variants was assessed using American College of Medical Genetics and Genomics guidelines, followed by Sanger sequencing for segregation analysis. Results: Causative variants in previously reported syndromic IRDs genes were detected in 13/72 (18%) IRD families, including 5/72 (6.94%), 4/72 (5.55%), 2/72 (2.8%), 1/72 (1.38%) and 1/72 (1.38%) in Usher syndrome, Bardet–Biedl syndrome, Batten disease, retinitis pigmentosa with situs inversus and Stickler syndrome segregated families, respectively. Disease-causing variants included nine previously reported and six novel homozygous variants, i.e., c.1143G>C in *USH2A*, c.470G>A in *MYO7A*, c.877–2A>G in *PCDH15*, c.347C>T in *ARL6*, c.581C>T in *CLN5* and c.100+1G>T in *ARL2BP* gene segregation with disease phenotype in eight families. Two heterozygous variants of the *USH2A* gene, i.e., c.12093C>A and c.9815C>T, were segregated in a compound heterozygous form in family RP243. Furthermore, RP151 showed segregation of a heterozygous variant c.247G>A in a Stickler syndrome gene, i.e., *COL2A1*, in an autosomal dominant manner. Conclusion: This study reaffirms the clinical and genetic heterogeneity of syndromic IRD-associated genes and confirms the usefulness of molecular methods in advancing our understanding of these conditions in consanguineous populations. The most commonly mutated Bardet–Biedl syndrome gene was *ARL6* (75%) and the most commonly mutated Usher syndrome genes were *USH2A* (40%) and *MYO7A* (40%). Our data could serve as a reference for future studies and the development of treatment modalities for affected families of Pakistani origin.

35. Understanding Destructive Leadership: The Impact of Narcissistic and Abusive Practices on Employee Outcomes in Contemporary Organizations

Abstract

The serious issue contemporary organizations are facing is destructive leadership, particularly narcissistic and abusive practices, which negatively impacts employee outcomes such as job satisfaction, organizational commitment, and psychological well-being. It is widely observed on a daily basis in Pakistan, but studies are very limited. To address this gap, the current study aims to find the impact of narcissistic and abusive practices on employee outcomes operationalized as job satisfaction, organizational commitment, and psychological well-being among employees in contemporary organizations in Pakistan. The study adopted a cross-sectional correlational study design and a purposive sampling technique to collect data from employees working in various organizations, with at least an age of 19, at least a matric or O-level, and at least 1 year of experience in the certain organization. The study utilized four measures, i.e., the Toxic Leadership Scale (to measure narcissistic and abusive practices only), Allen and Meyer's Organizational Commitment Scale, the Minnesota Satisfaction Questionnaire, and the Psychological Well-Being Scale. The Pearson product correlation indicated that narcissistic and abusive practices has a significant negative relationship with job satisfaction, organizational commitment, and psychological well-being. Furthermore, regression analysis

How to Cite: Shami, A. Z. A., Kazmi, S. Z. A. S., Zahra, T., Noreen, S., & Bilal, M. (2025). Understanding Destructive Leadership: The Impact of Narcissistic and Abusive Practices on Employee Outcomes in Contemporary Organizations. *Qlantic Journal of Social Sciences and Humanities*, 6(4), 180-190.

depicted that narcissistic and abusive practices have a significant and negative effect on job satisfaction. Narcissistic practices negatively however, do not significantly predict organizational commitment, but abusive practices significantly and negatively predict organizational commitment. Moreover, the narcissistic practices negatively and significantly predicted the psychological well-being, but the abusive practices negatively but not significantly predict the psychological well-being. The study provided detailed implications at the end.

36. Quality of life and perceived social support among elderly people residing in Rawalpindi District: A mixed method study

Abstract

Background: Pakistan is a rapidly aging country, Research on the relationship between quality of life and perceived social support among the elderly is crucial for understanding their well-being. This study assessed the quality of life and perceived social support of elderly individuals in families and old age homes, examined their association with sociodemographic factors, and explore their perceptions of these aspects. **Materials & Methods:** A cross-sectional survey of 80 senior citizens meeting the inclusion criteria utilized the

How to Cite: Malik, A. A., Kawish, A. B., Qureshi, E. T. T., & Jaffar, R. (2025). QUALITY OF LIFE AND PERCEIVED SOCIAL SUPPORT AMONG ELDERLY PEOPLE RESIDING IN RAWALPINDI DISTRICT: A MIXED METHOD STUDY. *Gomal Journal of Medical Sciences*, 23(1), 66-72.

WHO Quality of Life (OLD), Multidimensional Scale of Perceived Social Support. In-depth interviews with 14 participants provided qualitative insights. Data were analyzed using SPSS version 25.0, and Thematic Analysis was employed for qualitative data. An independent sample t-test and Pearson's correlation analysis were used to determine associations.

Results: Elderly individuals living with family showed (64.63 ± 20.069) significantly stronger personal relationships and intimacy ($p = 0.00002$) compared to those in old age homes (37.08 ± 27.851). Social interaction ($p = 0.013$) and past, present, and future activities ($p = 0.001$) facets differed significantly, with no significant differences in sensory abilities, autonomy, or death-related aspects. Significant differences in perceived social support were found across domains, including family ($p < 0.001$), friends ($p < 0.001$), and significant others ($p < 0.001$), between elderly individuals living with family and those living in old age homes. The total transformed score for quality of life ($p = 0.003$) and perceived social support ($p < 0.001$) were also significantly higher among elderly living with families. Correlation analysis revealed significant relationships between education ($p < 0.01$), marital status ($p < 0.01$), living arrangements ($p < 0.01$), household income ($p < 0.01$), perceived social support ($p < 0.01$), and quality of life ($p < 0.05$). **Conclusion:** This study found significant differences in WHOQOL-OLD scores between elderly living with families and those in old age homes. Living arrangements significantly influence the perceived social support of the elderly, with education and financial dependency scores positively correlated with quality of life and social support, and negatively correlated with living arrangements.

Keywords: Aging; elderly; population; Family; Pakistan; quality of life; Old-age homes; Sociodemographic factors; social support.

37. Evaluation of Variability in Macular Thickness in Primary Open Angle Glaucoma: A Spectral Domain Optical Coherence Tomography-Based Study

Abstract

Globally, glaucoma, especially primary open-angle glaucoma (POAG), is one of the leading causes of blindness. This disease is connected to damage of the optic nerve head, death of retinal ganglion cells and visual field abnormalities. **Objectives:** To check the macular thickness and total macular volume using spectral-domain optical coherence tomography (SD-OCT) among patients of POAG and subjects without glaucoma. **Methods:** The observational case-control study, where 40 participants had POAG and 40 participants the same age did not. Only the right eye or only the left eye from each subject was examined in the study. All subjects had a thorough check of their eyes which included history, eye chart testing, slit-lamp examination, dilated fundus inspection, gonioscopy and measuring intraocular pressure (IOP). Visual fields were assessed using the Humphrey Field Analyzer. Macular thickness (MT) was analyzed with SD-OCT using OCT Spectralis. Parameters evaluated were macular inner thickness (MIT), macular outer thickness (MOT), macular central thickness (MCT) and macular total volume (MTV). **Results:** Patients with POAG exhibited markedly reduced MTV, MIT and MOT in comparison to healthy controls, with the greatest decline observed in the temporal as well as the inferior quadrants. These observations confirm that structural differences in the macular parameters are correlated with glaucoma and can aid in early diagnosis and monitoring progression. **Conclusion:** This study emphasizes the diagnostic utility of SD-OCT in determining macular thickness variability in individuals with POAG. Our findings show that macular thickness is much lower in glaucomatous eyes than in healthy controls, with distinct patterns of regional thinning indicating retinal ganglion cell vulnerability.

How to Cite: Tanveer, T., Ali, M., Akram, F., Sughra, U., Anwar, A., & Khan, F. (2025). Evaluation of Variability in Macular Thickness in Primary Open Angle Glaucoma: A Spectral Domain Optical Coherence Tomography-Based Study: Primary Open Angle Glaucoma: A Spectral Domain Optical Coherence Tomography-Based Study. Pakistan Journal of Health Sciences, 182-186.

38. Comparative Efficacy Of Intravitreal versus Posterior Sub-Tenon Triamcinolone Acetonide Injections For Diabetic Macular Edema

Abstract

Objectives: To evaluate and compare the efficacy and safety of intravitreal versus posterior sub-tenon injections of triamcinolone acetonide in treating diabetic macular edema among patients with diabetic retinopathy (DR). **Methods:** A total of 66 participants were enrolled in this randomized controlled trial conducted at Al Shifa Trust Eye Hospital in Rawalpindi. The participants were randomly allocated into two equal groups of 33 each.. The IVTA group received a 4 mg intravitreal injection of triamcinolone acetonide, while the STTA group received a 40 mg posterior sub-tenon injection. Follow-up was conducted one- and three-months post-injection. **Results:** Pre-injection central macular thickness (CMT) was similar between groups (IVTA: $375.9 \mu\text{m} \pm 103 \mu\text{m}$ vs. STTA: $380.3 \mu\text{m} \pm 101 \mu\text{m}$, $p = 0.921$). Post-injection, CMT significantly improved in both groups, with a more prominent effect in the

How to Cite: Shahid, M., Nadir, A., Naureen, F., Rehman, U., Gohar, A., & Anjum, S. (2025). Comparative Efficacy Of Intravitreal versus Posterior Sub-Tenon Triamcinolone Acetonide Injections For Diabetic Macular Edema. Ophthalmology, 21(2), 63-69.

IVTA group ($223 \mu\text{m} \pm 59$ vs. $299 \mu\text{m} \pm 79$, $p = 0.01$). Pre-injection best-corrected visual acuity (BCVA) was comparable (IVTA: 0.83 ± 0.1 vs. STTA: 0.80 ± 0.17 LogMAR, $p = 0.334$), but the IVTA group showed significantly better BCVA post-injection (0.38 ± 0.08 vs. 0.67 ± 0.08 LogMAR, $p < 0.001$). While pre-injection intraocular pressure (IOP) was similar ($p = 0.753$), postinjection IOP was lower in the STTA group (15.8 ± 0.59 mmHg) compared to the IVTA group (18.3 ± 1.7 mmHg, $p < 0.001$). **Conclusion:** Both injection methods effectively treated diabetic macular edema, with the posterior sub-tenon approach showing a lower risk of raised IOP. Al-Shifa Journal of Ophthalmology 2025; 21(2): 63-69. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

39. Effectiveness of 5-Fluorouracil Chemotherapy in Preventing Recurrence of Ocular Surface Squamous Neoplasia

Abstract

Objective: Ocular surface squamous neoplasia (OSSN) encompasses a spectrum of malignancies affecting the conjunctival and corneal tissues, including conjunctival intraepithelial neoplasia (CIN) and squamous cell carcinoma (SCC). High recurrence rates for OSSN necessitate effective treatment strategies, particularly in low-resource settings.

Methodology: This prospective case series, conducted from March 2023 to March 2024 at the Department of Orbit and Oculoplastics, Alshifa Trust Eye Hospital, Rawalpindi, included 34 eyes from 34

How to Cite: Khan, Sumeya & Ullah, Saad & Manzoor, Amna & Taimur, Fariha & Tahir, Faizan & Sameen, Murtaza. (2025). Effectiveness of 5-Fluorouracil Chemotherapy in Preventing Recurrence of Ocular Surface Squamous Neoplasia. Journal of Rawalpindi Medical College. 29. [10.37939/jrmc.v29i2.2668](https://doi.org/10.37939/jrmc.v29i2.2668).

patients with biopsy-confirmed OSSN. Patients underwent surgical excision with a 4 mm clear margin, followed by applying 1% 5-fluorouracil (5-FU) for 90 seconds and cryotherapy using a double freeze-thaw cycle. Post-surgical patients received topical 5-FU in cycles: one week on and three weeks off, for three to five months. Outcomes were documented through clinical examination and anterior segment optical coherence tomography (OCT). Primary outcomes were recurrence of clinical lesions. The secondary outcome was detecting the presence of HIV in patients by using an HIV antibody titres assay. **Results:** The mean age of patients was 53.3 years. 73.5% were males, and 26.5% were females. The majority (76.5%) were diagnosed with full-thickness dysplasia. Treatment was predominantly post-excision. Chemoreduction prior to surgery was done in 4 patients. Most had 3 cycles of 5-FU (52.9%). During follow-up, not a single recurrent lesion occurred. Logistic regression indicated a positive, though non-significant, association between the number of 5-FU cycles and reduced recurrence ($\beta = 0.2598$, $p = 0.321$). **Conclusion:** This study demonstrates that using 5-FU with cryotherapy significantly reduces OSSN recurrence in low-resource settings. Further research with larger cohorts is recommended to confirm these findings and refine treatment protocols. **Keywords:** 5-Fluorouracil, Cryotherapy, chemotherapy protocols, Squamous Cell neoplasm, Conjunctival disease.

40.Recurrent Vision Fluctuations and Orbital Signs Unmasking T-Cell Lymphoma: A Case Report

Abstract

Introduction: Orbital T-cell lymphoma is a rare and diagnostically challenging malignancy that can closely mimic inflammatory conditions such as Tolosa-Hunt Syndrome (THS), particularly due to overlapping clinical and radiological features. **Case Presentation:** We report a 21-year-old male who initially fulfilled the ICHD-3 criteria for THS, demonstrating unilateral painful ophthalmoplegia and transient steroid responsiveness. However, recurrence of symptoms and subsequent histopathological evaluation confirmed the presence of extranodal orbital T-cell lymphoma. This case underscores the critical importance of maintaining a high index of suspicion for malignancy in steroid-responsive orbital syndromes, especially when atypical features or relapses occur. Early biopsy and multidisciplinary coordination enabled timely initiation of CHOEP chemotherapy, leading to slight clinical improvement. This report adds to the growing body of literature emphasizing the masquerade potential of lymphoid malignancies in orbital inflammation. **Conclusion:** Orbital T-cell lymphoma can mimic benign inflammatory conditions such as orbital cellulitis. Prompt biopsy and multidisciplinary evaluation are crucial for accurate diagnosis and timely initiation of appropriate treatment. **Keywords:** Orbital T-cell lymphoma, Tolosa-Hunt mimic, Painful ophthalmoplegia, Steroid responsive lesion, CHOEP chemotherapy, Ocular Oncology, Case Report.

How to Cite: Johar Abbas, Rabia Asim, Saadullah Ahmad, Faizan Tahir; Recurrent Vision Fluctuations and Orbital Signs Unmasking T-Cell Lymphoma: A Case Report. Case Rep Ophthalmol 2025; <https://doi.org/10.1159/000549456>

41.Pseudo-Myopia and Screen Time: A Pre and Post Cycloplegic Refractive Evaluation of Children age 4–16 years

Abstract

Purpose: to examine the magnitude of pseudo-myopia in relation to pre- and post-cycloplegic refractive status among individuals aged 4 to 16 years and to investigate the relationship of pseudo myopia and screen time in said population. **Material and methods:** Study included 66 subject's right eyes of 48 % males, 52 % females aged 4–16 with mean and standard deviation of 10.0 ± 3.40 . This comparative cross-sectional study was conducted at the department of ophthalmology Tertiary Care Hospital, Islamabad. Consecutive non-randomized sampling techniques was adopted. Screen time duration in hours was measured using self-report or screen time tracking applications in smartphones. Visual acuity (VA) was measured with a standard Log MAR chart. Pre and post cycloplegic refraction with retinoscopy and Auto-refractometer were performed using Tropicamide 1 %. Paired t test was applied for pre and post cycloplegic refraction change, while Pearson correlational analysis was also calculated. Descriptive statistics were calculated using SPSS Version 21. **Results:** Average screen time was 5.6 ± 1.5 hours, outdoor activity was 50.6 ± 27.3 minutes. Pre-dilation VA improved from 0.3 ± 0.3 to 0.05 ± 0.14 log MAR post-dilation. The mean spherical equivalent refractive error in pre-dilation state was -4.1 ± 2.2 D, while in post-dilation it was 0.76 ± 0.8 D. The differences were significant ($p < 0.01$). A statistically

How to Cite: Khan, S. A., Shah, M., Ullah, S., Khan, S. A., Abbas, H., & Qayyum, S. Pseudo-Myopia and Screen Time: A Pre and Post Cycloplegic Refractive Evaluation of Children age 4–16 years.

significant relationship found between screen exposure time and pseudo-myopia ($r=0.41$, $p<0.001$). **Conclusion:** Increasing screen time is associated with pseudo-myopia. Prolonged screen exposure led to increased pseudo-myopia in low myopes and hyperopes. **Keywords:** Log-MAR; pseudo-myopia; screen exposure; visual acuity

42. Evaluating the Efficacy of Artificial Intelligence Driven Chatbots in Addressing Queries on Vernal Conjunctivitis

Abstract

Background: Vernal keratoconjunctivitis (VKC) is a recurrent allergic eye disease that requires accurate patient education to ensure proper management. AI-driven chatbots, such as Google Gemini Advanced (Mountain View, California, US), are increasingly being explored as potential tools for providing medical information. This study evaluates the accuracy, reliability, and clinical applicability of Google Gemini Advanced in addressing VKC-related queries.

Objective To assess the performance of Google Gemini Advanced in delivering medically accurate and relevant information about VKC and to evaluate its reliability based on expert ratings. **Methods:** A total of 125 responses generated by Google Gemini Advanced for 25 VKC-related questions were assessed by two independent cornea specialists. Responses were rated on accuracy, completeness, and potential harm using a 5-point Likert scale (1-5). Inter-rater reliability was measured using Cronbach's alpha. Responses were categorized into highly accurate (score of 5), minor inconsistencies (score of 4), and inaccurate (scores 1-3). **Results:** Google Gemini Advanced demonstrated high inter-rater reliability (Cronbach's alpha = 0.92, 95% CI: 0.87- 0.94). Of the 125 responses, 108 (86.4%) were rated highly accurate (score of 5) while 17 (13.6%) had minor inconsistencies (score of 4) but posed no potential for harm. No responses were classified as inaccurate or potentially harmful. The combined mean score was 4.88 ± 0.31 , reflecting strong agreement between raters. The chatbot consistently provided reliable information across diagnostic, treatment, and prognosis-related queries, with minor gaps in complex grading and treatment-related discussions. **Discussion** The findings support the use of AI-driven chatbots like Google Gemini Advanced as potential tools for patient education in ophthalmology. The chatbot exhibited strong accuracy and consistency, particularly in addressing general VKC-related queries. However, areas for improvement remain, especially in providing detailed guidance on treatment protocols and ensuring completeness in responses to complex clinical questions. **Conclusion:** Google Gemini Advanced demonstrates high reliability and accuracy in delivering medical information about VKC, making it a valuable tool for patient education. While its responses are consistent and generally accurate, expert oversight remains necessary to refine AI-generated content for clinical applications. Further research is needed to enhance AI-driven chatbots' ability to provide nuanced medical advice and integrate them safely into ophthalmic patient education and clinical decision-making.

How to Cite: Muhammad, S., Moqet, M. A., Hassan, M., Khan, S., Rabia, S., Khan, F. U. ... & Warda, A. (2025). Evaluating the Efficacy of Artificial Intelligence-Driven Chatbots in Addressing Queries on Vernal Conjunctivitis. *Cureus*, 17(2).

43. Assessing the impact of levator resection by anterior approach with and without upper lid blepharoplasty on dry eye syndrome

Abstract

Background: Dry eye disease is a multifactorial condition that significantly affects tear film homeostasis, resulting in ocular discomfort and surface damage. Surgical interventions like upper eyelid blepharoplasty, often performed for aesthetic and functional purposes, can disrupt the tear film, particularly when combined with levator resection. Understanding the impact of these procedures on dry eye parameters is crucial for optimizing patient outcomes, especially in populations predisposed to dry eye symptoms due to age or other risk factors.

Objective: To evaluate and compare the effects of upper eyelid blepharoplasty with levator resection

versus levator resection alone on dry eye parameters, focusing on tear film stability and subjective symptoms. **Methods:** This prospective study included 120 eyes from 120 patients diagnosed with acquired ptosis, equally divided into two groups: one undergoing upper eyelid blepharoplasty combined with levator resection and the other undergoing levator resection alone. Dry eye parameters, including tear break-up time (TBUT), Schirmer's test, and Ocular Surface Disease Index (OSDI) scores, were assessed preoperatively, and at 1 and 3 months postoperatively. The surgeries were performed under local anesthesia, and postoperative evaluations excluded the use of lubricants to ensure unbiased tear film assessments.

Results: In the blepharoplasty with levator resection group, the mean preoperative TBUT decreased from 15.27 ± 2.62 seconds to 14.32 ± 2.89 seconds at 1 month, followed by partial recovery to 14.87 ± 2.72 seconds at 3 months. Schirmer's test values dropped from 14.88 ± 2.12 mm preoperatively to 13.87 ± 2.29 mm at 1 month, improving to 14.60 ± 2.13 mm at 3 months. The OSDI score increased from 48.05 ± 19.12 preoperatively to 48.95 ± 19.24 at 1 month and improved to 46.55 ± 19.13 at 3 months. In contrast, the levator resection alone group showed stable dry eye parameters, with preoperative TBUT, Schirmer's test, and OSDI scores remaining consistent at 1 and 3 months. **Conclusion:** Upper eyelid blepharoplasty with levator resection temporarily exacerbates dry eye symptoms and reduces tear film stability, with partial recovery by 3 months. Levator resection alone did not significantly impact dry eye parameters, underscoring the role of blepharoplasty-specific interventions in these changes. Proactive patient counseling and early postoperative management are essential for mitigating transient discomfort. **Keywords:** Blepharoplasty, Dry eyes, Ophthalmology, Ophthalmologic Examination, ocular health, Dry eye disease, eyelid reconstruction, tear film quality

How to Cite: Saad, M., Adnan, M. A. M. K., Mansoor, H., Naqvi, S. A. H., & Tahir, F. (2025). ASSESSING THE IMPACT OF LEVATOR RESECTION BY ANTERIOR APPROACH WITH AND WITHOUT UPPER LID BLEPHAROPLASTY ON DRY EYE SYNDROME. *Insights-Journal of Health and Rehabilitation*, 3(1 (Health & Rehab)), 61-67.

