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Professional Obstacles to Anesthesiology Practice in Punjab, Pakistan: Qualitative Study of Consultant Anesthesiologists' Perspectives

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Abstract: Global anesthesia workforce limitations contribute to the emigration of skilled anesthesiologists from lower- to higher-income countries, jeopardizing workforce balance and patient outcomes in Pakistan. This study aimed to explore the challenges experienced by anesthesiologists in Punjab, Pakistan's most populous province, and the necessary changes to encourage their retention. We conducted a qualitative study to examine the perspectives of anesthesiologists who chose to serve in Pakistan. We drew data from semi-structured interviews conducted with 25 purposively sampled consultant anesthesiologists. We analyzed the data thematically and distinguished the practice hurdles faced by anesthesiologists in the public and private hospitals of Punjab. The main reasons many consultants chose to work abroad instead of in Pakistan differed between public and private sectors, which provided distinct challenges that compromised anesthesia workforce numbers and quality. Key outcomes were security, promotion/incentive structures, and gender inequalities in the government sector versus inadequate salary and facilities, surgeon dependency, and the lack of out-of-theatre practice in the private sector that minimized the scope and earnings of anesthesiologists within Pakistan. There is a need to increase performance-based incentivization, qualification-dependent promotion, along with overcoming surgeon dependency and hospital manipulation by fixing salary percentages for each surgical case and encouraging direct patient–anesthesiologist relationships.

Keywords: anesthesia; workforce challenges; qualitative research; Pakistan

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1. Introduction

Global anesthesia workforce limitations have disproportionately affected low- and middle-income countries (LMICs) as skilled professionals emigrate to high-income countries for better opportunities [1]. This one-way migration jeopardizes the clinical workforce balance and patient outcomes by shifting tasks to often less rigorously trained non-physician anesthesiologists.

In South Asia, anesthesiology is not a preferred clinical specialty due to lack of recognition, surgeon dependence, professional stress, scarce research funding, and medico-legal issues [2]. The World Health Organization (WHO) reported that six of seven South Asian countries lack anesthesiologists due to emigration, national mal-distribution, insufficient specialist training, and increased demand [3]. For example, only 10% of sub-district hospitals in India have anesthesiologists, while skilled anesthesia staff in Pakistan and Bangladesh are mal-distributed towards urban areas [4]. Unfortunately, in these countries, anesthesiology is not only underappreciated by the general public but also by their own

fellow medical professionals despite their crucial intraoperative and postoperative roles [5]. As a result, 25–30% of anesthesiologists trained in Pakistan work in other countries, while 37% of Sri Lankan anesthesiologists are in the United Kingdom and USA [4].

As the general public has poor knowledge about anesthesia procedures and personnel in these resource-deficient countries [6], their roles intra- and post-operatively are poorly understood [7]. About half of the people in India (58%) and Pakistan (49%) had no idea about the person who would anesthetize them, or the risks associated with it [8,9]. The lower appreciation for this specialty, increased dependence on other surgeons, lower wages, and ultimately lower job satisfaction is causing a number of specialists to migrate. This, in turn, causes a national brain drain and burnout [10,11]. Although the COVID-19 pandemic has highlighted the importance and versatility of this profession, in developing countries the future of this profession is in the hands of the relationship with surgery [12].

A study in India described multiple challenges faced by anesthesiologists in private practice, including being forced to work at facilities with poor infrastructure or looking towards surgeons for choosing them for their surgeries [13]. Another study highlighted various challenges, including lack of security in hospitals, which makes it hard to practice in critical specialties in developing countries [14]. However, until now, no such study has been conducted in Pakistan to highlight the problems and hardships anesthesiologists face. This is important as it would not only bring focus to why a lower number of medical professionals opt for this specialty but it would also shed light on the reasons behind the increased emigration of skilled anesthesiologists from Pakistan. Thus, this study aimed to explore the perceived hardships among anesthesiologists working in Punjab province, Pakistan, and the necessary policy or practice changes for improving the working opportunities for this specialty.

