

Published Research -SQCCCRC

Gynecological Cancers Program (2023)

1. Jahan F, Ahmed N, **Burney IA**. Teaching, Learning and Assessment of Professionalism in Medical education: A citation-based systematic review of literature. *Int J life Sci Res Arch*. 2023; 4(1): 06-16. <https://doi.org/10.53771/ijlsra.2023.4.1.0155>

A systematic review of peer-reviewed literature was carried out to describe the current patterns of research in professionalism in medical education. Over the study period spanning from 1973 to 2020, a total of 1053 articles were identified as relevant. A surge in the number of publications was observed from the year 2000. Over 400 articles were published in 5 leading journals in medical education. Of the 50 top-cited papers, 18 (36%) articles explored opinions of stake holders through questionnaires and surveys about different aspects of professionalism, there were 13 (26%) 'Commentary' and 7 (14%) review articles. The primary objectives of more than 50% of the top-cited articles were assessment methods (14%), teaching by humiliation (14%), personal identity formation (8%), barriers to professionalism (8%), and teaching ethics (8%) and empathy (8%).

The surge in publications since 2000, top publishing journals and frequently publishing authors were identified. Of the most cited articles, assessment methods, personal identity formation, and teaching empathy and ethics predominate as the main themes.

2. Salman, B., Al-Rasbi, F., Al-Ward, N., Al-Baimani, K., **Burney, I.**, Abdullah, E., Al-Azizi, B., Al-Mishaikhi, K., Al-Zakwani, I., & Al-Moundhri, M. Predictors of Hypersensitivity Reactions to Platinum-Based Chemotherapy in a Tertiary Hospital in Oman: A case-control study. *Sultan Qab Univ Med J*. 2023; 1(1). <https://doi.org/10.18295/squmj.1.2023.001>

In this multi-author cross-sectional study led by the clinical pharmacists, A total of 38 cases and 148 matched controls were studied. The prevalence of HSRs to PBCs in the cohort of this study was 4.7% (95% confidence interval: 3.33–6.37%), higher with carboplatin compared with cisplatin and oxaliplatin. The female gender ($P = 0.032$), concomitant taxanes ($P = 0.002$) and concurrent radiation ($P < 0.001$) were significant predictors of HSRs to PBCs. The majority of the reactions were of mild to moderate severity, and the rechallenge rate after HSR development was 13%.



HSRs to PBCs impact therapy decisions and understanding the risk factors is important to improve treatment outcomes in cancer patients.

3. Othman A, Kumar S, Qureshi A, Jawa Z, **Burney IA**. Durable response to Pazopanib in a patient with fumarate hydratase mutant tubulocytic renal cell carcinoma: Case report. *Case Reports in Oncology*. 2023; 16(1): 234-242.

We reported the case of a patient with metastatic tubulocystic RCC whose disease progressed through standard of care treatment for non-clear RCC. However, genetic analysis revealed germline pathogenic variant of fumarate hydratase (FH) gene, and the patient had a sustained and durable response to pazopanib.

Comprehensive Genomic Profile should be done in all patients with rare cancers, especially when no standard of care is available.

4. **Zribi A**, Nagy A, Al Riyami M, & **Burney IA**. Successful Treatment of a Case of Crescentic Glomerulonephritis in a Patient with Primary Peritoneal Carcinoma: A case report. 2023; *Sultan Qab Univ Med J* 1(1). <https://doi.org/10.18295/squmj.1.2023.013>

Crescentic glomerulonephritis (CGN) has been associated with several solid tumor malignancies. Only a few cases of nephropathy have been reported in association with tubo-ovarian/peritoneal malignancies. We described the case of a 55 years old female who developed combined immune complex-mediated glomerulonephritis and pauci-immune necrotizing crescentic vasculitis simultaneously with the diagnosis of tubo-ovarian/peritoneal cancer. The baseline estimated glomerular filtration rate (eGFR) was 13 ml/min. The patient received two doses of Rituximab and three doses of pulse corticosteroids, leading to significant improvement in renal function and the disappearance of her proteinuria. The eGFR improved to >60ml/min, and her proteinuria gradually resolved after 10 weeks of treatment. She was in a position to be given a combination chemotherapy treatment for tubo-ovarian/peritoneal cancer because of normalization of her CA-125 after three months of therapy.