44. High myopia of -26D in a 3 year old child: A rare case presentation

Abstract

High myopia in early childhood is rare and often associated with genetic, ocular, or systemic abnormalities. This case report describes a 3-year-old girl diagnosed with high axial myopia (-24.00 DS) and an axial length exceeding 33 mm, highlighting the importance of early detection and comprehensive management. A 3-year-old female presented with

How to Cite: Najmi, S., Yousaf, A., Sharif, N., Maqbool, A., & Naureen, F. (2025). High myopia of -26D in a 3 year old child: A rare case presentation: A Case of -26D Myopia in Early Childhood. *Foundation University Medical Journal*, 7(1), 37-40.

squinting and difficulty seeing distant objects. Cycloplegic refraction revealed -24.00 DS in both eyes, with no nystagmus or strabismus. Examination under anesthesia confirmed -26.00 DS on retinoscopy. Ocular examination was remarkable for severe chorioretinal atrophy and pale optic discs (0.5 CDR). Axial length measurements were 33.23 mm (right eye) and 33.15 mm (left eye). A diagnosis of high axial myopia was made, and myopia management was initiated with spectacle correction, soft contact lenses, and low-dose atropine therapy (0.01%). Systemic evaluation ruled out syndromic associations, and the patient was placed on close follow-up for progression monitoring and amblyopia management. This case represents one of the highest reported myopic refractive errors in early childhood. It highlights the importance of early detection, individualized myopia management, and long-term monitoring to reduce the risk of progressive vision loss and complications. Advances in myopia control offer promising avenues for improving visual outcomes in highly myopic children.

Keywords: Congenital Nasolacrimal Duct Obstruction, Nasolacrimal Duct Intubation, Regurgitation Test.

45. Ocular Surface Disease in a Young Boy with Laryngo-Onycho-Cutaneous Syndrome: A Case Report

Abstract

Laryngo-Onycho-Cutaneous (LOC) syndrome is a rare variant of autosomal recessive junctional epidermolysis bullosa (JEB), predominantly affecting individuals from consanguineous families within the Muslim Punjabi community. A 12-year-old boy presented with a progressive decline in visual acuity over four years, accompanied by photophobia and excessive tearing. His visual acuity was severely impaired, with light perception in the right eye and 6/60 vision in the left eye. Slit-lamp biomicroscopy revealed symblepharon in both eyes, corneal conjunctivalization, and restricted ocular motility in all directions. Systemic examination identified additional features, including nail clubbing, cheek ulcerations, stridor, hoarseness, vitiligo, and dental anomalies. The patient underwent symblepharectomy with an amniotic membrane graft. Cycloplegic refraction was performed 1 month postoperatively which resulted in considerable improvement in visual acuity and symptomatic relief.

Keywords: Symblepharon; Amniotic membrane, Graft, Laryngo-Onycho-Cutaneous syndrome.

How to Cite: Gulzar, S., Abbas, S. B., Malik, H. A., & Uzair, N. (2025). Ocular Surface Disease in a Young Boy with Laryngo-Onycho-Cutaneous Syndrome: A Case Report. *Pakistan Journal of Ophthalmology*, 41(3).

46. Beyond the Darkness: Navigating Oguchi Disease with a Singular Case Insight

Abstract

Oguchi disease represents a hereditary condition characterized by stationary night blindness. It has a characteristic clinical sign, the Mizuo-Nakamura phenomenon. We present a case of a 9-year-old girl who was evaluated for complaints of impaired night vision. Best-corrected visual acuity in both eyes was 20/100. Dilated fundus examination demonstrated a metallic sheen across the retina bilaterally. After a dark adaptation for 2 hours, the

How to Cite: Malik, H. A., Abbas, S. B., Gulzar, S., & Uzair, N. (2025). Beyond the Darkness: Navigating Oguchi Disease with a Singular Case Insight. *Pakistan Journal of Ophthalmology*, 41(2).

characteristic golden-yellow metallic sheen resolved, demonstrating the clinical phenomenon known as the Mizuo-Nakamura effect. **Keywords:** Mizuo-Nakamura phenomenon; metallic sheen; Oguchi disease

47. Phenotypic and Genetic Heterogeneity of a Pakistani Cohort of 15 Consanguineous Families Segregating Variants in Leber Congenital Amaurosis-Associated Genes

Abstract

Background: Leber congenital amaurosis (LCA) is a congenital onset severe form of inherited retinal dystrophy (IRD) and a common cause of pediatric blindness. Disease-causing variants in at least 14 genes are reported to predispose LCA phenotype. LCA is inherited as an autosomal recessive disease. It can be an isolated eye disorder or as part of a syndrome, such as Senior Loken or Joubert syndrome. Sequencing studies from consanguineous populations have proven useful for novel variants identification; thus, the present study aimed to explore the genetic heterogeneity of 15

consanguineous Pakistani families, each segregating a severe IRD phenotype using targeted next generation sequencing. **Methods:** This study enrolled 15 consanguineous families, each with multiple affected cases of retinal dystrophy phenotype. DNA was extracted from blood samples. Targeted panel sequencing of 344 known genes for IRDs was performed, followed by Sanger sequencing for segregation analysis. **Results:** Data analysis revealed a total of eight reported (c.316C>T and c.506G>A in *RDH12*; c.864dup and c.1012C>T in *SPATA7*, as well as c.1459T>C, c.1062_1068del, c.1495+1G>A, c.998G>A in the *CRB1*, *LCA5*, *TULP1*, and *IFT140* genes, respectively) and four novel homozygous (c.720+1G>T in *LCA5*, c.196G>C in *LRAT*, c.620_625del in *PRPH2*, and c.3411_3414del in *CRB1*) variants segregating with disease phenotype in each respective family. Furthermore, a novel heterozygous variant of *CRB1* gene, i.e., c.1935delC in compound heterozygous condition was found segregating with disease phenotype in one large family with multiple consanguinity loops. **Conclusion:** Comprehensive molecular diagnosis of 15 consanguineous Pakistani families led to the identification of a total of 5 novel variants contributing to genetic heterogeneity of LCA-associated genes and helped to provide genetic counselling to affected families. **Keywords:** Leber congenital amaurosis; childhood blindness.

How to Cite: Akhtar Z, Altaf S, Li Y, Bibi S, Shah J, Afshan K, Wang M, Hussain HMJ, Qureshi N, Chen R, et al. Phenotypic and Genetic Heterogeneity of a Pakistani Cohort of 15 Consanguineous Families Segregating Variants in Leber Congenital Amaurosis-Associated Genes. *Genes*. 2024; 15(12):1646. <https://doi.org/10.3390/genes15121646>

48. Impact of Serum Ferritin Levels on Corneal Epithelial Healing in Recurrent Corneal Erosion Syndrome

Abstract

This observational study hypothesized that systemic iron status—as reflected by serum ferritin—influences the rate of corneal epithelial healing in eyes with Recurrent Corneal Erosion Syndrome (RCES). Thirty adult patients presenting with acute RCES episodes were recruited and grouped according to baseline serum ferritin: low (< 30 ng/mL), normal (30-150 ng/mL), and high (> 150 ng/mL). Corneal epithelial defects were induced by routine minor superficial debridement (standardized 3 mm epithelial abrasion) in the clinically affected eye; healing was monitored daily with fluorescein staining until re-epithelialization. The primary outcome was time to complete epithelial closure. Secondary outcomes included healing quality (smooth re-epithelialization without persistent defects) and recurrence rate over 3 months. Mean healing time in the low-ferritin group was significantly longer (7.6 ± 1.2 days) compared to the normal (5.1 ± 1.0 days) and high-ferritin (5.4 ± 1.1 days) groups ($p = 0.003$). The proportion of patients achieving smooth epithelium by day 10 was 40% in low, vs. 87% and 80% in normal and high groups, respectively ($p = 0.02$). Recurrence within 3 months occurred in 3/10 (30%) low-ferritin eyes versus 1/10 (10%) in normal and 1/10 (10%) in high group ($p = 0.15$). These findings suggest that low serum ferritin delays epithelial healing in RCES and may predispose to recurrent erosions. The data support a novel link between systemic iron deficiency and impaired corneal epithelial repair, indicating the potential value of assessing and correcting iron stores in RCES management.

Keywords: recurrent corneal erosion, serum ferritin, corneal epithelial healing

How to Cite: Asad Ali Khan, Muhammad Amjad, Junaid Afsar Khan, Faiza Tariq, Abdul Rafe, Muhammad Imran Ali. (2025). Impact of Serum Ferritin Levels on Corneal Epithelial Healing in Recurrent Corneal Erosion Syndrome. International Journal of Pharmacy Research & Technology (IJPRT), 15(2), 3639–3647. Retrieved from <https://ijprt.org/index.php/pub/Article/view/1271>

49. Association of HbA1C Value with The Severity of Diabetic Retinopathy in Type 2 Diabetic Patients

Abstract

Objective: To determine association between HbA_{1c} levels and severity of diabetic retinopathy (DR) in type 2 diabetes mellitus (DM) of a tertiary care setting. **Methods:** A cross-sectional study was commenced in type II diabetes patients of a tertiary eye hospital using non-probability sequential sampling technique. The degree of DR was assessed by thorough ocular examinations and classified as mild, moderate, severe non-proliferative diabetic retinopathy (NPDR) and proliferative diabetic retinopathy (PDR). We assessed HbA_{1c} levels and examined the relationship between HbA_{1c} levels and DR severity using statistical package for social sciences (SPSS) version 19. **Results:** A total 253 patients were involved in the study. Most of the subjects (61.3%) were men. Average age was 49.7 ± 7.3 years. According to DR classification, 35.6% had Mild NPDR, 56.9% had moderate NPDR, 5.5% had severe NPDR and 2% had PDR. Significant association was found between HbA_{1c} levels and DR severity ($p < 0.001$). **Conclusion:** Our study showed

How to Cite: Arfa Shaikh, Z. K., Khan, M. T. H., Sultan, M., Barry, H., & Azeem, R. Association of HbA_{1c} Value With The Severity of Diabetic Retinopathy in Type 2 Diabetic Patients.

significant association between DR severity and higher HbA_{1c} levels. Early screening and timely management can minimize the threat of DR. AlShifa Journal of Ophthalmology 2025; 21(3): 197-203. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

50. Effect of Duration of Type II Diabetes Mellitus on Intraocular Pressure and Central Corneal Thickness

Abstract

Objective: To find out the effect of duration of type II diabetes mellitus on intraocular pressure and central corneal thickness **Methods:** A total of 100 diabetic patients were included in the study after taking approval from Ethical Review Committee. Patients were selected for the data collection process in the Eye outpatient department. Slit lamp and retinal examinations were performed on all individuals. The central corneal thickness (CCT) was determined with a Quantel clinical pachymeter, and the intraocular pressure (IOP) was assessed with a Goldman applanation tonometer. Patients were divided into two groups based on the duration of their disease: Group A (diabetes less than 10 years) and Group B (diabetes more than 10 years). **Results:** The mean age of patients was 47.1 ± 8.94 years in group A and 72.86 ± 6.04 years in group B. Group A patients were found to have a mean CCT value of 532.400 ± 12.98 micrometer while Group B patients had a mean CCT of 553.120 ± 13.23 micrometer (p-value <0.05). Mean IOP in group A patients was 18.03 ± 0.749 mmHg and in group B patients was 19.58 ± 1.029 mmHg (p-value <0.05). **Conclusion:** Prolonged duration of type 2 diabetes mellitus (disease duration > 10 years) has been depicted to be significantly associated with increased Central Corneal Thickness (CCT) and raised Intraocular Pressure (IOP). Al-Shifa Journal of Ophthalmology 2025; 21(1): 23-28. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Aslam, S., Obaid, N., Hussain, T. N., Obaid, S., & Ahmed, H. Effect of Duration of Type II Diabetes Mellitus on Intraocular Pressure and Central Corneal Thickness.

51. Pseudomyopia and screen time: refractive assessment of children aged 4–16 years before and after cycloplegia

Abstract

Aim: The aim of the study was to assess the degree of pseudomyopia based on the difference between manifest and cycloplegic refraction in children aged 4–16 years and to investigate the relationship between pseudomyopia and screen time in this population.

Material and methods: The study included 66 right eyes of children, 48% of whom were boys and 52% of whom were girls, with a manifest refraction ($M \pm SD$) of -10.0 ± 3.4 D. A comparative cross-sectional study was conducted in the ophthalmology department of a tertiary care hospital in Islamabad. Sequential non-randomized sampling methods were used.

Screen time in hours was measured by self-report or screen time tracking apps on smartphones. Visual acuity (VA) was measured using a standard Log MAR table. Pre- and post-cycloplegic (using 1% tropicamide) refraction was determined using retinoscopy and autorefractometry. A paired t-test and Pearson correlation analysis were used to compare refraction before and after cycloplegia. **Results:** The average screen time was 5.6 ± 1.5 h, outdoor activity was 50.6 ± 27.3 min. VA, which was 0.3 ± 0.3 before cycloplegia, improved to 0.05 ± 0.14 Log MAR after cycloplegia. The average spherical equivalent of refraction

How to Cite: Khan S.A., Shah M., Ullah S., Ali Khan S., Abbas H., Qayyum S. Pseudomyopia and screen time: refractive assessment of children aged 4–16 years before and after cycloplegia. Russian Ophthalmological Journal . 2025; 18(3): 57–61. <https://doi.org/10.21516/2072-0076-2025-18-3-57-61>

before pupil dilation was -4.1 ± 2.2 D, after dilation it changed to 0.76 ± 0.8 D ($p < 0.01$). The association between screen time and pseudomyopia was statistically significant ($r = 0.41$, $p < 0.001$). **Conclusion:** Increased screen time is associated with pseudomyopia. Prolonged screen exposure increases pseudomyopia in children with mild myopia and hyperopia. **Keywords:** Log-MAR, pseudomyopia, screen time, visual acuity

52. Visual Acuity and Contrast Sensitivity among Subjects with Human Immunodeficiency Virus Infection Receiving Highly Active Anti-Retroviral Therapy

Abstract

Objectives: To assess visual acuity and contrast sensitivity among subjects with Human Immunodeficiency Virus (HIV) infection receiving Highly Active Anti-Retro Viral Therapy (HAART) and compare with the duration of treatment.

Methods: A total of 85 participants with Human Immunodeficiency Virus infection receiving HAART therapy were assessed for both visual acuity (VA) and contrast (CS) sensitivity. VA was taken for right eye and left eye separately with Log Mar chart. Refraction was done for refractive error. For Contrast Sensitivity, Pelli-Robson chart was used. Contrast Sensitivity was taken binocularly. Data was analyzed through (SPSS) software version 22. **Results:** In this study, the total number of participants was 85, among which 82 were males and 03 were transgenders, who were receiving highly active antiretroviral therapy (HAART) for HIV infection. The mean age of the participants was 31.41 ± 5.19 years. The majority of subjects (84.7%) had VA of 0.00 log Mar (6/6) or better, while 15.3% had mild visual impairment. Normal contrast sensitivity was observed in 50.6% of subjects, while 45.9% had poor CS. The duration of HAART did not show any significant association with visual acuity ($p=0.407$); however, a significant association was observed between contrast sensitivity and duration of HAART ($p=0.003$). **Conclusion:** People with HIV receiving HAART may experience changes in their visual function, specifically in contrast sensitivity. The duration of HAART treatment was found to be significantly associated with contrast sensitivity, while it has no effect on visual acuity. AlShifa Journal of Ophthalmology 2025; 21(1): 9-16. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Jehan, A., Khan, S., Safi, S. K., & Uddin, S. Visual Acuity and Contrast Sensitivity among Subjects with Human Immunodeficiency Virus Infection Receiving Highly Active Anti-Retroviral Therapy.

53. Frequency of Types of Squint and Gender Distribution Presenting to a Tertiary Care Hospital in Islamabad

Abstract

Objectives: To determine the frequency of various types of squint with gender distribution presenting to a tertiary care hospital in Islamabad. **Methods:** This cross sectional study was conducted from 07-01-2021 to 15-03-2022. 57 patients with strabismus were selected for this study. After obtaining consent

baseline features including age, gender, and eye involved were documented on the predesigned proforma. The cover-uncover test was performed to determine the type of squint including “exotropia” and “esotropia”. The chi-square test was used as a test of significance. **Results:** Among 57 patients 34 (59.65%) were males while 23 (40.35%) were females. The mean age was 21.51 ± 7.22 years. Squint was observed in the left eye only in 9 (15.79%), right eye only in 15 (26.32%), and in both eyes in 33 (57.89%) patients. The frequency of

How to Cite: Anwer, N., Anwer, A., Akhtar, R., & Ahmed, S. Frequency of Types of Squint and Gender Distribution Presenting to a Tertiary Care Hospital in Islamabad.

“Exotropia” was 50 (87.72%) while of “Esotropia” was 7 (12.28%). Among male patients (n = 34), “exotropia” was found in 29 (85.29%), and “esotropia” was found in 5 (14.71%) while in female patients (n = 23), “exotropia” was found in 21 (91.30%) and “esotropia” in 2 (8.70%) patients, (p = 0.498). **Conclusion:** Exotropia is the more prevalent type of strabismus in our study population with higher frequency in the male population. Al-Shifa Journal of Ophthalmology 2025; 21(1): 17- 22. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan

54.Association of HbA1c and Duration of Diabetes with Refractive Errors in Type II Diabetic Patients

Abstract

Objectives: To evaluate the association between HbA1C levels, duration of diabetes, and refractive errors in patients with type II diabetes mellitus.

Methods: A cross-sectional study involving 200 patients with type II diabetes (400 eyes) was conducted over 3 months at the federal government Polyclinic Hospital. Eye examinations and HbA1C assessments were analyzed using SPSS v21, employing chi-square and regression analyses.

Results: Astigmatism (56%) was the most prevalent refractive error, followed by myopia (29.5%) and hyperopia (14.5%) with higher prevalence in males (52%) and patients aged >50 years (35%). Prediabetic patients exhibited the highest prevalence of refractive errors (62%). The duration of diabetes was significantly associated with refractive error severity ($\chi^2=30.21$, $p < 0.001$). **Conclusions:** Refractive errors, particularly astigmatism, are prevalent in diabetic patients. Longer duration of diabetes and suboptimal HbA1C levels exacerbate these changes. Routine eye exams and glycemic control are essential to prevent visual impairment. Al-Shifa Journal of Ophthalmology 2025; 21(1): 29-36. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Malik, A., Rasheed, A., Qayyum, A., Khan, G., Farooq, M., & Qasim, M. M. (2025). Association of HbA1c and duration of diabetes with refractive errors in type II diabetic patients. Al-Shifa Journal of Ophthalmology, 21(1), 29–36.

55.Comparison of Aberrations in Corneal Topography Between Young Adults with More Than 1 Diopter Versus Less Than 1 Diopter Astigmatism

Abstract

Objectives: To evaluate the impact of anterior segment parameters and high-order and Low Order aberrations on visual quality in young adults with different astigmatism levels using corneal topography.

Methods: The research was approved by the Ethical Review Board of the College of Ophthalmology and Allied Vision Sciences, Mayo Hospital (Ref # 1620/2023). The study was conducted on patients visiting Mayo Hospital, Lahore, with a sampling size

of 74 eyes (34 in each group). Patients with $> \pm 1D$ astigmatism (study group) and $< \pm 1D$ astigmatism (control group) were recruited. Corneal astigmatism, keratoconus indices, keratometry findings, anterior segment parameters, high-order aberrations, and low-order aberrations were assessed and compared between groups. These parameters were measured using Sirius corneal Topography. All dependent and independent variables were considered. Data were entered and analyzed using SPSS 27.0. A P value ≤ 0.05 was considered

How to Cite: Abbass, S. (2025). Comparison of aberrations in corneal topography between young adults with more than 1 diopter versus less than 1 diopter astigmatism. Al-Shifa Journal of Ophthalmology. Retrieved from the journal PDF

significant. **Results:** Thirty-seven eyes of 37 young adults and 37 eyes of 37 children were analyzed. The mean astigmatism was -2.3776 ± 2.25034 and -0.3878 ± 0.29369 , respectively. Total corneal astigmatism was -3.03 ± 1.73 and -0.44 ± 0.25 diopters. Significant differences were seen in keratoconus-indices, mean corneal-thickness, high-order-aberrations (HOAs) and low-orderaberrations (LOAs), and visual quality were observed between the groups between. **Conclusion:** Young adults with $\pm 1D$ astigmatism showed higher corneal astigmatism, thinner mean CT, and increased keratoconus indices, with higher HOAs and LOAs. Al-Shifa Journal of Ophthalmology 2025; 21(1): 43-49. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

56.Effective Way Of Local Anesthesia For External Dacryocystorhinostomy (Ex-Dcr); A Three Point Infiltrative Local Anesthesia

Abstract

Objectives: To document and illustrate the pain-free method for external dacryocystorhinostomy (Ex-DCR) under 3-point infiltrative local anesthesia.