2. Methods

2.1. Study Design

We conducted a qualitative study to examine the perceived challenges as experienced by skilled anesthesiologists practicing in Punjab province [15–18]. Our research question was: "What are the major reported challenges to practicing anesthesiology in Pakistan?"

2.2. Participant Selection

Purposive and snowball sampling were used to recruit research participants (anesthesiologists) with postgraduate qualifications (i.e., doctor of medicine (MD), Member/Fellow of the College of Physicians and Surgeons (MCPS/FCPS)) working in public hospitals of Punjab (i.e., Township/'Tehsil' Headquarters Hospital (THQ), District Headquarters Hospital (DHQ), teaching hospital) as consultants, registrars, senior registrars, or department heads along with serving in private hospitals side by side. The initial participants from teaching hospitals were contacted through their official phone numbers, available on the internet. Then they were asked to refer other participants from DHQ/THQs, who were contacted through their reference and interviews were conducted after taking appointments at the place of their convenience [19]. None of the participants refused to take part in the study.

2.3. Data Collection

We developed a semi-structured interview guide informed by the literature and expert consultation that covered the following topics: demographics (e.g., age, position, years of experience), challenges in practicing anesthesia, challenges in acceptance from colleagues and patients, management and monetary issues, and interviewee suggestions in overcoming problems. The guide allowed for both a discussion of deductive concerns and the emergence of unexpected issues.

This paper is part of a dissertation project by the first author on the assessment of the anesthesia health system capacity and efficacy in public hospitals of Punjab, Pakistan. The first author contacted potential participants (who served in both the public and private

sector) on their work phone to explain the study and to invite them to participate. In-person semi-structured interviews in Urdu were conducted from June to November 2021, until determined data saturation had been achieved by the authors as no new ideas or concepts were emerging. Interviews took 40–50 min and were audio-recorded if participants allowed. Most did not allow audio recording due to security and administrative sensitivities. Therefore, detailed notes were taken. The audio files were transcribed and the transcriptions as well as notes were translated into English immediately after the interviews. We ensured participants' anonymity and confidentiality by allowing them to choose interview times and locations, using identification codes instead of names on all outputs, deleting audio files after transcription, and storing transcripts in a password-protected hard drive only accessible by the research team of this study.

2.4. Data Analysis

Data were analyzed thematically in six phases by the first author following this procedure [20]: reading and re-reading; initial noting; developing themes; searching for connections across themes; moving to the next subtheme; and looking for patterns across subthemes. RZ and NH reviewed the themes and subthemes and contributed to finalizing the interpretations [21]. Reporting adhered to COREQ criteria [22].

2.5. Ethics

The Department of Public Health, Institutional Review Board at University of the Punjab in Pakistan provided ethical approval (1456/Acad.; 22 February 2020). Informed written consent was taken from each participant prior to each interview.

3. Results

3.1. Participants' Characteristics and Analytical Themes

Of 25 participants, 10 (40%) were from public sector teaching hospitals (TH), 8 (32%) from District Head Quarter (DHQ) hospitals, and 7 (28%) from the Tehsil Head Quarter (THQ) hospital. About two-thirds of study participants (n = 17; 68%) were males. Consultants serving in teaching hospitals had job experience between 5 and 24 years, while those working at DHQ or THQ had 1–19 years of experience (Table 1).

Table 1. Participants' characteristics.

Participants Characteristics	n (%)
Type of facility	
Teaching hospital	10 (40%)
DHQ hospital	8 (32%)
THQ hospital	7 (28%)
Years of experience	
1–5	10 (40%)
6–10	7 (28%)
10<	8 (32%)
Gender	
Male	17 (68%)
Female	8 (32%)
Age (in years)	
30–45	17 (68%)
46–60	8 (32%)
Coded segregation	
TH (Participants from Teaching hospitals)	TH1–TH10
DH (Participants from DHQ)	DH1–DH8
QH (Participants from THQ)	QH1–QH7

We subdivided the findings according to public (government-operated) and private sector health facilities, as issues in both were sufficiently distinct. Major obstacles identified in the public sector were personal security concerns, lack of facilities for women anesthesiologists, differentiation between consultant and specialist by the hospital administration, payment, and incentives, privatizing public hospitals, and time clashes in the evenings. Major private sector obstacles were improper salary and facilities, surgeon dependency, lack of out-of-theatre practice, fee fixation, and hierarchy as per surgery.