5. Al Hinai M, Malgundkar SH, Gupta I, Lakhtakia R, **Al Kalbani M**, **Burney IA**, Al Moundhri, M, Okamoto A, Tamimi Y. Epigenetic status of FBXW7 gene and its role in Ovarian cancer pathogenesis.] *Asia Pac J Can Prev*. 2023; 24(5): 1583-1590. DOI: [10.31557/APJCP.2023.24.5.1583](https://doi.org/10.31557/APJCP.2023.24.5.1583)

Chromatin immunoprecipitation (ChIP) analysis revealed that the FBXW7 gene and the long non-coding RNA (LINC01588) are potential candidates in epithelial ovarian cancer (EOC) pathogenesis. We used public databases to assess the



correlation between mutations/ methylation status and the FBXW7 expression. Furthermore, we performed Pearson's correlation analysis between the FBXW7 gene and LINC01588. We performed gene panel exome sequencing and Methylation-specific PCR (MSP) in HOSE 6-3, MCAS, OVSAHO, and eight EOC patients' samples to validate the bioinformatics results. The FBXW7 gene was less expressed in EOC, particularly in stages III and IV, compared to healthy tissues. Furthermore, bioinformatics analysis, gene panel exome sequencing, and MSP revealed that the FBXW7 gene is neither mutated nor methylated in EOC cell lines and tissues, suggesting alternative mechanisms for FBXW7 gene regulation. Interestingly, Pearson's correlation analysis showed an inverse, significant correlation between the FBXW7 gene and LINC01588 expression, suggesting a potential regulatory role of LINC01588.

Neither mutations nor methylation is the causative mechanism for the FBXW7 downregulation in EOC, suggesting alternative means involving the lncRNA LINC01588

6. Zribi A, Al Mazroui R, Sayani R, & Burney IA. An Unusual Presentation of Choriocarcinoma in a postmenopausal woman: A case report. 2023. Sultan Qab Univ Med J. 1(1). <https://doi.org/10.18295/squmj.5.2023.036>

We described the case of a 52-year-old postmenopausal woman who developed metastatic 19 choriocarcinoma presumably of gestational origin, 8 years after the last pregnancy, and 2 years 20 after the last menstrual period. The patient was diagnosed with CC metastatic to the brain, 21 spleen, lung and the kidney. The β -human chorionic gonadotrophin level was found to be raised 22 (1,292,867 mIU/mL). The International Federation of Gynecologic Oncology (FIGO) risk score 23 was calculated to be 14 (very high risk). The patient was initially treated with whole-brain 24 radiotherapy (WBRT) and splenic artery embolization because of a hemoperitoneum. Afterwards 25 the patient received systemic treatment using the standard EMA/CO regimen till complete 26 serological remission.

7. AbuAlRab R, Al Sabei SD, Al Rawajfah O, Labrague LJ, Burney IA. Direct and moderating effects of work environment and structural empowerment on job stress and job satisfaction among nurses in the Sultanate of Oman. SQU MJ. 2023; DOI: [10.18295/squmj.5.2023.031](https://doi.org/10.18295/squmj.5.2023.031)

This paper seeks to explore the relationships between nurses' work environment, job stress, and job satisfaction, as well as the moderating effects of work environment and empowerment on the job stress–job satisfaction relationship. A descriptive correlational design was utilized. The study encompassed a convenience sample of 1,796 hospital nurses from the 11 governorates in Oman. The findings only confirmed the direct effects of work environment and empowerment on satisfaction; there was no support for indirect or moderating



effects. The hierarchical regression model showed that 46.5% of the variation in the level of job satisfaction was explained by the study variables.

The results of this study demonstrate the importance of implementing strategies that empower staff, provide a supportive and positive work environment, and tackle job stress to enhance levels of job satisfaction.

8. Nair J, **Burney I**, Osman AH, Bennji S, Al Hashmi Z. Adenocarcinoma of lung presenting as diffuse interstitial lung disease. *The Lancet Oncology*. 2023; 24(9): e323. DOI: [10.1016/S1470-2045\(23\)00224-3](https://doi.org/10.1016/S1470-2045(23)00224-3)

The case of a young lady presenting with a clinical and radiological picture of Interstitial Lung disease was reported. Biopsy showed adenocarcinoma in this never-smoker, and the comprehensive genomic analysis revealed ROS1 fusion.

The patient had presented with respiratory failure needing prolonged mechanical ventilation, and then showed a rapid and sustained response to the chemotherapy and subsequently to oral tyrosine kinase inhibitor.

9. Burney AA, **Burney IA**, Dherwani K. Undergraduate research in medical schools in Pakistan: Relevance, needs and importance. *Pak J Med Sci*. 2023; 39(5): doi: <https://doi.org/10.12669/pjms.39.5.7137>

Recent trends in medical education demand practicing physicians to be competent in playing multiple roles. Life-long learning skills underpinned by research & scholarly activity will enable them to play these roles adequately. Therefore, the introduction of structured training in research during early undergraduate is pivotal. This would enable trainee physicians to develop essential skills; the institutions will grow in terms of visibility & ranking; the trainers and supervisors will be satisfied in terms of research productivity and, most importantly the patients will benefit in terms of improved clinical outcomes.