Methods: A total of 30 patients were operated on by the new local anesthesia technique after approval from the institutional Review Board of the Bahawalpur Victoria Hospital, Bahawalpur. Patients between 20 and 70 years of age and of any sex were included in the study. SPSS was used for analyses. A Verbal Rating Scale (VRS) was used in our study for pain scoring as described by the patient. **Results:**

Among the patients, 12(40%) were males and 18(60%) were females with a mean age of 53.73 ± 13.128 years. During the skin incision, 25(83.3%) patients described no pain, while 5(16.7%) had only discomfort. While elevating the periosteum, only 10(33.3%) patients felt discomfort. During Ostium Creation, 15 (50%) patients felt discomfort, and 2 (6.7%) felt distressed. 8(26.7%) participants felt discomfort at Flap Creation and Wound Closure, and it was pain-free for 25(83.3%). Only 8(26.7%) felt discomfort 2 hours post-operatively. A weak correlation was observed when using Pearson's Correlation. **Conclusion:** Our three-point local anesthesia technique is highly effective for External Dacryocystorhinostomy. It eliminates the need for general anesthesia in carefully selected patients. Even without intravenous sedation, the procedure was completed successfully with high patient comfort and acceptability. The technique is easy and can be employed when local anesthesia is selected for patients undergoing External Dacryocystorhinostomy. Al-Shifa Journal of Ophthalmology 2025; 21(2): 70-75. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Rafi, P. M. M., Khan, M. R., Manzoor, S., Khan, M. J. Z., Mukhtar, S. A., & Manzoor, A. (2025). Effective Way Of Local Anesthesia For External Dacryocystorhinostomy (Ex-Dcr); A Three Point Infiltrative Local Anesthesia. Journal of Ophthalmology, 21(2), 70-75.

57.Aqueous Misdirection Syndrome in Post-trabeculectomy Patients

Abstract:

Objective: To determine the frequency of aqueous misdirection syndrome and its association with gender and age in post-trabeculectomy patients. **Methods:** An observational study was conducted at the Department of Ophthalmology of Hayatabad Medical Complex, Peshawar, from November 2021 to May 2022. The patients who underwent uncomplicated

How to Cite: Khan, R., & Mahsood, Y. J. (2025). Aqueous misdirection syndrome in post-trabeculectomy patients. Al-Shifa Journal of Ophthalmology, 21(2), 89–96. <https://asjoalshifaeye.org/asjo-issues/vol-21-2-2025/article-5.pdf>

trabeculectomy in the last two months at our department were included in this study. The data were collected for age, gender, best corrected visual acuity, time since surgery, intraocular pressures and presence or absence of aqueous misdirection syndrome. Aqueous misdirection syndrome was diagnosed if there was a shallow anterior chamber with high intraocular pressure in the presence of a patent iridectomy. Association of this complication with age and gender was also determined. **Results:** A total 179 participants were recruited with a mean age of 44.30 ± 15.71 years and 103 (57.54%) male participants during the study period. The frequency of aqueous misdirection syndrome was found to be 5 (2.8%) in this study. No statistically significant association was found between development of the complication and age ($p=0.36$) and gender ($p=0.30$) of participants. **Conclusion:** Aqueous misdirection syndrome is a rare complication in uncomplicated trabeculectomy surgery. Age and gender have no effect on the occurrence of aqueous misdirection in these patients. Al-Shifa Journal of Ophthalmology 2025; 21(2): 89-96. © AlShifa Trust Eye Hospital, Rawalpindi, Pakistan.

58. Association of Age Groups, Gender, Smoking, and Hypertension with Pan-Retinal Photocoagulation Sessions in Diabetic Retinopathy Patients in the Population of D.I. Khan

Abstract

Objectives: To evaluate age groups, gender, smoking, and hypertension as risk factors for requiring more than one session of pan-retinal photocoagulation (PRP) and the severity of DR in the population of D.I. Khan. **Methods:** This cross-sectional study was conducted at the Eye Unit of Gomal Medical College, Dera Ismail Khan, from January to December 2023. Patients undergoing single or multiple PRP sessions during this period were included. Consecutive, non-probability sampling was used, and data were analyzed using SPSS version 23. **Results:** Of the 84 patients included, 52 (61.90%) were male, and 32 (38.10%) were female. Age above 50 and hypertension were significant risk factors for requiring more than one PRP session ($p = 0.006$ and $p = 0.031$, respectively). Gender and smoking were not statistically significant risk factors. **Conclusion:** Hypertension and older age are significant risk factors for multiple PRP sessions and the severity of DR in the population of D.I. Khan. Managing these modifiable risk factors may reduce the need for repeated treatments. Al-Shifa Journal of Ophthalmology 2025; 21(2): 108-112. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Khan, M. S., Khalid, M. K., Sharjeel, M., Abdullah, M., & Mahsud, H. (2025). Association of age groups, gender, smoking, and hypertension with pan-retinal photocoagulation sessions in diabetic retinopathy patients in the population of D.I. Khan. Al-Shifa Journal of Ophthalmology, 21(2), 108–112. <https://asjoalshifaeye.org/asjo-issues/vol-21-2-2025/article-7.pdf>

59. Disorganization of Retinal Inner Layers in Diabetic Patients

Abstract

Objective: To investigate the prevalence of Disorganization of Retinal Inner Layers (DRIL) in patients with diabetes and its relationship with Diabetic Macular Edema (DME) and initial visual acuity. **Methods:** This cross-sectional study involved 96 patients aged between 30-70 years with diabetes who underwent spectral-domain optical coherence tomography (SD-OCT) scans to evaluate

How to Cite: Akram, N., & Ul Hassan, M. (2025). Disorganization of retinal inner layers in diabetic patients. Al-Shifa Journal of Ophthalmology, 21(2), 113–118. <https://asjoalshifaeye.org/asjo-issues/vol-21-2-2025/article-8.pdf>

Disorganization of Retinal Inner Layers (DRIL) and Diabetic Macular Edema (DME). Data were entered and analyzed using SPSS version 23. **Results:** Out of 96 patients, 46 (47.9%) were males and 50 (52.1%) were females. Diabetic Macular Edema (DME) was found in 60 (62.5%) patients. There was a significant association between the existence of diabetic macular edema and DRIL. The findings revealed that DRIL was present in 44.8% of patients and was significantly linked to central foveal thickness and visual acuity. **Conclusion:** The study suggests that DRIL is a valuable indicator for predicting visual outcomes in patients with DME. The presence and extent of DRIL may also have prognostic implications, helping clinicians to identify patients who are at higher risk of vision loss. AlShifa Journal of Ophthalmology 2025; 21(2): 113-. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

60. Effect of Pre-operative Use of Heparinised Irrigating Solution on Postoperative Inflammation in Phacoemulsification

Abstract

Objective: To evaluate the effect of Heparin Sodium on postoperative inflammation following cataract surgery in adults. **Methods:** A Quasi experimental study was conducted at Fauji Foundation Hospital, Rawalpindi during May to October 2023 which include one twenty (120) cases diagnosed with uncomplicated cataracts booked for phacoemulsification were randomized to Group 1 (heparinized solution) and Group 2 (Standard irrigating solution) using lottery method. Surgery was performed by single surgeon as per standard protocols. Patients were assessed preoperative and post-operative on day 1, day 7 and day 28 for visual acuity, intraocular pressure and detailed slit lamp examination to measure the AC cellular activity and AC flare in for all cases. SPSS-26 was used. Mean and standard deviations were computed for quantitative data, whereas, frequency and percentages were computed for qualitative data. The independent t-test was used to compare quantitative variables, while the chi-square/fisher exact test was used to evaluate qualitative variables. A P-value < 0.05 was deemed as significant. **Results:** The mean age of patients in the group 1 and group 2 were of 64.71±9.69 years and 68.45±9.69 years respectively. In both groups, most of the patients were female. However, no significant difference found in both groups in terms of baseline data. Significant difference in IOP, AC-cells and AC-flare was observed on day-1, day-7 and day-28 between both groups, as p-value was < 0.05. **Conclusion:** The study concluded that using heparin sodium as an anti-inflammatory drug could be effective in lowering post-operative inflammatory reaction. Al-Shifa Journal of Ophthalmology 2025; 21(2): 50-55. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Nasir, E., Rana, I. U. H., Nadeem, S., Asghar, A., Obaid, N., & Nazi, T. (2025). Effect of Peroperative Use of Heparinised Irrigating Solution on Postoperative Inflammation in Phacoemulsification Ophthalmology, 21(2), 50-55.

61. Assessment of Macular Thickness in Myopic Eyes Using Spectral Domain Optical Coherence Tomography

Abstract

Methods: The cross sectional study was carried out at LRBT Tertiary Hospital, Karachi. The study was conducted from July 2023 to June 2024. One hundred and seventy-seven patients with a mean age 28.62±12.30 years and axial length 26.46 ±1.92 mm were included. The inner macular thickness (para-fovea) and outer macular (peri-fovea) at four distinct

How to Cite: Azeem, R., Naz, S., Ali, A., Kamil, Z., & Amreen. (2025). Assessment of macular thickness in myopic eyes using spectral domain optical coherence tomography. Al-Shifa Journal of Ophthalmology, 21(3), 4551. <https://asjoalshifaeye.org/asjo-issues/vol-21-3-2025/asjo-21-3-article-3.pdf>

locations i.e. the temporal, superior, nasal, and inferior quadrants, as well as the fovea itself were measured with the help of spectral optical coherence tomography. Axial length was measured with the help of A-scan. Data was analyzed using SPSS version 16. **Results:** There is a negative weak correlation ($r = -0.21$) was reported between the axial length and inner macula (para fovea) at inferior quadrant thickness in total myopic patients ($p < 0.05$). While positive moderate correlation ($r = 0.48$) was found between axial length and foveal thickness in total myopic patients. Foveal thickness was significantly higher in high myopic group as compared to low myopic ($p < 0.05$). Positive weak correlations were found between inner macular thickness ($r = 0.15$) and axial length at inferior ($P < 0.05$) and temporal quadrant ($r = 0.21$) ($p < 0.05$). While nasal ($r = 0.25$) ($P < 0.05$) and inferior quadrant of ($r = 0.19$), at outer macula of low myopic subjects ($p < 0.05$). In high myopic group, negative weak correlation ($r = -0.29$) was reported between inner thickness of macular and axial length at nasal quadrant ($p < 0.05$). Al-Shifa Journal of Ophthalmology 2025; 21(3): 139-148. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

62. Change in Central Macular Thickness After Uncomplicated Phacoemulsification Cataract Surgery

Abstract

Objective: To determine the change in central macular thickness after uncomplicated phacoemulsification cataract surgery. **Methods:** This cross-sectional study was conducted at the Helper's Eye hospital, Quetta from January 2022 to June 2022. A total of 126 patients aged between 40-70 years, having normal intraocular pressure and planned for phacoemulsification cataract surgery were included in this study. Central macular thickness was evaluated using optical coherence tomography 1 day before the operation and subsequently at weeks 1 and 4, post-operatively. The primary outcome of the study was the change in central macular thickness after uncomplicated phacoemulsification cataract surgery, while the secondary outcome was the frequency of patients with raised central macular thickness (an increase by 30% from the baseline), at week 4 following the phacoemulsification procedure. **Results:** The mean age in this study was 56.16 ± 5.39 years. The female patients were 50.8% while male patients were 49.2% of total study population. There was a statistically significant increase in central macular thickness at week 4 after the procedure compared to the preoperative levels ($215.02 \pm 20.55 \mu\text{m}$ Vs $205.94 \pm 5.84 \mu\text{m}$, $p < 0.0001$). The result of secondary outcomes showed that incidence of raised central macular thickness was observed in 10 (7.9%) of the patients. Stratification of results established an association between diabetes and incidence of raised central macular thickness ($p = 0.013$). **Conclusion:** Phacoemulsification cataract surgery significantly increases central macular thickness postoperatively. Diabetes is significantly associated with both the overall increase and the development of raised central macular thickness. Al-Shifa Journal of Ophthalmology 2025; 21(3): 149-156. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Ahmed, H., Abdul Majeed, A., Tareen, S., Mengal, M., Bibi, H., & Imam, A. (2025). Change in central macular thickness after uncomplicated phacoemulsification cataract surgery. Al-Shifa Journal of Ophthalmology, 21(3), 160–167. <https://asjoalshifaeye.org/asjo-issues/vol-21-3-2025/asjo-21-3-article-4.pdf>

63.Prevalence of Ocular Manifestations in Thyroid Disorder Patients in A tertiary Hospital of Karachi

Abstract

Objectives: To determine the frequency of various ocular manifestations in thyroid dysfunction and to assess their correlation with thyroid function test parameters. **Methods:** A cross-sectional study was conducted at the National Institute of Diabetes & Endocrinology, Ear, Nose, Throat (ENT), and Eye outpatient department (OPD) between 2020 and 2023. All patients above 18 years of age diagnosed with thyroid dysfunction and referred to the Eye department from endocrine or ENT OPD were included in the study. An ophthalmologist did detailed clinical examination of the eyes as per the European Group on Graves' Orbitopathy (EUGOGO) recommendations. Data analysis was done on SPSS version 23. **Results:** A total of 441 thyroid patients were included in the study. The majority of them 378 (85.7%) were females aged between 20 to 40 years 266 (60.3%). Ocular manifestations were present in 252 (57.1%), where the most prevalent symptom was watering 154 (61.11%), followed by foreign body sensation 63 (25%). Prevalent lid signs were lid retraction and lid lag (97.06%). It was found that ocular manifestations were significantly correlated to the levels of STSH, FT3, and FT4 (P-value 0.018, <0.001, and 0.001, R-value -0.120 -0.317 and 0.054, respectively). **Conclusion:** It is imperative that prospective clinical health professionals should be acquainted with all the information related to the clinical manifestations of thyroid eye disease for better management. Al-Shifa Journal of Ophthalmology 2025; 21(3): 163-172. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Siddiqui, Farnaz & Zia, Sadaf & Kiran, Zareen & Zile-Huma, & Nizamuddin, Muhammad & Alkhairy, Saba. (2025). Prevalence of Ocular Manifestations in Thyroid Disorder Patients in A tertiary Hospital of Karachi.

64.Association between Choroidal Thickness and Glycaemic Control in Type 2 Diabetes without Retinopathy

Abstract

Objectives: To evaluate choroidal thickness in patients with type 2 diabetes without retinopathy, comparing it to nondiabetic individuals and investigating the relationship between choroidal thickness and HbA1c levels. **Methods:** A prospective, cross-sectional analytical study was conducted at the ophthalmology department of Fauji Foundation Hospital, Rawalpindi. The study included 110 diabetic patients without retinopathy and 55 age- and sex-matched nondiabetic controls. Choroidal thickness was measured at five locations (subfoveal, 1500 µm and 3000 µm nasal, and 1500 µm and 3000 µm temporal) using spectral domain-optical coherence tomography (SD-OCT). Subfoveal choroidal thickness at 1500 µm nasal, 3000 µm nasal, followed by 1500 µm temporal, and 3000 µm temporal, followed by central macular thickness, was taken. Correlation analysis between HbA1c levels and choroidal thickness in diabetics was performed using SPSS version 24. **Results:** Diabetic participants demonstrated significantly reduced choroidal thickness in subfoveal and nasal regions compared to nondiabetics ($p < 0.01$). No significant

How to Cite: Naz, A., Rana, I. U. H., Asghar, A., Nazir, T., Obaid, N., & Majeed, A. (2025). Association between choroidal thickness and glycaemic control in type 2 diabetes without retinopathy. Al-Shifa Journal of Ophthalmology, 21(3), 230–236.<https://asjoalshifaeye.org/asjo-issues/vol-21-3-2025/article-11.pdf>

difference was found in temporal regions or central macular thickness. A strong negative correlation was observed between HbA1c levels and choroidal thickness ($R = -0.783$), whereas disease duration showed minimal association ($R < 0.1$). **Conclusion:** The findings suggest that elevated HbA1c levels adversely impact choroidal thickness in diabetics, even in the absence of diabetic retinopathy. This highlights the potential role of choroidal alterations in the early stages of diabetic ocular changes. Further longitudinal studies are warranted to explore the prognostic significance of choroidal thickness in diabetic retinopathy progression. Al-Shifa Journal of Ophthalmology 2025; 21(3): 173-180. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

65. Effects of Topical Dorzolamide on Serum Potassium Levels

Abstract

Objective: To evaluate how serum potassium levels are affected by a 2% ocular solution of dorzolamide.

Methods: This study was conducted at the Department of Ophthalmology, Lahore General Hospital, Lahore. A total of 55 patients, with diagnosed cases of primary open-angle glaucoma were enrolled. All participants were prescribed dorzolamide 2% eye drops twice daily in both eyes. Serum potassium levels were recorded at baseline and then monitored monthly for four months. Data was analyzed by using SPSS version 22, and paired sample t-tests were applied to compare potassium

levels at 2nd, 3rd and 4th month. **Results:** Of the 55 patients, 28 (50.9%) were male and 27 (49.1%) were female, with a mean age of 49 years. The mean baseline serum potassium level was 3.94 ± 0.31 mEq/L. A significant reduction was observed in serum potassium levels from baseline to all follow-up visits, as assessed by paired sample t-test. At 1 month, the mean reduction was 0.21 mmol/L ($p < 0.001$), which increased to 0.46 mmol/L at 2 months ($p < 0.001$). By 3 months, the decline reached 1.03 mmol/L ($p < 0.001$), and at 4 months, the maximum reduction of 1.47 mmol/L was noted ($p < 0.001$). **Conclusion:** Topical dorzolamide 2% is associated with a significant and progressive decline in serum potassium levels with continued use. Regular monitoring of electrolyte levels may be advisable in patients on long-term dorzolamide therapy to prevent potential complications of hypokalemia. Al-Shifa Journal of Ophthalmology 2025; 21(3): 181-186. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Khaqan, H. A., Iqbal, M. Z., Rehman, A. U., Fauzan, A., Baksh, H. M., Shaikh, R. Z., & Maheshwary, N. (2025). Effects of topical dorzolamide on serum potassium levels. Al-Shifa Journal of Ophthalmology, 21(3), 287–292. https://asjoalshifaeye.org/asjo-issues/vol-21-3-2025/article?pdf?utm_source=chatgpt.com

66. Comparison of the Efficacy of Starting Antibiotic Medications with Debridement of Ulcer versus Antibiotics Alone in Cases of Bacterial Corneal Ulcer—A Randomized Control Trial

Abstract

Objective: To compare the efficacy of antibiotic therapy combined with mechanical ulcer debridement versus antibiotic therapy alone in the treatment of bacterial corneal ulcers.

Methods: A randomized controlled trial was conducted at the Institute of Ophthalmology, Mayo Hospital, Lahore, over 12 months from January 2022 to & December 2022. Treatment-naïve patients ($n=92$)

How to Cite: Comparison of the efficacy of starting antibiotic medications with debridement of ulcer versus antibiotics alone in cases of bacterial corneal ulcer: A randomized control trial. (2025). Al-Shifa Journal of Ophthalmology, 21(4), 312318. https://asjoalshifaeye.org/asjo-issues/vol-2142025/article?pdf?utm_source=chatgpt.com

with culture-positive bacterial keratitis and ulcer sizes of 2–5 mm were randomized into two groups. Group A (n=46) underwent mechanical debridement followed by topical moxifloxacin 0.5%, while Group B (n=46) received topical moxifloxacin 0.5% alone. The primary outcome was the change in ulcer size (mm) measured on days 3, 7, 14, and 21. Treatment success was defined as a $\geq 25\%$ reduction in ulcer size by day 21. **Results:** The adjunctive debridement group (Group A) demonstrated a statistically significant improvement in healing outcomes. By the final assessment on day 21, the mean ulcer size in Group A was reduced to 1.08 ± 1.07 mm, which was nearly half that of Group B (2.05 ± 1.33 mm; $p = 0.004$). Treatment response was significantly better in Group A, with 91.3% of patients achieving treatment success compared to only 71.7% in the antibiotic-only group ($p = 0.001$). **Conclusion:** Debridement with antibiotics expedites ulcer healing compared to antibiotics alone, reducing economic burden in resource-limited settings.

67. Assessment of Stunting and Its Associated Factors in Children Under 2 Years of Age in Tehsil Umerkot: Stunting in Umerkot Children Under 2 Years

Abstract

Stunting, a key indicator of chronic undernutrition, remains a critical public health challenge in Tehsil Umerkot, Pakistan, reflecting underlying socioeconomic and nutritional deficits. **Objective:** To find stunting in children under 2 years old and its association with sociodemographic variables in Tehsil Umerkot Pakistan. **Methods:** A cross-sectional study was conducted at urban Tehsil Umerkot, Pakistan. A total of 385 respondents were selected from 4 different public healthcare facilities of District Umerkot, through a simple random sampling technique. SPSS version 26.0 was utilized for data entry and analysis. An anthropometric assessment was carried out for the children and height for age was calculated. All children with a z-score below -2 S.D of WHO standards were considered stunted. Pearson Chi-Square was used to investigate the variables linked with stunting. **Results:** Among the 385 respondents, the majority of the children were female (n= 202, 53%). Mothers of the majority of the children were illiterate (n= 293, 76%). It was found that the majority of the children were stunted (n=360, 96%) out of which 8% (n=30) were severely stunted. Breastfeeding, duration of exclusive breastfeeding, and fruit and vegetable consumption were found statistically significant with stunting (p value < 0.05). **Conclusions:** The majority of the children under 2 years of age in Umerkot were stunted. Various factors were identified that play a protective role against stunting among them exclusive breastfeeding, and fruit and vegetable consumption were important. Routine nutritional assessment and interventions are needed to prevent stunting in Pakistan.