3.2. Practice Hurdles in Public Sector Health Facilities

3.2.1. Security

Security of health professionals is the utmost dilemma in all public sector hospitals of Pakistan. Security was particularly concerning in peripheral areas (smaller non-central urban, semi-urban, and rural areas) where equipment and medication are available to administer anesthesia, but anesthesiologists can not take the risk of anesthetizing patients for critical surgeries due to their own security, as sometimes, they themselves are beaten or injured by patients' accompanying family, in case of serious outcomes. One of the study participants with more than 5 years of job experience narrated:

> *"Why would I put my life in danger by anesthetizing a patient who is already in shock with insufficient blood in hand and a mob of patient's family outside theatre ready to rip me off in case of his demise".* (QH5)

Half of the study participants (13 of 25) reported that patients in peripheral areas were often from low socioeconomic backgrounds with unidentified comorbidities, e.g., high blood pressure, diabetes, cardiac abnormalities. Usually, these patients are called to hospital on the day of surgery due to the limited number of beds available for inpatients. Sketchy anesthetic pre-operative check-ups are completed just 10 min before the surgery which makes it impossible to handle any serious case due to inadequate background knowledge. All study participants agreed that focusing on patient's wellbeing is more difficult when your own is in danger. Therefore, they prefer to provide anesthesia services for only day surgeries or caesarean sections. A participant from DHQ hospital quoted:

> *"Government has appointed a few police sergeants outside each hospital which cannot control violent and angry attendants—especially when there are hundreds of them out there. So, in peripheral setups, best is to take non-serious or ASA 1 [American Society of Anaesthesiologist Classification] cases. I know it's not good for patients, but it's not good to risk lives of the healthcare team either".* (DH2)

In teaching hospitals, the situation is not any better in emergency areas but still under control as patients for elective surgeries are optimized before surgery while emergency police are right there, available to control the attendants in case of any mishap. In addition, emergency exit doors for healthcare staff are present. Few respondents claimed this security agenda of secondary level hospitals is a lame excuse for referring patients to teaching hospitals and not working efficiently. They stated that the management are not interested in the wellbeing of healthcare staff or public in any hospital. According to them, attendants should never be allowed to enter the surgical floor to create a scene:

> *"There is no check and balance anywhere, just we don't have lame excuse to refer it to some other hospital. So, we save patients life while peripheral workforce prefers to save their own".* (TH2)

3.2.2. Gender Inequalities

Women are becoming indispensable to the anesthesia workforce. However, most do not enter the anesthesia workforce after postgraduate studies. While some reasons were complex, one was unacceptably low wages. As women are not considered family breadwinners in Pakistan, they only come out to work if they are receiving good salaries or facilities. A senior consultant shared her experience:

"When I was an MCPS student 20 years back, I used to get 3 k for a case, and immediately used to go for it, but now after being an FCPS having 20 years of experience why would I go for 5 or 10 K for case where surgeon having equal qualification is getting in 100–500 K. Even I have to go before him and come after him due to pre- and post-ops—so why don't I spend quality time with my family instead?" (TH8)

For other women it was not the payment but the facilities themselves that deterred them. Among other reasons, the lack of good-quality and safe 24-h childcare or safe late-night transportation was stated.

"Transport facilities must be provided to female staff in every hospital especially in night shift when moving alone in local transport or private taxis is generally not considered safe in our country". (TH7)

Others described poor security within hospitals, complaining that every theatre had an office for female surgeons' rest and refreshment after surgery, but no such spaces were provided for female anesthesiologists who had to sit with male colleagues—whether or not they were comfortable with this. They advocated for rooms for female anesthesiologists, particularly when working night shifts, inside or near theatres with a security guard present. As almost 70% of anesthesiology consultants in Punjab are women due to male anesthesiologists moving abroad, women could be better integrated within the system by improving their (perceived) safety.