10. Al Sabei S, AbuAlRub R, Al Yahyaei A, Al Rawajfah OM, Labrague LJ, **Burney IA**, Al Maqbali M. The influence of nurse managers' authentic leadership style and work environment characteristics on job burnout among emergency nurses. *Int Emerg Nurs*. 2023; 70: 101321. DOI: [10.1016/j.ienj.2023.101321](https://doi.org/10.1016/j.ienj.2023.101321)

The cross-sectional study was aimed to assess the influence of nurse managers' authentic leadership and nurse work environment on job burnout among ER nurses. More than two thirds of ER nurses (72.1%) reported high levels of burnout. Authentic leadership and work environment were significantly associated with lower job burnout. Nurse manager's transparency ($\beta = - 0.481, p = 0.031$) and ethical/moral conduct ($\beta = - .408, p = 0.043$) were associated with reduced job



burnout. Nurse manager's ability, managerial support ($\beta = -0.497, p = 0.018$) and adequate staffing and resources ($\beta = -0.068, p = 0.028$) were associated with lower job burnout.

Results suggest the importance of providing effective leadership, adequate support to staff, maintaining optimum staffing and resources, and developing nurse managers' authentic leadership to reduce ER nurses' job burnout.

11. Khan AMH, Tariq M, Khan AMH, Hina M, Ali T, Jawwad U, Rehamn A, Usmani S, Pervez N, **Burney I**, Abbasi AN. Global village oncology network (GVON) – An emerging platform from an emerging country- An international working initiative. Pak J Radiol. 2023; 33(2): 72-75

We reported a rapid uptake of the idea to establish an international platform of cancer professionals with the purpose to participate and collaborate in "knowledge sharing" in academics, research, training & other professional forefronts with the goal of sharing best practice in given available resources for the improvement of cancer care of patients. A website was launched on January 3, 2023, highlighting the network's vision, mission, values and goals with the title of global village oncology network (GVON), inviting people to join multidisciplinary & sitespecific groups termed Pods. The data was collected over a 30 days period via GVON website. All variables were analyzed via computation in Excel sheet, all frequency data was calculated and documented. In the first 4 weeks, 17 Pods were created with 884 website visits registered. Twenty-three Institutions inside and outside Pakistan were connected during this period. Focusing on over 11 disciplines including medical oncology, radiation oncology, surgical oncology, hematology and allied health professions.

Global academic initiatives can yield better outcomes in terms of improvement of overall multidisciplinary management of patients. GVON can play a pivotal role in this regard via strategic planning for better holistic comprehensive cancer care services and education.

12. Khan AMH, **Burney I**, Ansari Z, Abbasi AN. A step towards personalized care: treatment in Low middle-income countries (LMICs): Molecular tumor board. J Coll Phys Surg Pak. 2023; 33(090): 1-3

In this position paper, we explored the possibilities and highlighted the importance of establishing molecular tumor boards in low-to-middle-income countries (LMICs). Tumor boards are meetings where physicians meet to recommend the best possible treatment plan for cancer patients. These meetings have evolved over time to site-specific multidisciplinary tumor boards, and more recently to molecular tumor boards (MTB). MTB also help cancer carers to keep updated with the advancements in the field of ever-changing oncology.



Molecular and genetic advancements and their integration into treatment options have opened multiple options for patients but with a seesaw effect, especially in the in the low-to-middle-income countries (LMICs).

In LMICs, it's all the more important to balance the adaptation to personalized treatment choices with the financial stress of treatment. A model for MTB in LMICs is suggested.

13. Jain A, Al Riyami K, Zribi A, Nadaf AA, Burney IA, Usmani S. Meningioma or dural-based metastasis: ^{68}Ga DOTA-TOC PET/CT as a problem-solving tool: ^{68}Ga DOTATOC PET/CT in Meningioma. Accepted for publication. J Med Case Rep Reviews.

We reported the case of successfully diagnosing meningioma non-invasively in a patient diagnosed to have high-risk gestational trophoblastic neoplasm. Positron emission tomography/computed tomography (PET/CT) using ^{68}Ga -DOTA-conjugated peptides (^{68}Ga Gallium DOTA-(Tyr3)-octreotide) is a non-invasive diagnostic technique to assess tumors with a high affinity for somatostatin receptors (SST). Besides neuroendocrine tumors, several other tumors express SST; meningioma being one of them. We report the case of a 35-year-old female, diagnosed with choriocarcinoma, and detected to have an intracranial space occupying lesion at the time of staging. The patient underwent both ^{18}F -2-fluoro-2-deoxy-D glucose (^{18}F -FDG) and ^{68}Ga -DOTA-TOC PET/CT scans, which showed reduced uptake on ^{18}F -FDG and intense uptake in the lesion on ^{68}Ga -DOTA-TOC PET/CT scan, confirming the diagnosis of meningioma. The patient was treated with combination chemotherapy to treat choriocarcinoma to a state of complete serological remission, without the need of biopsy of the space occupying lesion in brain and spared the patient of escalated doses of chemotherapy.