How to Cite: Khan, Shahzad & Sughra, Ume & Suleman, Marriam & Sabah, Najm. (2025). Assessment of Stunting and Its Associated Factors in Children Under 2 Years of Age in Tehsil Umerkot: Stunting in Umerkot Children Under 2 Years. DIET FACTOR (Journal of Nutritional and Food Sciences). 12-18. [10.54393/df.v6i1.155](https://doi.org/10.54393/df.v6i1.155).

68. Effect of macular detachment duration on visual outcomes in macula-on and macula-off rhegmatogenous retinal detachment

Abstract

Background: Rhegmatogenous retinal detachment (RRD) is a vision-threatening condition that requires prompt surgical management, particularly when the macula is involved. Visual prognosis is significantly influenced by the timing of surgical intervention following macular detachment. While macula-on RRD generally yields favourable outcomes, the optimal timing for macula-off repair remains under continuous evaluation, especially with advancements in modern vitreoretinal techniques. **Objective:** To evaluate and compare final visual acuity (VA) outcomes in macula-on and macula-off RRD cases, with a specific focus on the duration of macular detachment (DMD) prior to surgical repair. **Methods:**

This retrospective study was conducted at Al-Shifa Trust Eye Hospital and included 74 eyes that underwent surgical repair for primary RRD between September 2024 and February 2025. Patients were stratified into macula-on (Group A, n=28) and macula-off RRD (n=46), with the latter further divided into three subgroups based on DMD: Group B (≤ 3 days, n=14), Group C (4–7 days, n=16), and Group D (≥ 8 days, n=16). Surgical techniques included pars plana vitrectomy (n=56), combined vitrectomy with scleral buckling (n=7), and scleral buckling alone (n=1). Final VA was measured in logMAR units and compared using statistical models. **Results:** The mean final VA was logMAR 0.06 ± 0.08 in Group A, logMAR 0.07 ± 0.09 in Group B ($p = 0.81$), logMAR 0.18 ± 0.13 in Group C ($p = 0.024$ vs. A), and logMAR 0.40 ± 0.26 in Group D ($p < 0.001$ vs. A). No significant difference was observed between Groups B and C ($p = 0.29$). **Conclusion:** Visual outcomes in macula-off RRD repaired within three days are comparable to macula-on cases. However, outcomes deteriorate significantly beyond this period, emphasizing the need for early surgical intervention within the critical 72-hour window.

How to Cite: Ahmad, Fawad & Rehman, Mujjaddad & Faheem, Rabia & Saad, and Muhammad. (2025). EFFECT OF MACULAR DETACHMENT DURATION ON VISUAL OUTCOMES IN MACULA-ON AND MACULA-OFF RHEGMATOGENOUS RETINAL DETACHMENT. Insights-Journal of Health and Rehabilitation. 3. [416-422. 10.71000/5yjtqd18.](#)

69. Breast Cancer and Breast Self-Examination Awareness among Females of Reproductive Age

Abstract:

Background: Breast cancer remains the most prevalent malignancy among women worldwide and is a leading cause of cancer-related mortality. Early detection significantly improves prognosis and survival rates. Despite advancements in screening techniques, awareness and practice of preventive methods, such as Breast Self-Examination (BSE), remain insufficient, particularly among women of reproductive age. Identifying knowledge gaps regarding breast cancer risk factors, warning signs, and BSE is essential for developing effective public health interventions. **Objective:** This

How to Cite: Aslam, Rida & Qasim, Kainat & Butt, Sahar & Saad, Muhammad & Aziz, Shahzad & Raza, Reema. (2025). Breast Cancer and Breast Self-Examination Awareness Among Females of Reproductive Age. Insights-Journal of Health and Rehabilitation. 3. [510-518. 10.71000/hkkah639.](#)

study aimed to assess the knowledge of breast cancer, awareness of BSE, and the evaluation of BSE practices among females aged 15 to 49 years. **Methods:** A descriptive cross-sectional study was conducted using convenience sampling, including 254 female participants aged 15 to 49 years. Data were collected through an online questionnaire distributed via Google Forms from July to September 2024. The questionnaire covered sociodemographic information, knowledge of breast cancer risk factors and warning signs, and the practice of BSE. Data analysis was performed using IBM SPSS Version 27, with chi-square tests applied to assess associations between variables. **Results:** Among the participants, 75.2% were MBBS/BDS students, 12.6% were postgraduates, and 7.1% held bachelor's degrees. While 60.6% of participants demonstrated knowledge of warning signs and symptoms, only 32.3% were aware of breast cancer risk factors. A family history of breast cancer (87.4%) was the most recognized risk factor, while the presence of a breast lump or swelling (84.3%) was the most commonly identified symptom. A significant association was observed between educational status and awareness of both risk factors ($P=0.016$) and warning signs ($P<0.001$). However, only 28% of participants reported regularly performing BSE, with 72% admitting they had never practiced it. **Conclusion:** Although general awareness of breast cancer was high, knowledge of risk factors and the practice of BSE were notably deficient, particularly among non-medical participants. This highlights the need for targeted educational interventions to improve breast cancer awareness and encourage routine BSE practice among women of reproductive age.

70.Improving Access to Oral Healthcare for Underserved Populations: Challenges and Solutions for Equitable Access

Abstract

Access to oral health care remains a significant global challenge, for marginalized populations. We explored structural, socioeconomic, and systemic barriers contributing to oral health disparities, with a focus on low-income groups, rural communities, ethnic minorities, and individuals with disabilities. We examined the inadequacies in oral health policies, workforce distribution, insurance coverage, and health literacy that limit equitable service delivery. Drawing on global evidence and case studies, the chapter proposes multi-sectoral and community-based strategies to enhance accessibility, including mobile dental clinics, task shifting, tele-dentistry, and culturally responsive care models. Policy recommendations emphasize integration of oral health into primary healthcare, sustainable financing mechanisms, and educational reforms. The chapter underscores the urgent need for innovative, inclusive, and equity-driven approaches to ensure universal access to oral health services, aligning with Sustainable Development Goals and the WHO Global Oral Health Action Plan 2023–2030.

How to Cite: Zofeen, Shumaila & Ullah, Saif & Lateef, Hina. (2025). Improving Access to Oral Healthcare for Underserved Populations: Challenges and Solutions for Equitable Access. [10.4018/979-8-3373-1992-6.ch013.](#)

71.The Future of Dental Public Health: Its Policy, Innovation, and Workforce Development

Abstract:

This chapter explores the evolving landscape of dental public health, focusing on the critical roles of policy innovation, digital technology, and workforce transformation in advancing equitable oral health systems globally. It highlights the persistent burden of

How to Cite: Umer, Muhammad Farooq & Zofeen, Shumaila & Khan, Ejaz & Ullah, Saif. (2025). The Future of Dental Public Health: Its Policy, Innovation, and Workforce Development. [10.4018/979-8-3373-1992-6.ch014.](#)

oral diseases, particularly in low- and middle-income countries, and the urgent need for integrated public health responses aligned with the WHO Global Oral Health Action Plan (2023–2030) and the UN Sustainable Development Goals. The chapter outlines emerging policy directions, including universal health coverage, the integration of oral health into primary care, and fiscal innovations for sustainable service delivery. It also examines the potential of digital health, artificial intelligence, and tele-dentistry in transforming access, prevention, and care. Furthermore, the chapter underscores the importance of reimagining the dental workforce through interdisciplinary models and community engagement.

72. Topographic Characteristics among Different Grades of Keratoconus

Abstract

Aim: The study aimed to assess the topographic parameters among keratoconus subjects and to find gender based differences of these topographic parameters

Methodology: This cross-sectional descriptive study was conducted at cornea department, Al-shifa trust eye hospital. Sample size were calculated using openepi software and all the subjects were enrolled using non-probability judgmental sampling technique and diagnosis along with Grading of keratoconus was done using Amsler-Krumeich classification. Topographic parameter was taken from Galilei topography. Data were entered and analyzed using statistical package Jamovi.

Results: The study examined demographic and clinical features of participants, with a focus on gender differences in keratometry (Kmax), central corneal thickness (CCT), and anterior (AEMAP) and posterior (PEMAP) elevation maps. The majority of participants were male (60%) and lived in urban areas (63.75%). Significant gender differences were found in the right eye's AEMAP, with males having a higher mean. Other parameters, including Kmax, CCT, and PEMAP, showed no significant gender differences. In the left eye, females had a higher Kmax, but this was not statistically significant. No significant differences were found in the left eye's CCT, AEMAP, or PEMAP. Overall, the right eye's anterior elevation map showed notable gender variation.

Conclusion: Most keratoconus clinical parameters showed no significant gender differences. However, males had higher values in the right eye's anterior elevation map. The impact of gender on certain corneal aspects in keratoconus warrants further investigation. Keywords: Central Corneal Thickness; Keratometry; Keratoconus; Topographic Characteristics.

How to Cite: Khan, Fahim & Munir, Asma & Ullah, Saif & Sahim, Sarmad & Firdous, Maryam & Shah, Mutahir. (2025). Topographic Characteristics among Different Grades of Keratoconus. 15. 01-06.

73. Optically induced hyperopic defocus: axial length changes in emmetropes from mobile screen exposure

Abstract

Background: The rapid increase in smartphone screens led to eye problems. The study measured transient axial length variations during mobile screen exposure before and after hyperopic defocus.

Methods: A quasi-experimental study on students utilizing non-probability sampling was conducted at Al-Shifa Trust Eye Hospital. LogMAR measured visual acuity, and retinoscopy measured refractive status of right eye only. Samsung Galaxy A7 provided full-blue screen exposure. -3.00 DS lens in trial frame caused hyperopic defocus. IOL Master

How to Cite: Ullah, Saif & Umer, Muhammad Farooq & Chandran, Suriyakala. (2025). Optically induced hyperopic defocus: axial length changes in emmetropes from mobile screen exposure. OphthaTherapy. Therapies in Ophthalmology. 10.24292/01.OT.240725.

Zeiss 700 measured axial length and ocular biometrics. The online web program Data tab was entered, and data was analyzed. **Results:** A total of 30 subjects, which includes 6 (20%) males and 24 (80%) females, with a mean age of 20.67 (± 0.96) years. Mean visual acuity and Spherical Equivalent Refraction were 0.00 (± 0.00) and 0.10 (± 0.01). Comparing the median interquartile range (Median-IQR) pre-defocus axial length (PDAXL) and after defocus axial length (ADAXL), pre-defocus lens thickness (PDLT) and after defocus lens thickness (ADLT) following 1 h exposure to mobile screen a statistically significant difference were observed respectively – 23.2 (± 0.93), 23.14 (± 0.92), p value = 0.003 and 3.61 (± 0.28), 3.61 (± 0.22), p value = 0.001. Other ocular parameter like pre-defocus anterior chamber depth (PDACD) and after-defocus anterior chamber depth (ADACD), pre-defocus central corneal thickness (PDCCT) and after-defocus central corneal thickness (ADCCT) no statistically significant were observed respectively – 3.45 (± 0.29), 3.44 (± 0.26), p value = 0.861 and 528 (± 31.50), 525.17 (± 24.75), p value = 0.139. **Conclusion:** Exposure to mobile screens in blue mode, along with hyperopic defocus, was found to cause axial length shortening, offering potential implications for managing myopia progression.

74. Long-term effect of repeated low-level red light therapy on myopia control: A systematic review and meta-analysis

Abstract

Introduction Myopia is a refractive error where distant objects are not clearly seen and appear blurred. Goal of this study was to evaluate long-term effectiveness of Repeated Low-Level Red Light (RLRL) therapy for children with myopia, which primarily focused on Axial length (AL) and Spherical Equivalent Refraction (SER) as primary endpoints. **Methods:** The research compared outcomes between RLRL treatment with Single Vision Spectacles (SVS) for childhood myopia management. We performed a systematic literature search in the PubMed, Embase and Cochrane databases using “Myopia” and “Repeated Low-Level Red Light “. Mean differences (MD) were estimated and the effects of therapies measured. Publication bias and heterogeneity analysis were carried out by Inverted Precision Effect Test-Precision Effect Estimate Standard Error (PET-PEESE) (and subsequent Search Sequential Analysis) and Tau test. Bayesian meta-analysis was performed using Jaffrey Amazing Statistical Package (JASP). **Results:** This meta-analysis comprised 1,714 participants: 824 in RLRL and 890 in SVS group. Pooled effect size for AL reduction was 0.953 ± 0.294 , (95% credible interval (CI) 0.775 to 0.980). Pooled effect size for SER reduction was 1.521 ± 0.662 (95% CI 0.102 to 2.736). PET-PEESE analysis revealed no significant publication bias (p-value 0.407). Random effects models were employed for presence of significant heterogeneity (3.9 and 5.7 for AL; 5.7 for SER), alongside degree of variation (0.828 & 1.665) for Tau (τ), which estimates the between-study variance. **Conclusion:** Long-term observations indicate that RLRL treatment significantly influences myopia management, leading to considerable reductions in both AL and SER. Additional research is essential to investigate potential long-term rebound effects.

How to Cite: Ullah, Saif & Umer, Muhammad Farooq & Chandran, Suriyakala. (2025). Long-term effect of repeated low-level red light therapy on myopia control: A systematic review and meta-analysis. *European Journal of Ophthalmology*. 35. [14321444.10.1177/11206721251314541](https://doi.org/10.1177/11206721251314541).

75.The Role of Multilateral Organizations' Contributions of WHO, UNICEF, and Other Bodies to Advancing Global Health: Promotion of Social Innovation, Support Research, and Advocacy for Health Globally

Abstract

Universal health coverage is key to meeting the health-related goals and addressing health inequities. If trends continue, up to 5 billion of the world's population will not be covered by essential health services in 2030, as highlighted in the Universal Health Coverage: Global Monitoring Report, released last week by WHO. Their aim is to engage with countries better to identify priorities, plan and implement together. Accelerate progress in countries through joint actions under 7 accelerator themes, which represent common challenges for many countries and where the agencies' mandates, expertise and resources offer solutions, namely: 1) Primary health care 2) Sustainable health financing 3) Community and civil society engagement 4) Determinants of health 5) Innovative programming in fragile and vulnerable settings and for disease outbreak responses 6) Research and development, innovation and access, and 7) Data and digital health. They will also work together to advance gender equality and support the delivery of global public goods.

How to Cite: Kawish, Ayesha & Awais, Syema. (2025). The Role of Multilateral Organizations' Contributions of WHO, UNICEF, and Other Bodies to Advancing Global Health: Promotion of Social Innovation, Support Research, and Advocacy for Health Globally. 10.4018/979-8-3373-1992-6.ch001.

76.Insights-Journal of health and rehabilitation neonatal outcomes, C-section rates, and patient satisfaction: A comparative study of group antenatal care (GAC) and traditional antenatal Care (TAC) original research

Abstract

Background: Antenatal care is essential for ensuring the health of expectant mothers and their newborns. Traditional Antenatal Care (TAC) has been the standard model, but Group Antenatal Care (GAC) has emerged as a promising alternative that may offer improved outcomes and patient satisfaction by fostering better engagement and support among participants. **Objective:** To assess and compare maternal and neonatal outcomes, caesarean section rates, and patient satisfaction between GAC and TAC, evaluating the effectiveness of GAC in enhancing healthcare delivery for expectant mothers and their newborns. **Methods:** This comparative cross-sectional study involved 74 expectant mothers (37 in each group) from two antenatal care models: GAC and TAC. Participants were enrolled using a non-probability sampling method. Data collection included structured questionnaires and hospital records, focusing on maternal demographics, neonatal outcomes, delivery methods, and patient satisfaction. All data were analysed using the Jaffery Amazing Statistical Package (JASP). **Results:** GAC participants showed significantly higher birth weights (mean difference = 310 g, $p = 0.043$) and lower preterm birth rates (8% vs. 24%, $p < 0.001$) compared to TAC participants. Additionally, caesarean section rates were lower in GAC (10.8%) than in TAC (29.7%). Patient satisfaction was notably higher in GAC, especially

How to Cite: Naqvi, Rubaba & Kawish, Ayesha & Khalid, Tabinda & Butt, Tahir. (2025). INSIGHTS-JOURNAL OF HEALTH AND REHABILITATION NEONATAL OUTCOMES, C-SECTION RATES, AND PATIENT SATISFACTION: A COMPARATIVE STUDY OF GROUP ANTENATAL CARE (GAC) AND TRADITIONAL ANTENATAL CARE (TAC) Original Research. 2. 544-48.

concerning doctor qualifications and hospital trust, while TAC scored better in hospital cleanliness and staff promptness. **Conclusion:** GAC significantly improves neonatal outcomes and patient satisfaction compared to TAC. These findings support further research and potential broader implementation of GAC as a superior model of antenatal care. **Keywords:** Antenatal Care; Caesarean Section; Group Antenatal Care; Neonate; Patient Satisfaction; Preterm Birth; Traditional Antenatal Care

77. Normal Range of Exophthalmometry values in Pakistani Population – A multi-center cross-sectional national study

Abstract

Background: Measurements of ocular protrusion and inter-orbital distance has not been measured in Pakistan at national level before. The current study comprising 7002 participants is the largest in the world so far. The objective was to determine the normal exophthalmometry value (EV) and to calculate mean inter-orbital distance (IOD) for Pakistani population.

Methods: It was a cross-sectional study conducted from July 2022 to June 2023. A total of 12 centers from seven cities across Pakistan conducted this survey. The participants were the patients attending the outpatient department of the hospitals. A single examiner in each center recorded the EV and IOD reading using Hertel's Exophthalmometer.

Results: The participants had a mean age of 38.2 ± 17.5 years. The average exophthalmometry measurements for the right and left eyes were 16.5 ± 2.71 mm and 16.6 ± 2.77 mm, respectively, while the mean inter-orbital distance (IOD) was 105.3 ± 10.20 mm. Females had significantly higher EV compared to males ($p < 0.001$), with no notable gender difference in IOD ($p = 0.080$). Adults had the highest EV values, while children had the lowest, and IOD was widest among teenagers and adults but decreased in older individuals. Regionally, Khyber Pakhtunkhwa recorded the widest IOD (114.3 mm), while Azad Jammu & Kashmir had the highest EV (20 mm). Descriptive statistics were calculated for continuous variables and frequency distributions were computed for categorical variables. For inferential statistics, a paired t-test was applied to assess the difference between EVOD and EVOS. An independent t-test was used to examine gender-based differences. Additionally, Pearson correlation analysis was conducted to evaluate the relationships between IOD and EVOS, as well as between EVOD and EVOS. A significance level of 5% ($p < 0.05$) was maintained throughout all statistical tests. **Conclusion:** The study provides detailed data on EV and IOD in Pakistani population for the first time. This study provides baseline data for future research on the subject as well for measurement of abnormal protrusions due to different diseases. Similarly, normal IOD of Pakistani population determined in this study will provide a baseline for various maxillofacial and oculoplastic surgical procedures.

How to Cite: Afghani, Tayyab & Moin, Mohammad & Hussain, Ibrar & Farrukh, Soufia & Jeeva, Irfan & Taimur, Fariha & Naqvi, Abid & Sadiq, Muhammad & Waheed, Quratul & Shoaib, Khawaja & Yaqub, Amer & Hamza, Salman & Awais, Muhammad & Rafique, Aisha. (2025). Normal Range of Exophthalmometry values in Pakistani Population – A multi-center cross-sectional national study. [10.21203/rs.3.rs-7333702/v1](https://doi.org/10.21203/rs.3.rs-7333702/v1)

78. A Pre and Post Cycloplegic Refractive Evaluation of Children age 4-16 years

Abstract

Purpose: to examine the magnitude of pseudo-myopia in relation to pre-and post-cycloplegic refractive status among individuals aged 4 to 16 years and to investigate the relationship of pseudo myopia and screen time in said population. **Material and methods:** Study included 66 subject's right eyes of 48 % males, 52 % females aged 4-16 with mean and standard deviation of 10.0 ± 3.40 . This comparative cross-sectional study was conducted at the department of ophthalmology Tertiary Care Hospital, Islamabad. Consecutive non-randomized sampling techniques was adopted. Screen time duration in hours was measured using self-report or screen time tracking applications in smartphones. Visual acuity (VA) was measured with a standard Log MAR chart. Pre and post cycloplegic refraction with retinoscopy and Auto-refractometer were performed using Tropicamide 1 %. Paired t test was applied for pre and post cycloplegic refraction change, while Pearson correlational analysis was also calculated. Descriptive statistics were calculated using SPSS Version 21. **Results:** Average screen time was 5.6 ± 1.5 hours, outdoor activity was 50.6 ± 27.3 minutes. Pre-dilation VA improved from 0.3 ± 0.3 to 0.05 ± 0.14 log MAR post-dilation. The mean spherical equivalent refractive error in pre-dilation state was -4.1 ± 2.2 D, while in post-dilation it was 0.76 ± 0.8 D. The differences were significant ($p < 0.01$). A statistically significant relationship found between screen exposure time and pseudo-myopia ($r = 0.41$, $p < 0.001$). **Conclusion:** Increasing screen time is associated with pseudo-myopia. Prolonged screen exposure led to increased pseudo-myopia in low myopes and hyperopes.