3.2.3. Experiential Seniority Outranking Qualifications

Several participants noted that in Pakistan, all anesthesia personnel with postgraduate degrees (e.g., DA (Diploma of Anesthesia) or FCPS) are considered consultants and prioritized according to their hospital experience regardless of their degree, which was confusing and needs to be corrected. Teaching hospital participants insisted on not calling diploma-holders' consultants, noting they should be referred to as specialists to overcome this confusion. Almost all participants agreed that those who are worthy should be given due rights and positions, otherwise the system will continue losing qualified personal because of constant degradation from unqualified seniors.

"The government made rules to move every MCPS and DA consultant to peripheral hospitals and FCPS/MS consultants to stay in tertiary care and train other residents. But unfortunately, in many tertiary care hospitals DA consultants are leading [. . .] and FCPS consultants have to work under them which creates chaos, ultimately leading FCPS consultant to give up and move out of the system. So, the differentiation in status according to specification of degree is inevitability now". (TH1)

"In several teaching hospitals, despite having numerous consultant anesthesiologist in country, non-consultants are given authoritative positions who facilitate lesser qualified people like them and create challenges for more qualified professionals who ultimately leave the system due to harsh and exhausting work environment". (TH4)

3.2.4. Pay and Incentives

All participants expressed concerns about pay grades and lack of incentives, insisting that doctors globally are highly paid professionals, with surgeons and anesthesiologists entitled to the highest salaries. However, in Pakistan they received equivalent salaries to government officers working standard hours in an office.

"I am getting the same pay as any government officer in bank, taxation or teaching in school with same pay grade. What's the point in working so hard, attending 24-h calls, working on all public holidays, disasters, pandemics when you can't provide your family a better lifestyle or education than others?" (DH3)

The lack of differential reward, with surgery/anesthesia consultants working round the clock receiving the same wages as dermatologists working a few hours daily, engendered frustration and perceptions of injustice. Some suggested that if government could not

change pay grades, at least inter-grade categories must be created, e.g., enabling anesthesiologists to obtain some amount per case alongside their regular salary. This would increase interest in public service and thus increase the workforce. Several suggested providing benefits instead of salary increases, as army officials received.

> *"If not for all doctors at least consultants should be offered housing, transport facilities, clubs and specific schools for kids or at least special quota seats for healthcare professional's families along with regular salary. This could overcome our workforce deficiency, as nobody wants to move out of their native country if they can get best for their families here".* (DH5)

All agreed that anesthesiology required urgent attention to ensure appropriate incentives to attract sufficient workforce, but incentives should be dependent on qualifications (e.g., FCPS/MS should receive highest incentive, MCPS midrange, DA lower, allied personal lowest). While the government started providing incentives to anesthesiologists 20 years ago, amounts have not increased so these are now meaningless. Some suggested offering complete packages (including salary, facilities, housing car fuel, etc.) to anesthesiologists according to their qualifications, rather than regular pay grades given with minimal facilities. Moreover, timely promotions and incentives could improve confidence and ultimately improve quality and the workforce.

3.2.5. Evening Privatization of Public Hospitals

Several participants suggested allowing private consultations in government hospitals during evening hours, as this could not only stabilize quality and price but improve equity among departments by giving equal chances and wages to qualified personnel.

> *"It was a common practice in the past in biggest tertiary care hospitals [. . .]. Richest people would opt for state-of-the-art private wards of government hospitals as they were reliable".* (TH3)

Participants agreed that private practice in government hospitals would both eradicate untrained practitioners, and improve wages for clinicians and allied staff, as private bodies would be unable to manipulate patients and qualified anesthesiologists.