Abstracts accepted for presentation in International meetings:

1. Khan A, Alfishawy M, Altaf F, Galerani-Lopes AP, Ali T, Tajammul S, Vellengara M, Khalid J, Al Amri I, Al Mandhari Z, Pervez N. Three Dimensional & Their Effects on Equivalent Dose in 2 Gray Fractions (EQD2) For the Organs at Risk (OARs) During Image-Guided Brachytherapy (IGBT). To be presented CARO (Canadian Association Radiation Oncology) 2023; *Radiother Oncol (ahead of print)*

Summary: This study compared doses to the organs at risk between the 2 sets of images acquired during gynecological image-guided brachytherapy. The images included CT scan followed by an MRI scan for contouring and planning purposes. Organs at risk (bladder, rectum, and sigmoid), patient's demographic, applicator type, and time between CT and MRI were recorded. Volumes, contour



shifts, doses ($D_{0.1cc}$ and D_{2cc}), and Equivalent Dose in 2Gy Fractions (EQD2) of the rectum, bladder, and sigmoid were assessed. Our institute's time-dependent analysis of IGBT pretreatment CT and MRI scans revealed OAR motion between images. OARs deviated from the target due to these modifications, resulting in D_{2cc} variations that did not translate significant values in terms of EQD2 calculation suggested by EMBRACE cutoffs.

2. Ali T, **Galerani-Lopes AP**, Khalid J, Vellengara M, Pervez N, Al Amri I, Babu N, Alfshawy M, Ali-Gurmani M, Al Rubaii E, Al Balushi F, Al Hinai A, Al Hatmi S, Bani Oraba S, Al Mandhari Z. Establishing Interstitial Needle Brachytherapy Program in a new cancer centre in Oman. To be presented at ESGO (European Society of Gynaecological Oncology 2023). *International Journal of Gynecological Cancer: Official Journal of the International Gynecological Cancer* (ahead of print).

Summary: As the first Centre in Oman to perform interstitial gynecological brachytherapy, we have highlighted the various challenges to the implementation that can impact its utilization. The challenges in setting up the program were divided into Equipment, Expertise, Quality, Patient compliance, and Importation of radioactive source (RS). This abstract provides a glimpse of the challenges we faced; working with regulatory services, training our staff, and having regular multidisciplinary team meetings and peer reviews have helped us pass these hurdles.

3. Khan A, **Galerani-Lopes A**, Alfshawy M, Altaf F, T. Ali, Ghafri M, Yilmaz S, Yilmaz N, Babu N, Ali M, Mirza A, Vidhwadharan A, Yousuf F, Vellengara M, Al Amri I, Rassou S, Al Mandhari Z, Pervez N. Single institution analysis of time-dependent pretreatment organ motion during Image-guided brachytherapy. *Radiother Oncol* Volume 182 Supplement 1 (2023):1952-1953. ISSN 0167-8140 (ESTRO 2023)

Summary: This study assessed a time-dependent variation in organs at risk (OAR) doses as a result of pretreatment motion during image-guided brachytherapy (IGBT).

Retrospective data was collected in **13 consecutive patients with gynecological malignancies** from November 2021 to September 2022. These patients underwent planning CT and MRI scans for IGBT. A Planning CT scan was performed after the implant followed by a planning MRI scan in all fractions. OARs were contoured on both CT and MRI images. The patient's demographic, applicator type, and time between CT and MRI were recorded. Volumes, contour shifts, and doses ($D_{0.1cc}$ and D_{2cc}) of the rectum, bladder, and sigmoid were assessed. We analyzed a total of 31 procedures. In conclusion, the time-



dependent analysis of pretreatment CT and MRI scans for IGBT in our institute identified that there is a variation in OARs between the acquired images. These variations in OAR doses in IGBT during the interval between implant and treatment delivery are a cautionary alert that needs further investigation and correlation with the changes and their clinical impacts on OARs.

4. Zribi A, Bala S, Al Zahaibi H, Al Kalbani M, Burney IA. Gestational Trophoblastic neoplasm: Clinical and biological characteristics and outcomes from a single institution in an Arab country. Accepted for presentation in International Conference on gynecological Cancers, Nov 2023 .

We summarized the presenting features and outcomes of consecutive patients diagnosed to have GTN from a single institution and compared our results with published data