How to Cite: Khan, Saad & Shah, Mutahir & Ullah, Saif & Khan, Sufian & Abbas, Hassan & Qayyum, Sadaf. (2025). A Pre and Post Cycloplegic Refractive Evaluation of Children age 4-16 years. Russian Ophthalmological Journal. 18. 57-61. [10.21516/2072-0076-2025-18-3-57-61](#).

79. Short-term effects of different wavelengths on axial length with induced optical defocus among emmetropes

Abstract

Purpose: Mobile phone usage is widespread in the digital age, potentially affecting eye health. This study aims to evaluate the effect of mobile screen exposure to different wavelengths, along with induced myopic and hyperopic defocus. **Material and methods:** A pre-and post-test quasi-experimental research of 50 emmetropic undergraduate students with a mean age of 20.68 ± 0.98 years were performed at the Pakistan Institute of Ophthalmology, Al-Shifa Trust Eye Hospital, Rawalpindi, Punjab, Pakistan, utilizing non-probability judgmental sampling. Those without ocular or general health issues and no significant refractive error on retinoscopy were included. Axial length (AL) was measured using the IOL Master 800 after thorough eye and visual examinations. An Android mobile

How to Cite: Ullah, Saif & Umer, Muhammad Farooq & Chandran, S. (2025). Short-term effects of different wavelengths on axial length with induced optical defocus among emmetropes. Russian Ophthalmological Journal. [18.6 8-75](#). [10.21516/2072-0076-2025-18-1-68-75](#).

application "Flash Screen" exposed participants to violet, blue, yellow, white, green, and red light. Myopic defocus was induced using +3.00 D lenses and hyperopic defocus with -3.00 D lenses. Jaffery Amazing Statistical Package (JASP) analyzed data. **Results:** Baseline axial length (AL BL) was 23.235 ± 0.657 mm. AL changed significantly after exposure to violet, blue, yellow, white, green, and red light with and without induced myopic (MD) and hyperopic (HD) defocus. Significant AL decreases ($p < 0.001$) were seen under violet and blue light settings, with an effect size (ES) at 1.000. Under hyperopic defocus, green and red light revealed considerable alterations ($p < 0.001$), with significant negative impacts. Yellow light barely changed AL. **Conclusion:** Emmetropes exhibit AL changes to different wavelength as per longitudinal chromatic aberrations, and dominate optical defocus effect.

80. Awareness, Utilization and Barriers in Accessing Assistive Technology among Patients Attending Low Vision Rehabilitation Center

Abstract

Background: The UN estimates that more than one billion persons require one or more assistive devices to maintain their functioning. **Aim:** To determine the knowledge, adoption and utilization of assistive devices among low vision patients. **Methods:** This cross-sectional study was conducted from September 2023 to December 2023 and consists of 130 subjects's visits to the low vision rehabilitation centre of Al Shifa Trust Eye Hospital. The questionnaire was filled out by asking the patients enlisted questions. The frequency and percentages were generated for the qualitative variables, whereas the mean and standard deviation were generated for the quantitative variables. **Results:** The average age was 27.82 ± 8.65 (range 18- 50 years). By taking the mean value as a cut-off point, 58.5% of patients had poor awareness, whereas only 41.5% had good awareness of assistive technology. 75 patients Out of 130 were using some kind of assistive technology. Out of these 75, 63 patients got benefit from their prescribed devices, but 12 participants could not get any benefit. Lack of awareness and lack of training were the most frequently reported barriers in the study. **Conclusion:** The awareness and utilisation of assistive devices among low-vision patients is relatively low. Different strategies should be introduced to increase awareness and utilisation and to overcome the major barriers. **Keywords:** Low vision, Assistive technology, Artificial Intelligence

How to Cite: Sharqa Fatima, Mehreen Tanveer, Fariha Ayub, Widat Sohail, & Zahra Batool. (2024). Awareness, Utilization and Barriers in Accessing Assistive Technology among Patients Attending Low Vision Rehabilitation Center. Pakistan Journal of Medical & Health Sciences, 18(7), 21. <https://doi.org/10.53350/pjmhs020241874>

81. Diabetic retinopathy in pregnancy

Abstract

Background: Diabetic retinopathy (DR), a microvascular complication of diabetes, presents a unique clinical challenge during pregnancy. Gestational diabetes (GD) can either trigger new-onset DR or exacerbate pre-existing retinopathy due to the complex physiological changes associated with gestation. These changes—metabolic, vascular, hormonal, and immunological—can rapidly worsen retinal damage, potentially leading to

How to Cite: Anwar, A., Mangrio, A., Chaudhry, M. M., Akhtar, R., & Malik, Q. ul A. (2025). Diabetic retinopathy in pregnancy. [Research article]. ResearchGate. Retrieved from ResearchGate.

irreversible vision loss if left unmonitored or untreated. **Objective:** This narrative review aims to explore the prevalence, pathogenesis, risk factors, and management strategies of diabetic retinopathy in pregnant women, with a focus on clinical challenges and evidence-based recommendations. **Main Discussion Points:** The review synthesizes current literature on maternal risk factors including obesity, previous GD, and glycemic control, and discusses how pregnancy itself contributes to DR progression. The effectiveness and timing of screening and treatment modalities such as fluorescein angiography, laser photocoagulation, intravitreal corticosteroids, and surgical options are critically evaluated. Particular attention is paid to safe clinical practices that protect both maternal vision and fetal development. The prevalence of GD and DR in countries like Pakistan is also highlighted, emphasizing regional disparities in healthcare access and screening protocols. **Conclusion:** Effective management of DR during pregnancy requires early identification, individualized monitoring, and a multidisciplinary approach. There remains a pressing need for standardized clinical guidelines and robust, longitudinal research to improve outcomes and guide safe treatment in this vulnerable population.

82. Efficacy and Safety of Suprachoroidal Triamcinolone Acetonide in Refractory Diabetic Macular Edema in Khyber Teaching Hospital

Abstract

Objectives: To evaluate the efficacy and safety of suprachoroidal triamcinolone (SCTA) in patients with refractory diabetic macular edema at Khyber Teaching Hospital, Peshawar. **Methods:** This was a quasi-experimental study carried out in the department of ophthalmology at Khyber Teaching Hospital, Peshawar, from 20th March 2023 to 20th March 2024. Data was collected from 101 patients with refractory diabetic macular edema using non-probability consecutive sampling technique. Best corrected visual acuity (BCVA), central macular thickness (CMT), and intraocular pressure (IOP) were assessed at baseline. The same clinical parameters were reassessed and analyzed at 1 week, 1 month and 3 months post SCTA injection. Data was analyzed through SPSS v 26. **Results:** The mean age of the patients was 56.861 ± 6.59 years, and the mean duration of symptoms was 20.613 ± 5.41 months. Mean LogMAR BCVA showed statistically significant changes, being 0.792 ± 0.15 at baseline and 0.162 ± 0.07 after treatment ($p < 0.001$). CMT significantly decreased from $478.6 \pm 43.3 \mu\text{m}$ to $312.5 \pm 38.9 \mu\text{m}$ ($p < 0.001$). IOP did not significantly change ($p = 0.09$), and no patient experienced sustained IOP elevation. Efficacy and safety were observed in 84.2% and 87.1% of patients, respectively. **Conclusion:** SCTA offer to be a highly effective and well-tolerated treatment option for patients with refractory diabetic macular edema, offering significant visual gain with a good safety profile. Al-Shifa Journal of Ophthalmology 2025; 21(4): 212-219. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Anam, A., & Ahmad, I. (2025). Efficacy and safety of suprachoroidal triamcinolone acetonide in refractory diabetic macular edema in Khyber Teaching Hospital. Al-Shifa Journal of Ophthalmology, 21(4). Retrieved from <https://asjoalshifaeye.org/issues.php?p=current-issues>

83. Safety Profile of Bilateral Same Day Injections of Anti-Vascular Endothelial Growth Factor (Anti-VEGF)

Abstract

Objective: To evaluate the safety profile of bilateral same-day intra-vitreous injections of anti-vascular endothelial growth factor and their possible complications. **Methods:** A cross-sectional study was conducted in the Department of Ophthalmology, SMBB Trauma Center, Dow University of Health Sciences, Dr. Ruth K.M. Pfaudler Civil Hospital, Karachi. The study population comprised patients requiring bilateral intravitreal bevacizumab injections for the management of retinal vascular diseases. A non-probability consecutive sampling technique was used.

Before enrollment, written informed consent was obtained. All collected data were entered into a structured database and subsequently analyzed using the Statistical Package for the Social Sciences (SPSS), version 26. **Results:** We studied 103 patients who received simultaneous bilateral injections of anti-VEGF. Intravitreal injections were indicated for a range of multiple pathologies. These included cystoid macular edema, proliferative diabetic retinopathy, vitreous hemorrhage, choroidal neovascularization, degenerative myopia, and central serous chorioretinopathy. Patients were assessed on the first day, after a week and then after a month. No serious ocular or systemic complications were reported during this period. Few patients reported subconjunctival hemorrhage which spontaneously resolved within a week. **Conclusion:** Bilateral same-day intra-vitreous injections using separate instruments for each eye appears to be safe, well tolerated and less time consuming. None of the patients in this study showed any serious complication necessitating the need to switch to alternate bilateral injections. *Al-Shifa Journal of Ophthalmology* 2025; 21(4): 220-226. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Hussain, M., Waseem, M., Saleem, T., & Farooq, F. (2025). Safety profile of bilateral same-day injections of anti-vascular endothelial growth factor (Anti-VEGF). *Al-Shifa Journal of Ophthalmology*, 21(3). Retrieved from <https://asjoalshifaeye.org/issues.php?p=current-issues>

84. Comparison of Videokeratographic Changes before and after Pterygium Surgery

Abstract

Objective: To compare the contrast sensitivity and videokeratographic changes of corneal surface topography before and after surgery in patients with pterygium. **Methods:** This Quasi-experimental study was carried out at Department of Ophthalmology, Armed Forces Institute of Ophthalmology (AFIO), Rawalpindi from January to December 2024. A total of 130 patients with varying grades of pterygium were sampled using simple random sampling via lottery method. Values for best corrected visual acuity, astigmatism, corneal irregularity, refractive power and contrast sensitivity were assessed. Pterygium removal and conjunctival autograft were done. All values were re-assessed at 4 weeks after surgical removal and conjunctival autograft in all patients. Data were analyzed

How to Cite: Jahanzaib, M., Fatima, S., Humayun, F., Afsar, J., Akbar, B., & Sarwar, M. I. (2025). Comparison of videokeratographic changes before and after pterygium surgery. *Al-Shifa Journal of Ophthalmology*, 21(4). Retrieved from <https://asjoalshifaeye.org/issue.php?p=current-issues>

using SPSS version 26. **Results:** Best corrected visual acuity (BCVA) reported to be 0.16 ± 0.02 LogMAR units versus 0.12 ± 0.07 LogMAR units ($p < 0.001$). Mean overall SIM-K (simulated keratometry) Astigmatism was 3.67 ± 0.42 diopters versus 1.49 ± 0.24 diopters before and after surgery ($p < 0.001$). Contrast sensitivity values assessed at 1.5, 0.3, 0.6, 1.2 and 18 cycles per degree in LogCS units before and after surgery at 4 weeks were 1.16 ± 0.009 versus 1.17 ± 0.005 ($p < 0.001$), 1.50 ± 0.331 versus 1.69 ± 0.024 ($p < 0.001$), 0.91 ± 0.134 versus 1.21 ± 0.025 ($p < 0.001$), 0.29 ± 0.156 versus 0.63 ± 0.25 respectively. **Conclusion:** We concluded that pterygium surgery is associated with a statistically significant improvement in corneal topography including astigmatism, corneal irregularity, and refractive power as well as improvement of corneal sensitivity. Al-Shifa Journal of Ophthalmology 2025; 21(4): 227-233. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

85. Safety Profile of Intravitreal Bevacizumab Injection: A Five Year Retrospective Analysis

Abstract

Objective: To evaluate the safety profile of office-based intravitreal Bevacizumab injection. **Methods:** This was a retrospective observational study conducted at the private clinic of the author in Dera Ismail Khan, Pakistan from January 2017 to December 2021. The sampling method was non-probability consecutive sampling from the patients receiving intravitreal Bevacizumab (Avastin) injection for various retinal disorders. Each injection was treated as an independent event. Sample size was

calculated using Raosoft online calculator keeping margin of error 2% and 95% confidence level. Data analysis was performed using SPSS-20 software **Results:** A total of 2377 patients receiving intravitreal Bevacizumab injection were included in the study. Of these, 1201 (50.53%) were female and 1174 (49.47%) were male. Two cases (0.084%; 95% CI: 0.010–0.302%) of post-injection endophthalmitis occurred. Minor complications included subconjunctival hemorrhage ($n=7$; 0.29%) and conjunctival hyperemia ($n=9$; 0.38%). No retinal detachments, lens trauma, or sustained intraocular pressure rises were observed. **Conclusion:** Intravitreal Bevacizumab injection is a safe procedure when performed with strict aseptic technique. Al-Shifa Journal of Ophthalmology 2025; 21(4): 234-238. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Khalid, M. K., Akhtar, M. A., & Gul, L. (2025). Safety profile of intravitreal bevacizumab injection: A five-year retrospective analysis. Al-Shifa Journal of Ophthalmology. Retrieved from <https://asjoalshifaeye.org/issues.php?p=current-issues>

86. Comparison of 0.1% Topical Tacrolimus with 0.05% Topical Cyclosporine in Treatment of Vernal Keratoconjunctivitis

Abstract

Objective: To compare the effectiveness of 0.1% tacrolimus skin ointment with 0.05% cyclosporine eye drops in the initial management of moderate to severe vernal keratoconjunctivitis. **Methods:**

This quasi-experimental study was conducted at a tertiary care Hospital in Bannu, from Sep 22 to Apr 23. Total 46 patients (96 eyes) with moderate to severe VKC were enrolled. Consecutive sampling was done. All patients were off treatment before enrolment. Patients were divided into two groups. One group was given 0.1% tacrolimus dermatologic ointment and the other was given 0.05% cyclosporine eye drops. Subjective and objective signs were scored

How to Cite: Fatima, N., Shafique, M., Khan, Q. A., Obaid, N., & Fatima, T. Comparison of 0.1% Topical Tacrolimus with 0.05% Topical Cyclosporine in Treatment of Vernal Keratoconjunctivitis.

according to criteria and recorded pretreatment, at 2 weeks and 4 weeks with treatment. Data was analysed by using SPSS version 20. **Results:** Mean age of the patients was 8.6 years $\pm$ 3.8 SD. Subjective and objective scores were analyzed by using paired sample T test and comparison between both medicines was done by applying independent sample T test. Both of the drugs showed statistically significant improvement at 2 and 4 weeks of treatment (p value < 0.001). Both of the drugs were found to be equally effective at 2 and 4 weeks (p value > 0.05 %) except for photophobia and giant papillae which were improved better in cyclosporine group at 2 weeks. However, at 4 weeks there was no significant difference. **Conclusion:** Both tacrolimus 0.1% ointment and 0.05% cyclosporine eye drops are equally effective in the treatment of VKC and can be used in the initial management of moderate to severe VKC. Al-Shifa Journal of Ophthalmology 2025; 21(4): 239-246. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

87. Diagnostic Accuracy of B-Scan and Contrast-Enhanced High-Resolution Magnetic Resonance Imaging (MRI) for Detection of Retinoblastoma Taking Histopathology as Gold Standard

Abstract

To determine the diagnostic accuracy of B-scan ultrasound and contrast-enhanced MRI (CEMRI) for detecting retinoblastoma, using histopathology as the gold standard. **Methods:** This cross-sectional validation study was conducted at the Radiology Department of Bahawal Victoria Hospital (BVH), Bahawalpur, from June to December 2024. Children aged 6 months to 5 years with clinical suspicion of retinoblastoma were included. Exclusion criteria included prior diagnosis, treatment (chemotherapy or radiotherapy), or ocular trauma. All participants underwent B-scan ultrasound, CE-MRI, and surgical evaluation. Data was analyzed using SPSS v23.0. The values of sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were calculated. **Results:** We analyzed 64 patients who were suspected of having retinoblastoma. The mean age of patients was 2.6 $\pm$ 1.35 years. Overall diagnostic accuracy of B-scan was 62.50% and for CE MRI was 89.1%. B-scan ultrasound had sensitivity and specificity of 75% and 35% respectively. CE MRI was positive in 49 patients (76.6%) having sensitivity and specificity of 97.7% and 70% respectively. **Conclusion:** B-scan is a cost-effective initial investigation with good sensitivity, and CEMRI shows higher overall diagnostic performance. Al-Shifa Journal of Ophthalmology 2025; 21(4): 247-252. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Shakoor, A., & Nisar, S. (2025). Diagnostic accuracy of B-scan and contrast-enhanced high-resolution magnetic resonance imaging (MRI) for detection of retinoblastoma taking histopathology as gold standard. Al-Shifa Journal of Ophthalmology, 21(4). Retrieved from <https://asjoalshifaeye.org/issues.php?p=current-issues>

88. An Audit of Eye-Protection Practices in ENT-Related Facial Nerve Palsy: A Retrospective Review of Discharge Summaries

Abstract

Background and objective: Facial nerve palsy (FNP) secondary to ENT-related conditions can lead to lagophthalmos and exposure keratopathy, putting patients at risk of vision-threatening complications. Proper documentation of eye-protection measures in discharge summaries is critical for continuity of care and patient safety. This study aimed to evaluate the quality and completeness of eye-care instructions in discharge summaries of ENT-related FNP patients.

Materials and methods: A retrospective review was conducted on 104 discharge summaries from the Department of ENT - Head and Neck Surgery, Pakistan Institute of Medical Sciences, Islamabad, over a 32-month period (from January 2023 to August 2025). Patients included had FNP due to ENT-related causes, while non-ENT etiologies and incomplete records were excluded. A checklist based on ENT UK, National Institute for Health and Care Excellence (NICE), and Royal College of Ophthalmology guidelines was used to assess documentation of eye-protection measures. Discharge summaries were scored from 0 to 6 and classified as poor (0-1), fair (2-3), good (4-5), or excellent (6). Statistical analysis was performed using SPSS v27 (IBM Corp., Armonk, NY). **Results:** The mean patient age was 46 ± 13.5 years; 67 (64.4%) were male. The most common etiologies were chronic suppurative otitis media with cholesteatoma (40.5%), head and neck cancer (22.1%), and trauma (16.3%). Documented eye-care measures included daytime lubricating drops (96.2%), eyelid taping (84.6%), followup instructions (74.0%), night-time ointment (66.3%), ophthalmology referral (38.5%), and corneal status/lagophthalmos (24.0%). Overall discharge summary quality was excellent in 8.7%, good in 30.8%, fair in 58.7%, and poor in 1.9%. Collapsing the ratings into adequate and inadequate showed that 41 summaries (39.4%) were adequate, and 63 (60.6%) were inadequate. **Conclusion:** While basic eye-care instructions were frequently documented, critical elements such as corneal assessment and ophthalmology referral were often missing. Several discharge summaries were inadequate, emphasizing the need for standardized, comprehensive documentation to improve patient safety and reduce preventable ocular morbidity in ENT-related FNP. **Keywords:** discharge checklist, facial nerve palsy, prevention of complication, record review, eye care.

How to Cite: Khurshied, S., Zahid, M. A., Hassan, H. M. U., Fatima, H. T., Afsar, A., Nisa, M., & Shah, H. G. (2025). An Audit of Eye-Protection Practices in ENT-Related Facial Nerve Palsy: A Retrospective Review of Discharge Summaries. *Cureus*, 17(12).

89. Histological/pathological Evaluation of Post PhotoRefractive-Keratectomy (PRK) Induced Changes in Corneal Epithelial Thickness and its Impact on Physiological Eye Functions

Abstract

Objectives: To evaluate histological changes and epithelial thickness (ET) post-photo refractive keratectomy (PRK) at two regions: apex of cornea (ETapex) and middle of cornea (ETmiddle). To evaluate changes of Lower Order Aberrations (LOAs), Higher Order Aberrations (HOAs), Contrast Sensitivity (CS) and Corrected Distance Visual Acuity (CDVA), and the relationship of these parameters with change of ET(apex and middle) after PRK. **Methods:** Thirty-five patients, aged between 24

and 40, who had PRK were selected. Patient received eye examination, including cycloplegic refraction, non-contact intraocular pressure monitoring, slit-lamp biomicroscopy, corrected distance visual acuity (CDVA), and uncorrected visual acuity measurement. Using epithelial map of optical coherence tomography, changes in Epithelia thickness (ET) apex and ET middle were measured. Statistical Package for Social Sciences SPSS version 24 was used for data analysis. **Results:** Following PRK, there was statistically significant difference in ET apex and ET middle measurements before and after surgery. ET (apex) increased after PRK, this appeared to be related to increased LOAs and increased HOAs, it was also associated with increase in CS and CDVAD (Shapiro Wilks test) with a P value of 0.006 and 0.001 respectively). **Conclusion:** our study concludes that following PRK, there is a correlation between ET(apex & middle) changes and variations in CDVA, LOAs and HOAs, and SC. Post-PRK care should be tailored based involve follow-up appointments, medication, activity restrictions, sun protection, and careful monitoring of vision and healing to ensure optimal recovery and prevent complications. Al-Shifa Journal of Ophthalmology 2025; 21(2): 97-107. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

How to Cite: Zulfiqar, R. F., Khoso, M. Y., Kazmi, T., Sundus, S., Ul, I., & Akbar, R. A. Histological/pathological Evaluation of Post Photo-Refractive-Keratectomy (PRK) Induced Changes in Corneal Epithelial Thickness and its Impact on Physiological Eye Functions.