> *"Autonomous hospital bodies have the legislative authority to start private practice but they do not want to take responsibility, as evening private practice need cleanliness, up-to-date or at least decent waiting venues etc. Although 30% of income received from private patients goes to management for maintaining these things but they are not willing to burden themselves".* (TH10)

Participants suggested that starting private practice in evenings where they served in the morning would not only promote quality but also improved relationships between doctors and their workplace as they would want to make the facility welcoming and comfortable for themselves and their patients, which would improve public trust as well.

3.3. Private Sector Health Facilities Obstacles

3.3.1. Improper Salary and Facilities

Most participants suggested that the private sector monopoly was primarily responsible for driving qualified anesthesiologists to emigrate from Pakistan. They reported several ways the field had worsened. Most private hospitals listed a senior consultant anesthesiologist, while actually junior house officers, medical officers, or even operation theatre assistants provided anesthesia due to a lack of quality-control or consequences.

> *"Private sector is making a fool of the public by making modern buildings, interiors, reception private rooms etc., but as public cannot enter operating rooms, the situation is grave there. Insufficient and out-dated monitoring and equipment, lack of proper sterilization, even drugs sometimes. So, complication rates are 60–70% more than in government hospitals . . . "* (DH4)

Participants mentioned a few private healthcare companies that paid anesthesiologists well but were controlled by a group of senior anesthesiologists unwilling to allow anyone except their 'favorites' to join. Other anesthesiologists had to choose from poor-quality hospitals and fixed remuneration.

> *"In the private sector, not only are wages lower but also qualifications gives you no edge. If they want to give an anaesthetist 5000 for a case they would get one, whether it's some OTA [Operation Theater Assistant], HO [House Officer], MO [Medical Officer] or technician. They would give you no preference or better wage over your qualification which not only reduces quality of anaesthesia but also reduces opportunities for skilled personnel in-country".* (DH8)

Despite differences in age and experience, participants insisted if at least 20–25% of total operative charges were fixed for anesthesiologists it would improve their interest in private practice. Furthermore, it would also ensure a high level of qualification, as private facilities would lose the benefit of hiring unqualified people if paying fixed rates. Moreover, organizations must introduce a minimum wage for anesthesiologists according to their qualification and must make sure no one agrees to work for less than this set amount. This could improve the monetary issues to some extent. Another suggestion was to make an online portal for hospitals and doctors where everyone enters a case which he or she performs. This could confirm the participation of qualified personnel in a controlled manner which could be monitored online in order to overcome the misuse of the consultants' credentials. This would improve surgical outcomes and help retain qualified anesthesiologists in Pakistan.

3.3.2. Surgeon Dependency

Practicing consultants explained that anesthesiologists were usually recruited through surgeons, especially in smaller facilities. As surgeons brought in cases, they were the major contributors to the private hospital's wealth. For that reason, the surgeons' preferred anesthesiologist rather than the most qualified would be requested.

> *"The worst thing in Pakistan's private sector for anaesthesiologist is surgeon. You can practice only if you are connected to some surgeon who can call you for his surgery on his terms. If anaesthesiologists are directly collaborating with hospitals instead of surgeons, only then could a check-and-balance be kept".* (QH4)

Most participants claimed that due to negligible anesthesia mortality rates owing to improved equipment and drugs, surgeons assumed anesthesia was just an injection and tried to save money by hiring less qualified anesthesiologists. Surgeons assumed they could handle anesthesia complications themselves as surgery was harder, while in reality grave anesthesia-related complications could happen in seconds. Several suggested that anesthesiologists should be employed by every private hospital, not just reputable ones, instead of being on-call for surgeon-dependent cases so surgeons could not try to reduce costs by hiring less qualified anesthesiologists.

> *"With my more than 19 years of experience in this field, I can assure that the only thing to overcome this issue is to make a rule that anaesthesiologists should meet with patients two days before surgery, for pre-operative assessment and rapport-building or patient get to choose anaesthesiologist himself instead of surgeon or hospital. This is the only way this malpractice could be reduced".* (QH1)

3.3.3. Lack of Out-of-Theatre Practice

Most participants claimed their non-operative practice was derelicted by other specialties.

> *"Chronic pain management is a definitive branch of anaesthesia but it has no scope in private practice as fellow consultants of oncology or ortho would never refer them to any anaesthesiologist. They think they can handle everything by themselves".* (DH6)

As anesthesia is not curative, nobody comes to hospital looking for anesthesia. Thus, anesthesiologists have minimal patient interaction and require other consultants to refer pain patients to them. However, financial interests prevented most colleagues from doing so. Most participants described this as a major disincentive to work in Pakistan, as they had little chance of private practice. All participants advocated legislation to define specialty roles and end 'one-man shows' in surgery.

3.3.4. Surgery Categorization

All respondents insisted that private hospitals must categorize surgeries to ensure enough qualified anesthesiologists per surgery. Often private hospitals only employed one anesthesiologist rather than a team, so no senior could be called for help. For example, category A cases (i.e., cardiac, firearm injury, road traffic accident, pulmonology, transplant) should only be handled by an FCPS/MS anesthesiologist, category B (i.e., laparotomy, open fractures) by an MCPS/DA anesthesiologist, and category C (i.e., amputations, caesarean sections) by residents or medical officers.

> *"Strict legislations are required for private sector as they take anaesthetists for granted. Not every anaesthetist is capable of handling any case or any kind of complication, so they must be called according to the type of surgery".* (QH7)

4. Discussion

This study is one of the first to examine the perceived challenges anesthesiologists experience in government and private hospitals in Punjab, which has reduced their trust in the health system and encouraged them to emigrate for better remuneration and healthier working conditions, creating a 'brain drain' that weakens service provision. Anesthesiologist shortages are common in lower-income countries due to the emigration of qualified staff [22]. The limited anesthesia workforce in Pakistan has been described as 'a crisis' [23,24] and must be addressed.

Physical security was a major concern in all public hospitals, which aligns with findings in other countries [25–27]. For example, lack of security caused a mass exodus of health professionals from Syria while in India health professionals are going on multiple strikes due to the brutal assault of patient's relatives on fellow doctors in emergency departments [14,28]. This insecurity leads to unnecessary referrals resulting in increased morbidity and mortality rates due to the time required in reaching distant hospitals.

The second most important issue is disparity in salaries of anesthesia professionals due to increased duty hours and lack of private practice opportunities [29]. This issue is specifically seen in LMIC where the practice of the anesthesiologist is dependent on surgeons, and they are underpaid due to these reasons [30]. Clear legislation is required in Pakistan to ensure relevant salaries with regular incentives at every hospital and health setup for qualified anesthesiologists. This trend can be observed in previous studies [31] held in various countries which have depicted that incentives should be performance-based and categorical on the basis of education level, instead of being fixed and seniority-based to retain interest of working anesthesiologists [32,33]. Moreover, they should be increased yearly according to the economic demands of society [34].

While many senior anesthesiologists suggested privatization of government hospitals in the evening to ensure qualified staff and services which is unreliable in the private sector, a previous study showed the negative effect of incentives in delayed working (evening) hours, as they could cause reduced work in the day time with a fixed salary while improved and more work in evening hours where you receive increased incentive with additional work [35].

Gendered differences were complex in our findings. Challenges reported among female anesthesiologists, such as gendered insecurity/domestic responsibilities and insufficient support for childcare, have been reported by working women across sectors and countries, though in higher-income countries many women can mitigate many gendered

concerns with higher salaries and, thus, unlike many female anesthesiologists in Punjab, they can still choose to work [36].

4.1. Implications for Policy and Practice

Incentives are needed in order to retain more skilled staff and to improve the interest of already working staff especially in government setups [31]. The incentives must be according to productivity in clinical activity and must be categorized by educational/seniority level.

Suggestions of privatization of government hospitals in the evening could jeopardize regular morning services. However, it would ensure the participation of qualified physicians and could overcome the domination played by private setups in Pakistan as more people will trust going for privatized government setups instead of private hospitals and becoming ripped by them [37].