90. Comparative study of Lasik vs. Smile on corneal nerve recovery

Abstract

Objective: This study compared postoperative corneal nerve recovery following Laser-Assisted in Situ Keratomileusis (LASIK) and Small Incision Lenticule Extraction (SMILE). The main objective was to determine whether differences existed between the two refractive procedures in terms of subbasal nerve density regeneration, corneal sensitivity, and dry-eye-related symptoms during a six-month postoperative follow-up period. **Methods:** A randomized controlled trial was conducted at a tertiary care ophthalmology hospital in Khyber Pakhtunkhwa, Pakistan. Eligible adults with myopic refractive errors were randomly assigned to undergo LASIK or SMILE. Standardized surgical protocols were used. Postoperative assessments included in vivo confocal microscopy for nerve density, Cochet-Bonnet aesthesiometry for

How to Cite: COMPARATIVE STUDY OF LASIK VS. SMILE ON CORNEAL NERVE RECOVERY. (2025). Frontier in Medical and Health Research, 3(10), 468-479. <https://fmhr.net/index.php/fmhr/article/view/1755>

corneal sensitivity, and Ocular Surface Disease Index (OSDI) scoring for symptoms. Data were collected preoperatively and at 1, 3, and 6 months postoperatively. Statistical comparisons were conducted using repeated-measures analysis of variance. **Results:** Both procedures resulted in significant reductions in nerve density and corneal sensitivity at 1 month; however, the SMILE group demonstrated faster nerve regeneration and earlier improvements in corneal sensitivity. By 6 months, the SMILE cohort exhibited significantly higher nerve density and lower OSDI scores compared with the LASIK cohort. Although functional visual outcomes were comparable, the trend favored SMILE in terms of neurotrophic recovery. No vision-threatening complications were observed. **Conclusion:** SMILE was associated with superior corneal nerve regeneration, faster sensory recovery, and fewer dry-eye symptoms than LASIK during the early and intermediate postoperative periods. These findings suggested that SMILE may preserve corneal neuroanatomy more effectively, potentially reducing postoperative discomfort and enhancing tear-film homeostasis. The outcomes provide clinically relevant guidance for refractive surgery decision-making within the South Asian population context.

91. The role of light therapy in treating chronic dry eye syndrome: A randomized controlled trial

Abstract

Background: Chronic Dry Eye Syndrome (DES) was recognized as a multifactorial ocular surface disorder characterized by tear film instability, hyperosmolarity, and ocular surface inflammation, resulting in discomfort, fluctuating vision, and reduced quality of life. Conventional therapies, including lubricating eye drops, warm compresses, lid hygiene, and pharmacological agents, had provided symptomatic relief but often failed to address the underlying pathophysiological mechanisms. In recent years, non-invasive device-based interventions—particularly light-based modalities—had emerged as promising alternatives for Meibomian Gland Dysfunction (MGD)-related DES. Photobiomodulation and intense pulsed light (IPL) therapies had shown potential to restore meibomian gland function, reduce ocular surface inflammation, and enhance tear film stability. However, robust randomized controlled evidence had remained limited. This trial was designed to evaluate the clinical efficacy of a standardized periocular light therapy protocol under controlled conditions. **Objective:** The primary objective of this randomized controlled trial (RCT) was to determine the clinical effectiveness of periocular light therapy as a non-invasive treatment for chronic DES, with a focus on improvements in both patient-reported symptoms and objective tear film stability measures. **Methods:** A two-arm, parallel-group, double-masked, sham-controlled RCT was conducted at Ophthalmology Department of a tertiary care hospital of Peshawar, Pakistan. A total of 120 adults meeting the TFOS DEWS II criteria for chronic DES were randomized (1:1) to receive either active periocular light therapy—administered via a clinically validated LED-based photobiomodulation device emitting predominantly at 633 nm—or a sham treatment delivered with an identical device producing sub-therapeutic illumination. Treatments were performed at baseline, weeks 1, 4, 8, and 12. All participants adhered to standardized lid hygiene and non-preserved artificial tear use. The primary endpoint was the change in Ocular Surface Disease Index (OSDI) score from baseline to week 12. Secondary

How to Cite: THE ROLE OF LIGHT THERAPY IN TREATING CHRONIC DRY EYE SYNDROME: A RANDOMIZED CONTROLLED TRIAL. (2025). *Frontier in Medical and Health Research*, 3(7), 1273-1282. <https://fmhr.net/index.php/fmhr/article/view/1226>

endpoints included tear film break-up time (TBUT), corneal and conjunctival staining scores, meibomian gland expressibility and secretion quality, Schirmer's test results, tear osmolarity, and patient global impression of change (PGIC). Adverse events and ocular/dermatological safety outcomes were recorded. **Results:** Data were analyzed on an intention-to-treat basis using a mixed-effects model for repeated measures. At week 12, the active treatment group demonstrated a mean OSDI reduction of -12.1 points (95% CI: -14.7 to -9.5) compared with -5.1 points (95% CI: -7.0 to -3.1) in the sham group, achieving both statistical significance and the threshold for clinical relevance. TBUT increased by 3.0 seconds (95% CI: 2.5 to 3.5) in the treatment group versus 1.0 second (95% CI: 0.6 to 1.4) in the sham group. Additional improvements were observed in meibomian gland scores, ocular surface staining, and tear osmolarity. Adverse events were minimal, transient, and non-serious, including mild eyelid warmth and erythema. **Conclusion:** This RCT provided high-quality, sham-controlled evidence supporting the efficacy and safety of periocular light therapy for chronic DES. The therapy significantly improved both symptoms and tear film stability and represents a viable non-invasive treatment option for patients with persistent symptoms despite conventional management. **Keywords:** dry eye disease, chronic dry eye syndrome, meibomian gland dysfunction, photobiomodulation, intense pulsed light, randomized controlled trial, ocular surface disease, index, tear film break-up time, tear osmolarity, sham-controlled trial, non-invasive ophthalmic therapy.

92. Assessing the Psychological and Functional Impact of Low Vision in a Developing Country: Congenital vs. Acquired Cases

Abstract

Introduction: Low vision significantly affects mental health, with acquired cases often leading to greater psychological distress than congenital ones. Despite its impact, mental health in low-vision patients remains under-addressed. **Objective:** To evaluate the impact of the age of onset of low vision on vision-related quality of life (VR-QoL) and mental health, considering educational and socioeconomic factors. **Methods:** This cross-sectional study was conducted at Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan, including 225 participants: 75 with congenital low vision (CLV), 75 with acquired low vision (ALV), and 75 controls with normal vision. Patients were categorised based on the age of onset. VR-QoL was assessed using the National Eye Institute Visual Function Questionnaire (NEI VFQ-25), while mental health was evaluated with the Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI). Educational level and socioeconomic status were recorded. Group comparisons were performed using independent t-tests and chi-square tests. **Results:** ALV patients had lower NEI VFQ-25 subscale and composite scores than CLV patients, though differences were not statistically significant. However, BDI and BAI scores were significantly higher in ALV patients (13.42 ± 12.21 vs. 8.91 ± 9.78 , $P = 0.017$; 10.23 ± 11.04 vs. 6.24 ± 7.62 , $P = 0.025$). The proportion of ALV patients requiring expert consultation for depression was also significantly higher ($P = 0.008$). Lower educational levels and socioeconomic status were associated with significantly worse mental health scores and poorer VR-QoL ($P < 0.05$), particularly in the ALV group. **Conclusion:** ALV patients experience greater psychological distress than CLV patients, with higher levels of depression and anxiety. Socioeconomic and educational disparities were more pronounced in the ALV group, where financial instability and lower education correlated with poorer VR-QoL and

How to Cite: Rabia Faheem, Muhammad Saad, Saad Tariq. (2025). Assessing the Psychological and Functional Impact of Low Vision in a Developing Country: Congenital vs. Acquired Cases. Students' Supplement of Journal of Rawalpindi Medical College, 29(1). Retrieved from <https://supp.journalrmc.com/index.php/public/article/view/481>

mental health outcomes. Age of onset is a crucial factor, as CLV patients develop coping mechanisms from an early age, whereas ALV patients face a sudden disruption in daily life, leading to a significant psychological burden. While objective measures assess visual function, they do not capture the full impact of low vision. Integrating mental health assessment and psychosocial support into rehabilitation programs is essential for improving patient well-being. A comprehensive, multidisciplinary approach addressing both visual and psychological aspects is critical for successful low-vision rehabilitation. **Keywords:** Low Vision, mental health, anxiety, rehabilitation

93. Association of Food Taboos and Pica with Dietary Patterns in Pregnant Women

Abstract

Objective: To find out the association of food taboos and pica with dietary patterns in pregnant women.

Study Design: A cross-sectional survey.

Place and Duration of the Study: Al-Shifa School of Public Health, Al-Shifa Eye Trust Hospital, Rawalpindi, Pakistan, from April to September 2023.

Methodology: Pregnant women were selected through a non-probability consecutive sampling.

The Chi-square test was applied to determine the association between dietary practices and pica, food taboos, and socio-demographic characteristics of pregnant women. **Results:** Out of 139 pregnant women, the majority were between the age of 20 and 30 years ($n = 89$, 64%). It was noted that 58% of respondents ($n = 81$) did not know about food taboos. Fifty-six women (40%) reported avoiding some food items during pregnancy for multiple reasons. Nearly 49% women ($n = 68$) were unaware of pica, and 45% women ($n = 63$) were reported taking non-food items during pregnancy. Overall, it was noted that women with poor dietary practices were higher ($n = 72$, 58%) as compared to those with good dietary practices. Dietary practices were significantly associated with the educational, income, and residential status of women and their husbands ($p < 0.05$). Sources of nutritional information, food avoided during pregnancy, and the types of foods avoided during pregnancy were also significantly associated with dietary practices among pregnant women ($p < 0.05$). **Conclusion:** Poor dietary practices were slightly more common than good practices in pregnant women. Food taboos significantly affect dietary habits, while pica is not significantly associated with dietary intake.

Keywords: Dietary practices, Food taboos, Pica, Pregnant women, Public hospitals.

How to Cite: Tahir, M., Rubab, Z. E., Zafar, U., & Rehman, N. U. (2025). Association of Food Taboos and Pica with Dietary Patterns in Pregnant Women. *Age*, 1(1), 0-305.

94. Trends of Sinusitis-Associated Orbital Cellulitis in Pediatric Patients: A Retrospective Cohort Review

Abstract

Background and objective: Orbital cellulitis is mostly associated with sinusitis. The pediatric cases have a peculiar clinical presentation and variability with respect to different factors like season, type of sinus involved, and number of sinuses involved. In this study, we aimed to analyze the trends of sinusitis-associated orbital cellulitis in pediatric patients, which, we believe, would help physicians in managing these patients. **Material and methods:** We retrospectively reviewed the discharge records of 74 pediatric patients treated at the ENT-

How to Cite: Saleh, K., Shah, H. G., Aisha, B., Asma, A., Zahid, M. A., & Mehrun, N. (2025). Trends of Sinusitis-Associated Orbital Cellulitis in Pediatric Patients: A Retrospective Cohort Review. *Cureus*, 17(5).

Head and Neck Surgery Department of the Pakistan Institute of Medical Sciences, Islamabad, Pakistan, between January 2015 and March 2025. The study included only inpatients aged 1-14 years who were diagnosed with orbital cellulitis secondary to associated sinusitis, confirmed by CT findings. Data on patients' demographics, clinical characteristics, month of presentation, type of sinusitis, and sinuses involved were recorded. Trends in the form of results were presented in tables and figures. **Results:** The mean age of the cohort was 7 ± 4.3 years, with 47 (63.51%) being male and 27 (36.49%) female. Out of all the cases admitted, 70 (94.6%) had fever at the time of presentation, 74 (100%) had headache, 74 (100%) had pain, and 74 (100%) had chemosis and periorbital edema. Of the patients, 41 (55.40%) had ophthalmoplegia, 29 (39.19%) had facial edema, and 14 (18.92%) had reduced eyesight. There were 49 (66.22%) known cases of chronic sinusitis. Of the total number of cases, 29 (39.19%) occurred in the winter, 18 (24.32%) in the spring, 17 (22.97%) in the summer, and 10 (13.51%) in the fall. Of the total cases, 23 (31.08%) involved a single sinus, 46 (62.16%) involved two or more sinuses, and five (6.76%) involved pansinusitis. In cases with single sinus sinusitis, the ethmoid was most frequently involved (72.4%). **Conclusions:** We observed that cases of sinusitis-associated orbital cellulitis had a peculiar presentation including headache, discomfort, chemosis, periorbital pain, and fever. Orbital cellulitis was more frequently linked to chronic rhinosinusitis. Orbital cellulitis linked to sinusitis peaked in the winter and spring. The most frequent cause of orbital cellulitis in children was ethmoidal sinusitis. Orbital cellulitis was typically caused by sinusitis involving two or more sinuses. **Keywords:** clinical findings, common factors, orbital cellulitis, sinusitis, trends analysis

95. Assessment of Clinical Skills Competency among Final-Year Medical Students in Pakistan: A Cross-Sectional Study

Abstract

Clinical skills competency among medical graduates represents a fundamental determinant of future healthcare quality, yet global concern persists regarding variability in skill acquisition during undergraduate training. This study evaluates competency in core clinical skills among final-year medical students in Pakistan and identifies areas requiring curricular reinforcement. A descriptive cross-sectional study was conducted among 312 final-year MBBS students from three tertiary medical institutions. Competency was assessed using an Objective Structured Clinical Examination-based checklist evaluating history-taking, physical examination, communication skills, procedural techniques, and clinical decision-making. Scores were stratified into competent, borderline, or not competent categories. Findings demonstrated that 68.9% of students were competent in history-taking, 61.5% in physical examination, 54.8% in communication skills, 49.3% in procedural skills, and 57.4% in clinical decision-making. A significant association was observed between prior clinical rotation exposure and OSCE performance ($p < 0.001$). Procedural skills, including intravenous cannulation, urinary catheterization, and emergency response algorithms, showed the lowest competency levels. The study highlights critical gaps in hands-on training and emphasizes the need for structured simulation-based learning and standardized assessment frameworks. **Keywords:** clinical competency, medical education, OSCE.

How to Cite: Amjad, M., Munim, A., Haider, M. A., Memon, N. U. N., Zaman, A., & Ahmad, M. B. (2025). Assessment of Clinical Skills Competency Among Final-Year Medical Students in Pakistan: A Cross-Sectional Study. *International Journal of Pharmacy Research & Technology (IJPRT)*, 15(2), 3806-3813.

96. Association between Lifestyle Factors and Fatty Liver Disease among Young Adults in Islamabad

Abstract

Fatty liver disease (FLD), particularly non-alcoholic fatty liver disease (NAFLD), is an emerging public health concern worldwide, with increasing prevalence among young adults, especially in developing countries like Pakistan. This study investigates the relationship between lifestyle factors—such as dietary habits, physical inactivity, obesity, and screen time—and the development of NAFLD among young adults in Islamabad. A cross-sectional observational study was conducted over 6–12 months, involving 385 participants (aged 18–35 years) from universities, workplaces, and healthcare centers. The findings

indicate that 68.1% of participants had been diagnosed with FLD for 1–5 years, with poor dietary choices (over 65% consuming fried/fast food and sugary drinks), low fruit and vegetable intake, and insufficient physical activity (only 32% exercised regularly) contributing to disease prevalence. Additionally, 58% engaged in prolonged screen time, 45% reported high stress, and 40% had inadequate sleep (<6 hours per night). A significant lack of educational resources on FLD was noted (76.4%). These results highlight the need for urgent public health interventions, including educational campaigns, lifestyle modifications, and preventive healthcare strategies, to mitigate the rising burden of NAFLD among young adults. Future research should focus on long-term interventions and policy-driven solutions to address this growing health crisis.

How to Cite: Yaqoob Bashir, & Saima Rashid. (2025). Association between Lifestyle Factors and Fatty Liver Disease among Young Adults in Islamabad. *Journal of Political Stability Archive*, 3(1), 389-403. <https://www.journalpsa.com.pk/index.php/JPSA/article/view/78>

97. Leadership styles, knowledge sharing (attitudes and behaviors) and project success: insights from theory of reasoned action and social exchange theory

Abstract

Purpose: This paper proposes a mechanism explaining how transformational leadership and transactional leadership influence project success. Drawing on the theory of reasoned action and social exchange theory, we argue that transactional leadership positively influences project teams' knowledge-sharing behaviors and project success. Furthermore, transformational leadership (in a sequence) positively influences knowledge-sharing attitudes, knowledge-sharing behaviors and then the project success.

Design/methodology/approach: We draw on survey data from 129 individuals working on projects in the telecomm sector firms. Data were analyzed structural equation modeling. **Findings:** Results show that

transformational leadership has an indirect (positive) effect on project success through (1) knowledge-sharing attitudes as well as (2) a sequential process, where it influences knowledge-sharing attitudes, which subsequently influences knowledge-sharing behaviors and then project success. Furthermore, knowledge-sharing behaviors positively mediate the relationship between transactional leadership and project success. **Originality/value:** Research predominantly conceptualizes knowledge sharing as knowledge-sharing behaviors,

How to Cite: Raziq M, Raziq MM, Moazzam M, Shamout MD (2025), "Leadership styles, knowledge sharing (attitudes and behaviors) and project success: insights from theory of reasoned action and social exchange theory". *International Journal of Productivity and Performance Management*, Vol. 74 No. 8 pp. 28152836, doi: https://doi.org/10.1108/I_JPPM-10-2023-0575

overlapping at times knowledge-sharing attitudes with knowledge-sharing behaviors, while the two can arguably be seen as different constructs, and they may or may not be associated with each other. We show how the two aspects of knowledge-sharing are influenced by particular leadership styles. Secondly, research mainly looks at the outcomes of knowledge sharing and leadership in permanent organizations and not the project environment, while projects are constrained by fixed cost, time and scope rather than undertaken in ways routine organizational processes take place. Lastly, the differentiated role of transformational leadership and transactional leadership for knowledge sharing and project success is not highlighted in existing research. By drawing on these, we make some key contributions to research.

98. Micropulse Cyclophotocoagulation versus Continuous Wave Cyclophotocoagulation: A Meta-Analysis

Abstract

Précis: In this systematic review, we find that CW-CPC produces more sustained IOP lowering in children compared to MP-CPC.

Purpose: Micropulse cyclophotocoagulation (MP-CPC) and Continuous cyclophotocoagulation (CW-CPC) are both surgical interventions used to decrease intraocular pressure (IOP) in pediatric glaucoma. Recent publications have shown conflicting results regarding the effectiveness of MP-CPC compared to CW-CPC, which this systematic review and meta-analysis aims to evaluate.

Methods: From inception through March 2025, PubMed, Embase, Scopus, Cochrane Library, and ScienceDirect were searched for studies comparing MP-CPC and CW-CPC in treating pediatric glaucoma, with IOP reported at different time intervals. A random effects model was used across all analyses.

Results: At 12 months, CW-CPC showed a significantly greater reduction in IOP compared to MP-CPC (MD: -6.88 mmHg, 95% CI: -9.46 to -4.30; $P < 0.00001$). No significant differences in IOP lowering were observed at 1, 3, and 6 months. Overall, CW-CPC was superior in reducing IOP (MD: -4.23 mmHg, 95% CI: -6.51 to -1.95; $P = 0.0003$; $I^2 = 80\%$) at the last follow-up. **Conclusion:** CW-CPC shows a significantly greater reduction in IOP than MP-CPC, particularly at long-term follow-up. These findings highlight the sustained efficacy of CW-CPC compared to MP-CPC in the management of pediatric glaucoma.

How to Cite: Abbas, Johar MBBS*; Abbas, Ghadeer Mohammed MBChB†; Maaz, Muhammad MBBS‡; Yaseen, Imama MBBS§; Asim, Rabia MBBS||; Mukhtar, Sameen MBBS¶; Rustam, Zainab MBBS#; Ahmed, Somaiya MBBS**; Arooj, Hajira MBBS††; Wang, Bo MD, PhD‡‡. Micropulse Cyclophotocoagulation Versus Continuous Wave Cyclophotocoagulation: A Meta-Analysis. Journal of Glaucoma ():10.1097/IJG.0000000000002652, October 23, 2025. | DOI: [10.1097/IJG.0000000000002652](https://doi.org/10.1097/IJG.0000000000002652)

99. Associations between the Consumption of Junk Food and Ovarian Cysts in Young Adult Girls in Islamabad

Abstract

Food Intake and Prevalence of Ovarian Cyst among Young Adult Girls of Islamabad: A Cross-Sectional Study Eating too much junk food, which contains high amounts of Trans fat, sugars, and processed substances, is commonly linked to the development of ovarian cysts. To study junk food intake, food consumption & cyst prevalence, in particular among women with Polycystic Ovary Syndrome (PCOS). A stratified random sampling was utilized in recruiting 400 participants from schools and hospitals to conduct this cross-sectional study with a sample size.