In addition, the focus should be on the improvement of the relationship between surgeons and anesthesiologists during their training which would lead to increased respect for each other's domain and lesser complications in monetary terms [33–40]. This is only possible if an anesthesiologist starts interacting and discussing preoperative assessments and plans two to three days before surgery by developing a rapport with the patient similar to surgeons. Moreover, an improved check and balance is required, allowing anesthesiologists to explore out of theatre domains [41]. The national society of anesthesiologist should work to ensure the rights of anesthesiologists in the private sector. They should work on minimum acceptable or percentage wages according to the qualification of the anesthesiologist and encourage the reporting of malpractice in private hospitals [42]. Developed nations should also recruit anesthesiologists for underserved nations or specifically underserved regions of developing nations along with training sufficient numbers of anesthesiologists in developed nations. Finally, more research should be focused on this area to improve the working conditions for anesthesia professionals in Pakistan.

4.2. Limitations

Several limitations should be considered. First, only anesthesiologists' perspectives were considered, and other specialties or patient perspectives might have provided additional insights. Second, participants were all from Punjab province, which has a relatively high socioeconomic, educational, and health provision status and anesthesiologists' experiences in other provinces may potentially be worse. Third, the sample was relatively small. Although we aimed for data saturation, some nuances may have been missed.

5. Conclusions

The perceived challenges and needs of skilled anesthesiologists must be considered if they are to be retained. Surgeon dependency and hospital manipulation must be reduced, e.g., by fixing remuneration percentages by type of surgery. Moreover, the relationship between patients and anesthesiologists must be improved in both private and public hospitals to increase public awareness and confirm qualified personal participation. The government sector should work on giving incentives based on clinical productivity along with providing advance facilities or subsidies especially for female anesthesiologists to ensure their equal contribution. Security must be improved specifically in hospitals in remote areas to increase the participation of working anesthesiologists and decrease the unnecessary burden on central hospitals.