Data on dietary habits, medical history, and lifestyle factors was collected using 3 structured questionnaires. Clinical evaluations were conducted, and ultrasounds were utilized to confirm the presence of cysts on the ovaries when possible. Associations between dietary patterns and reproductive health were detected using statistical analyses. Analysis revealed a strong relationship between what the researchers called a “high frequency of junk food consumption” and the incidence of ovarian cysts. Those taking a large quantity of fast food, soda, sweetened beverages and processed snacks had higher chances of developing ovarian cysts, particularly those diagnosed with PCOS. Article focusing on the research emphasizes the multidisciplinary approach used to arrive at these findings and its implications for public health through the development of nutrition promotion strategies targeted towards all women of reproductive age. This association should be addressed in future studies to understand whether the reported differences in dietary patterns are related to the proposed common mechanistic pathways linking ovarian health and infertility. By utilizing longitudinal data as well as biochemical measurements. Eating patterns to reproductive health and supports public health measures promoting nutritional awareness and life style changes in young women. The future scope of research should be focused on determining the mechanisms that underpin the association between dietary habits and ovarian health fast food, soda, or sweetened beverages and processed snack had an increased risk of ovarian cysts, especially for patients with PCOS, This paper highlights the importance of was considerably correlated with junk food consumption in high frequency. “Compared with the lower consumption group, participants with higher consumption of It was found that the predominance of ovarian cysts.

How to Cite: Bashir, Y. ., Yaqoob, D. ., & Liaqat, S. . (2025). Associations between the Consumption of Junk Food and Ovarian Cysts in Young Adult Girls in Islamabad. *Journal of Political Stability Archive*, 3(2), 1-21. <https://doi.org/10.63468/jpsa.3.2.01>

100. Prevalence of Refractive Errors and Associated Risk Factors among School-Aged Children in Pakistan: A Cross-Sectional Study

Abstract

Refractive errors represent a major cause of correctable visual impairment among children, particularly in low- and middle-income countries where screening programs remain inconsistent. This cross-sectional study assessed the prevalence of refractive errors and associated risk factors among school-aged children in Pakistan, where urbanization and increased digital exposure may be influencing visual development. A total of 684 students aged 6 to 15 years underwent standardized vision screening, cycloplegic refraction, and risk factor assessment through structured questionnaires. The prevalence of refractive errors was 32.3 percent, with myopia constituting the most common type, followed by astigmatism and hyperopia. Statistically significant associations were found between refractive errors and prolonged daily screen time ($p < 0.001$), limited outdoor activity ($p = 0.004$), and positive family history ($p < 0.001$). Mean spherical equivalent values were significantly more myopic in older age groups. A novel finding was the marked increase in myopia prevalence among children reporting more than three hours of daily device use, reinforcing emerging concerns regarding digital exposure. The results indicate a substantial public health burden and emphasize the need for early school-based screening. **Keywords:** refractive errors, school-aged children, risk factors.

How to Cite: Amjad, M., Munim, A., Haider, M. A., Rahman, A., Khan, J. A., & Khan, A. A. (2025). Prevalence of Refractive Errors and Associated Risk Factors among School Aged Children in Pakistan: A Cross-Sectional Study. *International Journal of Pharmacy Research & Technology (IJPRT)*, 15(2), 3931-3935.

101. Reimagining Medical Education: A Sustainable Peer-Assisted Learning Framework for Enhanced Academic Performance

Abstract

Medical education faces increasing challenges related to cognitive overload, faculty constraints, and heterogeneous learner needs, necessitating innovative pedagogical models that are both effective and sustainable. Peer-assisted learning (PAL) has emerged as a promising educational strategy; however, robust experimental evidence evaluating its structured implementation and academic impact remains limited. This quasi experimental study evaluates a sustainable PAL framework integrated into undergraduate medical education and examines its effect on academic performance and learner engagement. A total of 312 medical students were allocated into PAL and conventional teaching groups. Academic outcomes were assessed using standardized examination scores, while secondary outcomes included knowledge retention and learner satisfaction. The PAL group demonstrated significantly higher mean examination scores (78.6 ± 6.4) compared to the control group (71.2 ± 7.1 ; $p < 0.001$), along with improved retention scores at 8-week follow-up ($p = 0.002$). Multivariate regression analysis confirmed PAL participation as an independent predictor of academic success. These findings suggest that a structured, scalable PAL framework enhances learning outcomes beyond traditional instructional models. This study introduces a novel sustainability-focused

How to Cite: Amin, J., Amjad, M., Mushtaq, M. A., Farooq, Z., Khan, M. B. A., & Khalid, K. (2025). Reimagining Medical Education: A Sustainable Peer-Assisted Learning Framework for Enhanced Academic Performance. *International Journal of Pharmacy Research & Technology (IJPRT)*, 15(2), 4018-4023.

PAL design that addresses faculty limitations while promoting active learning, cognitive congruence, and long-term academic benefits within medical education. **Keywords:** peer-assisted learning; medical education; academic performance

102. Evaluating Clinical Practice: An Audit of Ophthalmologic Findings in Patients with Head and Neck Diseases in Otorhinolaryngology

Abstract

Background and objectives: Due to the close anatomical relationship between the eye and the ear, nose, and throat region, orbital involvement and related ophthalmologic symptoms are frequently encountered in the field of otorhinolaryngology-head and neck surgery. Understanding this connection is essential for accurate diagnosis, predicting disease progression, and planning effective treatment. This retrospective review explores the occurrence and patterns of ocular manifestations arising from primary otorhinolaryngology and head and neck conditions. **Material and methods:** We conducted a retrospective review of discharge records of patients managed at the Department of Otorhinolaryngology-Head and Neck Surgery, Pakistan Institute of Medical Sciences, Islamabad, between April 2020 and July 2025. The study included only hospitalized adult patients, more than 18 years of age, who were diagnosed with otorhinolaryngology-head and neck conditions and exhibited associated ophthalmologic signs and symptoms. Data collected included patient demographics, clinical presentations, and confirmed diagnoses. The observed trends were summarized and presented using tables and figures. **Results:** The mean age of the study population was 47 ± 21.5 years. Of the 98 patients, 67 (68.37%) were male and 31 (31.63%) were female. The most frequently observed otorhinolaryngologic condition associated with ophthalmologic manifestations was chronic rhinosinusitis (CRS), found in 12 cases (12.24%). This was followed by orbital cellulitis in 11 cases (11.22%), chronic otitis media (COM) with complications in 10 cases (10.20%), and both trauma and acute otitis media (AOM)/mastoiditis in eight cases each (8.16%). The most common ophthalmologic manifestation was epiphora, reported in 44 instances (18.80%), and followed by chemosis in 39 cases (16.66%). **Conclusions:** Epiphora and chemosis are the most frequently observed ophthalmologic manifestations in patients with otorhinolaryngology-head and neck diseases. Among these conditions, chronic rhinosinusitis and orbital cellulitis are the most common ear, nose, and tongue (ENT) disorders presenting with ophthalmologic signs and symptoms.

How to Cite: Khurshied, S., Shah, H. G., Chohan, S. A., Khan, M. S., Nisa, M., & Zahid, M. A. (2025). Evaluating Clinical Practice: An Audit of Ophthalmologic Findings in Patients With Head and Neck Diseases in Otorhinolaryngology. *Cureus*, 17(9), e92636-e92636.

103. Safety Profile of Bilateral Same Day Injections of Anti-Vascular Endothelial Growth Factor (Anti-VEGF)

Abstract

Objective: To evaluate the safety profile of bilateral same-day intra-vitreous injections of anti-vascular endothelial growth factor and their possible complications. **Methods:** A cross-sectional study was conducted in the Department of Ophthalmology, SMBB Trauma Center, Dow University of Health

How to Cite: Hussain, M., Waseem, M., Saleem, T., & Farooq, F. Safety Profile of Bilateral Same Day Injections of Anti-Vascular Endothelial Growth Factor (Anti-VEGF).

Sciences, Dr. Ruth K.M. Pfau Civil Hospital, Karachi. The study population comprised patients requiring bilateral intravitreal bevacizumab injections for the management of retinal vascular diseases. A non-probability consecutive sampling technique was used. Before enrollment, written informed consent was obtained. All collected data were entered into a structured database and subsequently analyzed using the Statistical Package for the Social Sciences (SPSS), version 26. **Results:** We studied 103 patients who received simultaneous bilateral injections of anti-VEGF Intravitreal injections were indicated for a range of multiple pathologies. These included cystoid macular edema, proliferative diabetic retinopathy, vitreous hemorrhage, choroidal neovascularization, degenerative myopia, and central serous chorioretinopathy. Patients were assessed on the first day, after a week and then after a month. No serious ocular or systemic complications were reported during this period. Few patients reported sub-conjunctival hemorrhage which spontaneously resolved within a week. **Conclusion:** Bilateral same-day intra-vitreous injections using separate instruments for each eye appears to be safe, well tolerated and less time consuming. None of the patients in this study showed any serious complication necessitating the need to switch to alternate bilateral injections. Al-Shifa Journal of Ophthalmology 2025; 21(4): 220-226. Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.

104. Corneal higher order aberrations in beta-thalassemia major

Abstract

Purpose: This study aimed at evaluating the corneal higher order aberrations in beta-thalassemia major cases and comparing it to the healthy individuals.

Material and methods: It was a comparative cross-sectional study conducted on 56 beta-thalassemia major cases and 64 healthy controls from December 2023 to June 2024. All the participants received a standard ophthalmological examination subsequently followed by measurement of corneal higher order aberrations using Corneal Topography Galilei G5. **Results:** The mean age of the cases and controls was comparable ($P = 0.190$). All the corneal higher order aberrations were significantly different among cases and controls ($P 0.05$). Only fifth order aberrations were weakly positively correlated to thalassemia duration ($r = 0.28$, $P = 0.033$). The fourth order and spherical aberrations were weakly negatively correlated to hemoglobin levels ($P = 0.029$, $P = 0.012$ respectively). The fifth and sixth order aberrations were significantly different among the patients undergoing monotherapy and combined therapy ($P=0.006$, $P=0.022$ respectively). **Conclusions:** Corneal higher order aberrations are greater in beta-thalassemia major cases potentially due to disease and its treatment-related factors. The findings of the study focuses the need for regular ocular monitoring in these patients to lessen potential visual disturbances and improve ocular health. **Keywords:** corneal higher order aberrations, beta-thalassemia major, hemoglobin, iron chelation therapy.

How to Cite: Firdous, M., & Umer, M. F. For non-commercial use only.

105. The Association between Childhood Behavioral Development and Its Impact on Future Outcomes

Abstract

This study investigates the critical role of childhood behavioural development in shaping future life outcomes across academic, professional, social, and emotional domains. Drawing on foundational theories from developmental psychology—including the works of Bandura, Erikson, Piaget, and Bowlby—this research emphasizes how early behavioural traits such as self-discipline, emotional regulation, and social adaptability significantly influence lifelong functioning. A mixed-methods approach was employed, combining quantitative surveys and qualitative interviews with educators, parents, and child development experts. Data from 400 participants reveal that early behavioural patterns are strong predictors of academic success, career stability, interpersonal relationships, and mental health. Quantitative results show positive correlations between traits like self-discipline and social adaptability with higher academic and professional success, while negative behaviors such as aggression and impulsivity are linked to long-term difficulties. Qualitative insights further highlight the value of supportive environments, structured routines, and positive reinforcement in fostering adaptive behavior. Parenting styles, particularly the authoritative approach, emerged as influential in cultivating autonomy and emotional resilience. Moreover, early behavioral interventions—such as social-emotional learning programs, counseling, and structured extracurricular activities—demonstrated significant long-term benefits for participants. The study also explores the broader societal implications, noting that investing in early behavioral development reduces future economic burdens and promotes social cohesion.

Findings: underscore the importance of early identification and intervention in childhood behavioral challenges, advocating for a multi-sectoral approach involving parents, educators, mental health professionals, and policymakers. This research contributes to the growing body of evidence supporting proactive, holistic strategies to nurture behavioral health in early childhood, ultimately promoting more equitable and successful life trajectories.

Keywords: Childhood, Behavior, Behavioral Development, Development.

How to Cite: Bashir, Y., Rashid, S., & Liaqat, S. (2025). The Association between Childhood Behavioral Development and Its Impact on Future Outcomes. *Dialogue Social Science Review (DSSR)*, 3(5), 346-363.

106. Immediate effects of panretinal photocoagulation laser on intraocular pressure in proliferative diabetic retinopathy

Abstract

Introduction: Diabetic retinopathy (DR), a major cause of global blindness, affecting approximately 93 million people worldwide. Its advanced stage, proliferative diabetic retinopathy (PDR), involves abnormal blood vessel growth, treated with PRP laser and anti-VEGF therapy. PRP uses Nd:YAG lasers to target retinal areas treatment. **Objectives:** To find out the Immediate effects of panretinal photocoagulation (PRP) laser on intraocular pressure (IOP) in PDR and to check its association with age group, power group and number of shots group of PRP laser.

Materials and methods: A quasi-experimental pre and post-interventional study was carried out in Vitreo-retina Department of Tertiary Eye Care Hospital, from September 2020 to March 2021. A consecutive sampling technique was used. IOP was measured just before and after 20 min of laser with Goldmann applanation tonometer (GAT). Along with IOP, power, pulses/shots and spot size applied during PRP laser were also noted in the self-structured proforma. Data was analyzed using SPSS.

Results: Out of total 90 subjects, the rise in IOP was observed in 54 (60%) subjects while IOP was decreased in 27 (30%) and in 9 (10%) subjects there were no changes noted in IOP after PRP laser. Paired t-test results showed that IOP before (16.10 [± 4.11] mmHg) and IOP after (17.90 [± 5.23] mmHg) had statistically significant differences $t(89) = 4.179$; $p = 0.001$. Independent samples t-test results showed that IOP differences had significant association with number of shots group of PRP laser $p = 0.02$, while it showed non-significant association with age group $p = 0.09$ and power group of PRP laser $p = 0.97$ respectively.

Conclusion: Acute elevation in IOP was observed after PRP laser, number of shots applied during PRP laser had significant association with differences in IOP.

How to Cite: Asgher, Mehmona & Hannan, Abdul & Sughra, Ume & Ullah, Saif. (2025). Immediate effects of panretinal photocoagulation laser on intraocular pressure in proliferative diabetic retinopathy. OphthaTherapy. Therapies in Ophthalmology. 10.24292/01.OT.171125.



“Research means that you don’t know, but are willing
to find out.”
— ***Charles F. Kettering***

Dissertations

Optometry and Orthoptics

S/No	Student Name	Topics	Department	Supervisors
1.	Aqsa Iqbal	Comparative analysis of viewing distance, font size, and digital eye strain in non-presbyopic and presbyopic smartphone users	Orthoptics Department, peads refraction unit, peads biometry	Ms. Fareeha Ayyub
2.	Noor-ul-Ain	After effect on tear film quality and quantity of reading on a laptop computer screen vs a hardcopy	Skill lab	Mr. Saifullah
3.	Hira Ahmad	Correlation of dry eye and tear film instability in migraine Vs non-migraine subjects a sectional study.	OPD I and II	Mr. Saifullah
4.	Urooj Basharat	Effect of induced refractive error on color vision.	Skill lab	Mr. Saifullah
5.	Alisha Khaleeq	Short-term refractive compensation for oblique astigmatism in young adults.	Skill lab	Ms. Fareeha Ayyub
6.	Areeba Asghar	Effect of screen size on accommodation and ocular discomfort.	Orthoptics	Ms.Sadaf Qayyum
7.	Khadija-Tul-Fatima Azhar	Comparison of subjective refraction with autorefraction in high astigmatic patients.	Peas vision and refraction room	Mr. Saifullah
8.	Aqsa Jannat	A novel smartphone-based application for measuring the best corrected visual acuity.	Peas refraction	Ms.Sadaf Qayyum
9.	Muhammad Kamran	Contrast sensitivity using colored contact lenses under various lighting conditions.	Skill lab	Ms.Fareeha Ayyub

10.	Noor-ul-Ain Gul	Short-term effect of intravitreal bevacizumab on intraocular pressure.	IOL Master Biometry room, skill lab	Ms.Sadaf Qayyum
11.	Hafsa Mudassar	Evaluation of accommodative function in amblyopia A comparative study.	Peads vision and refraction room	Ms.Sadaf Qayyum
12.	Um-e-Arbab	Comparative analysis of ocular changes in vapers, smokers and non-smokers.	Opd 1 Opd 2 clinic	Ms.Sadaf Qayyum
13.	Manahil Mehmood	The use and accessibility of touch screen devices for people with visual impairment and blindness.	Light house	Mr.SaifUllah
14.	Kashaf e Sakina	The effect of cycloplegia on Accommodative convergence/Accommodation ratio and ocular alignment in accommodative refractive esotropia.	Orthoptics	Ms.Maryam Firdous
15.	Sadaf Zahra	Effect of oblique lens induced	Opd	Ms.Mehmoona Asghar
16.	Kashmala Ijaz	Effect of induced meridional anisometropia on stereopsis.	Skill lab	Mr. Saifullah
17.	Zunaira Fatima	Effect of stereoacuity among patients with refractive errors.	OPI and OPDII	Ms.Mehmoona Asghar
18.	Anosha Iftikhar Ahmad	Accuracy and stability of accommodation and vergence responses during sustained near tasks in uncorrected hyperopes	Peads refraction	Ms.Fareeha Ayyub
19.	Muhammad Usman	Comparison of dry monocular Mahindra Retinoscopy and cycloplegic Autorefractometry in strabismus.	Peads refraction unit, orthoptics	Ms.Maryam Firdous

20.	Wanisa Fatima	The impact of reading medium and auditory distractors on visual attention and search.	Skill lab	Ms.Maryam Firdous
21.	Sadaf-ul-Khair	Pre and post-cycloplegic effect of oblique astigmatism. Comparative analysis to resolve existing discrepancies.	Peads vision and refraction room	Mr.SaifUllah
22.	Rehab Nisar	Impact of different lightening conditions (photopic/scotopic) on visual functions.	Skill lab	Ms.Fareeha Ayyub
23.	Zara Sajjad Kiani	Assessing maridonial amblyopia in astigmates: Evaluating a symmetry in visual acuities	Peads vision and refraction room	Ms.Maryam Firdous
24.	Anwisha Saleem	Visual performance comparison in pediatric eye conditions using smartphone-based tools.	Peads Vision Orthoptics	Ms.Sadaf Qayyum
25.	Samavia Adan	Relationship between subjective and objective refraction methods in patients with mild keratoconus.	Cornea refraction room	Ms. Fareeha Ayyub
26.	Muqadas Mushtaq	Association of vitamin D with the severity of keratoconus.	Cornea clinic Diagnostics	Ms.Maryam Firdous
27.	Aliza Haider	Role of low-power convex lenses in managing digital eyestrain.	Opd I and II	Ms.Maryam Firdous

Dissertations

BSPH Batch 01

S/No	Students Name	Supervisor Name	Title
1.	Nimra Ali Akbar	Dr Ayesha Babar Kawish	Psychological Stress among mothers of infants undergoing laser therapy for retinopathy of prematurity in a Tertiary eye-care hospital of Rawalpindi.
2.	Nimra Hassan		Assessment of Interpersonal Quality of family planning services among women attending Gyne department of Public Tertiary hospital, Rawalpindi District.
3.	Tehreem Seemab		Effectiveness of school based educational intervention on knowledge and willingness regarding Human Papilloma virus vaccine among adolescents of Public and Private Institutions of Haripur.
4.	Javeria Bushra	Dr Saman Waqar	Vision related quality of life and associated Socio demographic factors in patients visiting a Tertiary Eye-care hospital of Rawalpindi.
5.	Syeda Laiba Gillani		Stress and coping strategies among parents of children with Congenital eye disorders visiting a Tertiary care eye hospital, Rawalpindi.
6.	Amna Batool	Dr Khizar Nabeel Ali	Assessment of Occupational Stress and Coping Strategies among Traffic Police wardens in Rawalpindi.
7.	Firdos Bibi		Knowledge and perception of Healthcare providers about climate change and emerging health challenges.
8.	Fiza Liaqat		Effectiveness of an Educational intervention on Knowledge and Smartphone use practices related to text neck syndrome among undergraduate students in Rawalpindi.
9.	Tabinda Shaheen		Effect of artificial intelligence on critical thinking across different Personality traits among undergraduate in Rawalpindi City.
10.	Minahil Fatima	Dr Quratulain Waheed	Assessment of Emotional and Behavioral well-being in relation to parenting style among children of Public Primary schools in Gujarat, Pakistan.
11.	Sidra Nasreen		Assessment of Parental Knowledge and attitude regarding genetic testing and screening of Retinoblastoma at Tertiary Eye care Hospital, Rawalpindi.



“The science of today is the technology of tomorrow.”
— ***Edward Teller***

Conference & Webinars

Participants	Event
Prof. Dr. Ume Sughra	Participated as a keynote speaker at the Pre-Conference Workshop on Professional Capacity Building for Clinical Trials during the First Rare and Genetic Disease Summit , organized by the Society for Novel and Rare Diseases (SNARE) in Lahore.
Prof. Dr. Ume Sughra	Leading a workshop on the Conduct of clinical Trials and Research Ethics at the 18th Annual Neurology Research Day (ANRD) 2025 in Shifa International Hospital.
Prof. Dr. Ume Sughra	Participated as a key note speaker in the Symposium on Translational and Clinical Research hosted by Rehman College of Dentistry and RMI.
Prof. Dr. Ume Sughra	Participated as a key note speaker on the topic From Training to Impact: From Training to Impact: Strengthening Clinical Research Capacity in LMICs at symposium on Translational and Clinical Research
Dr. Mahmood Ali Prof. Dr. Ume Sughra Prof. Dr. Wajid Ali Khan Mr. Shaukat Ali Jawaaid Prof. Dr. Farooq Azam Rathore Prof. Dr. Yasir Waheed	Participated as a key note speakers in an insightful seminar on Ethical Scientific Publication & Medical Journalism: Improving Credibility in Scientific Research successfully hosted by Al-Shifa Journal of Ophthalmology
Prof. Dr. Ume Sughra	Participated in Session 6A as a keynote speaker on collaboration among Clinical Trial Units: Strengthening Pakistan's Research Ecosystem , organized by the AKU Clinical Trials Unit.
Dr. Abdul Hannan	Participated in 43 rd Lahore Ophthalmology Conference & 47 th National Conference of Ophthalmological society of Pakistan / 3 rd Annual Symposium of POA
Dr. Abdul Hannan Dr. Ayesha Babar Kawish Dr. Saifullah	Participated as a key note speakers at an insightful study session on Multiple Sclerosis, Optic complications & Public Health Implications organised by Al-Shifa School of Public Health, Department of Optometry, PIO along with the Retina department



Participants	Event
Dr. Farooq Azam Rathore	Participated as a key note speakers on workshop on a transformative topic on Use of AI Tools in Medical Research & Writing at Pakistan Institution of Ophthalmology (PIO)
Prof. Dr. Wajid Ali Khan Prof. Dr. Tayyab Afghani Prof. Dr. Sumaira Altaf Dr. Nusrat Sharif	Participated as key note speakers in Press Conference on “ Rapidly Rising Cases of Eye Cancer in Children & Childhood Blindness ”.
Dr. Abdul Hannan	Participated in an interview on HUM News' program Subah Say Agay. During the interview, he spoke about glaucoma, its symptoms, early detection methods, and preventive measures .
Prof. Dr. Ume Sughra Dr. Marriam Suleman Dr. Asmaa Riaz	A meeting was held with NUST School of Health Sciences to discuss the avenues of joint research, conferences, clinical trials, workshops etc.
Prof. Dr. Wajid Ali Khan Prof. Dr. Ume Sughra	Participated in the 48th APPNA Convention held in Dallas, Texas,



“Research is creating new knowledge.”
— *Neil Armstrong*

Event Highlights at ASRC



The CEO of DRAP, **Dr. Obaidullah**, visited Al-Shifa Trust Eye Hospital to discuss research advancements with President **Maj. Gen. (R) Rehmat Ali Khan** and Director of Research **Dr. Ume Sughra**



Prof. Dr. Ume Sughra, Director ASRC participated as a key note speaker in the Symposium on "**Translational and Clinical Research**" hosted by Rehman College of Dentistry and RMI. It was a pleasure to contribute alongside esteemed colleagues and witness the passion of the next generation of researchers towards clinical trials.



Director ASRC, **Prof. Dr. Ume Sughra** had the privilege of leading a workshop on the **Conduct of clinical Trials and Research Ethics** at the **18th Annual Neurology Research Day (ANRD) 2025** in Shifa International Hospital as part of our ongoing commitment at the Clinical Trials Unit (CTU) to strengthen the capacity in high-quality, ethically sound research.



Director ASRC & also a member of SNARE **Prof. Dr. Ume Sughra** as a keynote speaker at the **Pre-Conference Workshop on Professional Capacity Building for Clinical Trials** during the **First Rare and Genetic Disease Summit**, organized by the Society for Novel and Rare Diseases (**SNARE**) in Lahore.



Prof. Dr. Ume Sughra and her team members visited the NUST School of Health Sciences. To discussed the avenues of joint research, conferences, clinical trials, workshops etc.



ASRC jointly held a pre-conference workshop on “Good Clinical Practices” with NUMS and Maroof Intl Hospital on 15th February 2025.



It was an honor for Al-Shifa Research Centre (ASRC) to be a part of Symposium on “Clinical Trials in the Era of AI” at Shifa International Hospitals Limited, Islamabad.



ASRC was honoured to be among speakers at Clinical Trials Summit of Pakistan 2025 at The Aga Khan University Hospital (Pakistan), on 17 – 18 February 2025. This landmark event brought together leading experts, researchers, and institutions to discuss the future of clinical trials and research innovation in Pakistan.

	ASRC was pleased to welcome a five-member delegation from Bharatpur Eye Hospital, Nepal, for a visit from April 6 to 12, 2025. Discussion was carried out for collaborations in epidemiological and clinical research.
	Expanding Regional Frontiers: Nepal-Pakistan Research Collaboration A high-level delegation from Nepal visited the Al-Shifa Research Centre for a strategic presentation and consultative session with Dr. Ume Sughra, Director of Research. The discussions focused on establishing a robust framework for cross-border collaboration in epidemiological studies and clinical research.
	ASRC held a meeting on 10th April, 2025 with Health Bee Projects to explore opportunities for future collaboration on research projects and joint initiatives.
	Celebrating Clinical Excellence: IQVIA Team Visits Al-Shifa Research Centre In a vibrant celebration of International Clinical Trials Day on 20 May 2025
	The Al-Shifa Research Centre team was delighted to attend an exclusive corporate gathering hosted by Chughtai Lab at the MovenPick Hotel, Islamabad. The event brought together key stakeholders and corporate partners to discuss the evolving landscape of diagnostic excellence and healthcare services in Pakistan.

	The Al-Shifa Research Centre was honored to host distinguished journalist and Chief Editor Mr. Shaukat Ali Javed. During his visit, he was briefed by the research team on our latest clinical breakthroughs and public health initiatives.
	A delegation from Shifa International Hospital visits the Al-Shifa Research Centre to discuss shared research goals and the integration of modern clinical practices in the pursuit of medical excellence
	Al-Shifa Trust has signed a Tri-Party MoU with Ibn Sina Foundation and Revival Research Institute in Detroit, Michigan with the goal to strengthen global research collaboration.

INTERNATIONAL CLINICAL TRIALS

Area	Indication	Sponsor	Year	Phase	Status	Enrollment Duration	Subjects Screened	Subjects Enrolled
Immunology	COVID-19	Anhui Zhefei Longcom Pharmaceutical	2021	III	Completed	3 Months	3840	2700
Immunology	Influenza	CSL Seqirus	2022	III	Completed	2 Months	191	188
Ophthalmology	Wet AMD	Alvotech Swiss AG	2022	III	Completed	8 Months	66	24
Immunology	COVID-19 Booster	AIM Vaccine Co., Ltd	2023	III	Completed	15 Days	2356	2000
Immunology	Rabies	Yisheng Biopharma	2023	III	Ongoing	1 Month	1004	889
Pediatrics	Malnutrition	Bill & Melinda Gates Medical Research Institute	2024	III	Completed	4 Months	17	15
Infectious Dis.	COVID-19	Atea Pharmaceuticals, inc.	2024	III	Completed	3 Months	250	5
Immunology	Rabies (Pre Exposure)	Sinovac (Chengdu) Biotech Co., Ltd.	2025	III	In process	-	-	-
Immunology	Rabies (Post Exposure)	Sinovac (Chengdu) Biotech Co., Ltd.	2025	III	In process	-	-	-

Projects at ASRC



- Study Title:** A Phase III Randomized, Double-blind, Placebo-controlled Clinical Trial in 18 Years of Age and Above to Determine the Safety and Efficacy of ZF2001, a Recombinant Novel Coronavirus Vaccine (CHO cell) for Prevention of COVID-19.

Sponsor: Anhui Zhifei Longcom Biopharmaceutical Co., Ltd China

Project Achievements



3,840
Subjects Screened

447
Highest Number
Elderly Enrolled

2,700
Highest Number
Enrolled

98%
Highest Follow-up
rate





2. **Study Title:** A Phase III, Randomized, Observer-blind, and Multicenter Study to Evaluate the Efficacy, Immunogenicity and Safety of Seqirus' Cell-Based Quadrivalent Subunit Influenza Virus Vaccine (QIVc) Compared to a Non-Influenza Vaccine when Administrated in Healthy Subjects aged 6 Months through 47 Months.

Sponsor: Seqirus Inc./Seqirus UK Limited

Project Achievements



188

Highest Number of Subjects Enrolled

V130_14 Weekly updates for NH2022/23 Investigators and Study Team – week 7 -

Dear V130_14 Investigators and Study Team,
We have enrolled 458 subjects as of today.
We would like to highlight our top enrolling sites last week:

- Dr Sughra 58601, Al Shifa Research Centre
- Dr Zareen 58605, Avicenna
- Dr Grigore 64202, Spitalul Municipal Caracal

Thank you very much for getting us closer to our enrollment goal of 1000 subjects by 16th of December 2022!
In the interest of our subjects' safety, we encourage you to schedule the randomization visits as early as possible to get ahead of questions regarding enrollment, do reach out to your assigned QIVIA CRA.
The target enrollment breakdown per site can be found below for your convenience:

Country/Site #	PI Name	Enrolment vs. Target	Target enrolment	Actual enrolled
Pakistan			398	125
58601	Dr Sughra	100%	80	80
58602	Dr Khan	5%	60	3
58604	Dr Fatima	5%	100	5
58605	Dr Zareen	25%	100	25
58607	Dr Zaman	21%	58	12



3. **Study Title:** A Randomized, Double-masked, Parallel-group, Multicenter Clinical Study to Evaluate the Efficacy and Safety of AVT06 Compared with EU Eylea® in Subjects with Neovascular (wet) Age-related Macular Degeneration (ALVOEYE).

Sponsor: Alvotech Swiss AG

Project Achievements



66

Highest Subjects
Screened

24

Top Recruiting Site
Worldwide

11

Highest PK-Sub study
Subjects



4. **Study Title:** A Multi-center, Randomized, Blinded, Placebo-controlled, Phase 3 Clinical Study to Evaluate the Efficacy, Safety and immunogenicity of SARS-CoV-2 Bivalent mRNA Vaccine (LVRNA021) as Booster in Participants Aged 18 Years and Older who Completed Primary/1 Booster Dose(s) of SARS-CoV-2 Vaccination

Sponsor: AIM Vaccine Co., Ltd., Ningbo Rongan Biological Pharmaceutical Co., Ltd., LiveRNA Therapeutics Inc.

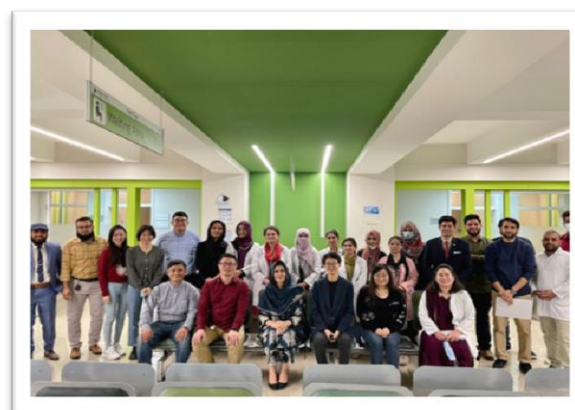
Project Achievements



2,356
Subjects Screened

2,000
Subjects Enrolled

15 Days
Recruitment Duration



BILL & MELINDA GATES MEDICAL RESEARCH INSTITUTE

5. **Study Title:** A Phase 3, randomized, double-blind, placebo-controlled study to evaluate the effect of Bi-26 (strain of Bifidobacterium longum, B. infantis) supplementation versus placebo on weight gain in underweight infants

Sponsor: Bill & Melinda Gates Medical Research Institute, USA

Project Achievements

17

Subjects Screened

15

Highest Number
Enrolled

4 Months

Recruitment Duration



6. **Study Title:** A Phase 3 Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy and Safety of Bemnifosbuvir in High-Risk Outpatients with COVID-19

Sponsor: Atea Pharmaceuticals, Inc. USA

Project Achievements

250

Subjects Screened

5

Subjects Enrolled

3 Months

Recruitment Duration

7. **Study Title:** A phase III, Randomized, Comparator-Controlled, Double-Blind, Multi-center Study to Evaluate the Immunogenicity, Safety and Lot to Lot Consistency of Three Lots of a PIKA Rabies Vaccine (Vero cell) for human use, freeze-dried in Healthy Adults using a Post-Exposure Prophylaxis schedule

Sponsor: Yisheng Biopharma (Singapore) Pte. Ltd.

Project Achievements

1004

Subjects Screened

889

Subjects Enrolled

15 Days

Recruitment Duration

741

Top recruiting Site
Globally for Group 2



SINOVAC 科兴

8. **Study Title:** Immunogenicity and Safety of a Rabies Vaccine (Serum-free Vero cell), Freeze-dried in Comparison with Verorab (R), in a Post-Exposure Prophylaxis Regimen in Healthy Populations Aged ≥ 1 years: A Randomized, Double-Blind, Active-controlled Phase III Clinical Trial

Sponsor: Sinovac (Chengdu) Biotech Co., Ltd

Status: In Process

SINOVAC 科兴

9. **Study Title:** Immunogenicity and Safety of a Rabies Vaccine (Serum-free Vero cell), Freeze-dried in Comparison with Verorab (R), in a Pre-Exposure Prophylaxis Regimen in Healthy Populations Aged ≥ 1 years: A Randomized, Double-Blind, Active-controlled Phase III Clinical Trial

Sponsor: Sinovac (Chengdu) Biotech Co., Ltd

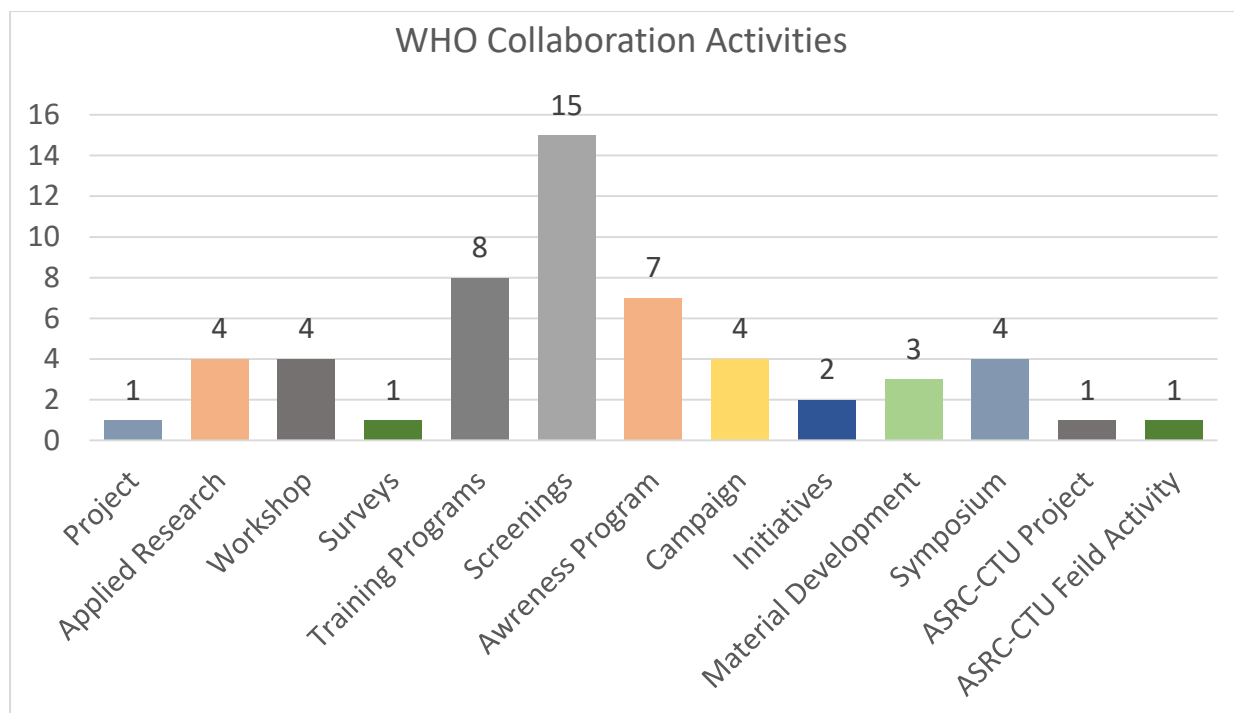
Status: In Process

WHO Activities List

Sr. No.	Name	Sponsor	Investigator
1.	A project by WHO to evaluate the preparedness of public health facilities in Islamabad Capital Territory and Rawalpindi, Pakistan, for managing (potential) CBRN events and development of a standard national tool to evaluate hospital preparedness involving Emergency Departments (ED) as well as EMS providers' readiness for CBRN events in Pakistan	WHO EMRO, Pakistan	Prof. Dr. Ume Sughra
2.	Post Evaluation Campaign field activity for Lot Quality Assessment Sampling (LQAS) as a part of Polio Eradication Program after National Immunization Day (NID)	WHO EMRO, Pakistan	Prof. Dr. Ume Sughra
3.	Expert consultation on strengthening national capacity for the conduct of randomized controlled trials and large-scale studies	WHO EMRO, Pakistan	Prof. Dr. Ume Sughra
4.	Meeting with WHO For Seeking Collaboration as a WHO Collaborating Centre CTU	WHO EMRO, Pakistan	Prof. Dr. Ume Sughra
5.	National Consultation for Dissemination of Pakistan's Bacterial and Fungal Priority Pathogen List (PPL)	WHO EMRO, Pakistan	Prof. Dr. Ume Sughra
6.	National Consultation For Dissemination Of Pakistan's Bacterial and Fungal Priority Pathogen List (PPL)	WHO EMRO, Pakistan	Prof. Dr. Ume Sughra

Since 1993 - 2025

Our institution **Al-Shifa Trust Eye Hospital** was a WHO collaboration centre since 1993 till 2016 for the prevention of blindness and has been actively engaged in a total of approximately 58 activities. **Al-Shifa Research Centre and Clinical Trial Unit** has undertaken six activities with WHO, including one project in 2021 and one field activity in 2022. The Centre also participated in the WHO Expert Consultation on Strengthening National Capacity for the Conduct of Randomized Trials (25–26 June 2024), the Meeting with WHO on Seeking Collaboration as a WHO Collaborating Centre (10 March 2025), and the National Consultation for Dissemination of Pakistan's Bacterial and Fungal Priority Pathogen List (9–10 and 30 July 2025)



2020 - 2021

1. A project by WHO to evaluate the preparedness of public health facilities in Islamabad Capital Territory and Rawalpindi, Pakistan.

General Objective:

To develop a national strategy /approach to enhance hospital and Emergency Medical Service (EMS) provider preparedness for CBRN events involving the minimum requirements to meet IHR-CBRN preparedness recommendations in hospitals of Islamabad Capital Territory and Rawalpindi by using WHO Hospital Safety Index evaluation forms.

Specific Objectives:

1. To develop a standard national tool to evaluate hospital preparedness involving Emergency Departments (ED) as well as EMS providers' readiness for CBRN events in Pakistan.
2. To evaluate the preparedness of public health facilities in Islamabad Capital Territory and Rawalpindi, Pakistan, for managing (potential) CBRN events and the challenges in implementation of an organized command system during such an emergency.
3. To identify the gaps and challenges operating at these health facilities that inhibits the mounting of an effective response in such situations.

2. Post Evaluation Campaign field activity for Lot Quality Assessment Sampling (LQAS) as a part of Polio Eradication Program after National Immunization Day (NID)

3. May 2022 - June 2022



156
Union Councils
Screened

1560
Subjects Screened

7 Days
Duration

29
Teams

25 – 26 June 2024

4. Expert consultation on strengthening national capacity for the conduct of randomized controlled trials and large-scale studies

General Objective:

WHO in jointly with National Human Rights Commission and Drug Regulatory Authority of Pakistan organized an expert consultation to enhance national capacity for Randomized Controlled Trials & Large-Scale studies to share experiences among health experts on robust evaluation of several therapeutics to reduce mortality.

10th March 2025

5. Meeting with WHO For Seeking Collaboration as a WHO Collaborating Centre CTU

General Objective:

A meeting was held with the World Health Organization (WHO) to discuss the establishment of a Collaborating Clinical Trial Centre aimed at strengthening Pakistan's capacity in conducting high-quality, GCP-compliant clinical research.

July 2025

6. National Consultation for Dissemination of Pakistan's Bacterial and Fungal Priority Pathogen List (PPL)

09-10 July 2025: Director Research (Member of the Expert Advisory Group) attended the physical meeting of WHO on National Consultation on Dissemination of Pakistan's Bacterial and Fungal Priority Pathogen List (PPL)

30 July 2025 Director Research (Member of the Expert Advisory Group) attended the WHO meeting through a virtual session

General Objective:

The objective of the meeting was to present and disseminate Pakistan's National Priority Pathogen List, including the development process for translating the PPL into action, outlining priority interventions, and a way forward.

11-13 November -2025

7. National Consultation For Dissemination Of Pakistan's Bacterial and Fungal Priority Pathogen List (PPL)

11-13 November 2025: Director Research (Member of the Expert Advisory Group) attended the physical meeting of WHO on National Consultation on Dissemination of Pakistan's Bacterial and Fungal Priority Pathogen List (PPL)

General Objective:

The objective of the meeting was to present and disseminate Pakistan's National Priority Pathogen List, including the development process for translating the PPL into action, outlining priority interventions, and a way forward.



Contact Details

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