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References

1. Kudsk-Iversen, S.; Shamambo, N.; Bould, M.D. Strengthening the anesthesia workforce in low- and middle-income countries. *Anesth. Analg.* **2018**, *126*, 1291–1297. [CrossRef] [PubMed]
2. Sood, J.; Bhatia, P.; Johnson, J.E.; Lalwani, J.; Sethi, N. Career as a general speciality anaesthesiologist. *Indian J. Anaesth.* **2021**, *65*, 6. [PubMed]
3. World Health Organization. *The World Health Report 2006: Working Together for Health*; World Health Organization: Geneva, Switzerland, 2006.
4. Mavalankar, D.; Sriram, V. Provision of anaesthesia services for emergency obstetric care through task shifting in south asia. *Reprod. Health Matters* **2009**, *17*, 21–31. [CrossRef]
5. Gandhi, K.; Sahni, N.; Padhy, S.K.; Mathew, P.J. Comparison of stress and burnout among anesthesia and surgical residents in a tertiary care teaching hospital in north india. *J. Postgrad. Med.* **2018**, *64*, 145–149.
6. Marulasiddappa, V.; Nethra, H.N. A survey on awareness about the role of anesthesia and anesthesiologists among the patients undergoing surgeries in a tertiary care teaching women and children hospital. *Anesth. Essays Res.* **2017**, *11*, 144–150. [CrossRef]
7. Klafta, J.M.; Roizen, M.F. Current understanding of patients' attitudes toward and preparation for anesthesia: A review. *Anesth. Analg.* **1996**, *83*, 1314–1321. [CrossRef]
8. Naithani, U.; Purohit, D.; Bajaj, P. Public awareness about anaesthesia and anaesthesiologist: A survey. *Indian J. Anaesth.* **2007**, *51*, 420–426.
9. Kadri, I.A.; Haider, G.; Memon, I.; Memon, W. Awareness of patients regarding anesthesia;: Attitude towards basic types of anesthesia techniques. *Prof. Med. J.* **2014**, *21*, 782–787. [CrossRef]
10. Milenovic, M.S.; Matejic, B.R.; Simic, D.M.; Luedi, M.M. Burnout in anesthesiology providers: Shedding light on a global problem. *Anesth. Analg.* **2020**, *130*, 307–309. [CrossRef]
11. Tariq Hayat, K. Job satisfaction in pakistani anesthesiologists. *Anaesth Pain Intensive Care* **2011**, *15*, 93–101.
12. Enright, A. Review article: Safety aspects of anesthesia in under-resourced locations. *Can. J. Anesth./J. Can. D'anesth.* **2013**, *60*, 152–158. [CrossRef] [PubMed]
13. Mehta, R.; Choksi, T.; Gupta, P.; Bhargava, S.; Bajwa, S.J.S. Private practice in anaesthesia: A comprehensive analysis. *Indian J. Anaesth.* **2021**, *65*, 68–72. [CrossRef] [PubMed]
14. Mazumdar, P. Indian doctors take to streets to demand better security. *BMJ* **2017**, *356*, j1518. [CrossRef]
15. Mills, J.; Birks, M. *Qualitative Methodology: A Practical Guide*; Sage: Thousand Oaks, CA, USA, 2014.
16. Denzin, N.K. The discipline and practice of qualitative research. In *The Sage Handbook of Qualitative Research*; Denzin, N.K., Lincoln, Y.S., Eds.; Sage: Thousand Oaks, CA, USA, 2005.
17. Creswell, J.W.; Poth, C.N. *Qualitative Inquiry and Research Design: Choosing among Five Approaches*; Sage Publications: Thousand Oaks, CA, USA, 2016.
18. Merriam, S. *Qualitative Research: A Guide to Design and Implementation*; John Willey & Sons Inc.: San Fransisco, CA, USA, 2009.
19. Parker, C.; Scott, S.; Geddes, A. Snowball Sampling. In *SAGE Research Methods Foundations*; Sage: Thousand Oaks, CA, USA, 2019.
20. Braun, V.; Clarke, V. Using thematic analysis in psychology. *Qual. Res. Psychol.* **2006**, *3*, 77–101. [CrossRef]
21. Crowe, S.; Cresswell, K.; Robertson, A.; Huby, G.; Avery, A.; Sheikh, A. The case study approach. *BMC Med. Res. Methodol.* **2011**, *11*, 100. [CrossRef] [PubMed]
22. Tong, A.; Sainsbury, P.; Craig, J. Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *Int. J. Qual. Health Care* **2007**, *19*, 349–357. [CrossRef]
23. Khan, F.A. Global safety in anaesthesia and surgery: Implications for anaesthesia in pakistan. *JPMA. J. Pak. Med. Assoc.* **2020**, *70*, 2031.
24. Dubowitz, G.; Detlefs, S.; Kelly McQueen, K.A. Global anesthesia workforce crisis: A preliminary survey revealing shortages contributing to undesirable outcomes and unsafe practices. *World J. Surg.* **2010**, *34*, 438–444. [CrossRef]

25. Tyagi, A.; Kumar, S.; Sethi, A.K.; Dhaliwal, U. Factors influencing career choice in anaesthesiology. *Indian J. Anaesth.* **2012**, *56*, 342–347.
26. Marchbein, D. Humanitarian surgery: A call to action for anesthesiologists. *Anesthesiology* **2013**, *119*, 1001–1002. [CrossRef]
27. Chatterjee, P. Maharashtra government is told to end doctors' strikes over poor security in hospitals. *BMJ* **2013**, *346*, f742. [CrossRef] [PubMed]
28. Iyengar, K.P.; Jain, V.K.; Vaishya, R. Medical doctors in india are on strike: A moral and national conundrum. *Postgrad. Med. J.* **2022**, *98*, 313–314. [CrossRef] [PubMed]
29. Rock, P. The future of anesthesiology is perioperative medicine. *Anesthesiol. Clin. N. Am.* **2000**, *18*, 495–513. [CrossRef]
30. Ashengo, T.; Skeels, A.; Hurwitz, E.J.H.; Thuo, E.; Sanghvi, H. Bridging the human resource gap in surgical and anesthesia care in low-resource countries: A review of the task sharing literature. *Hum. Resour. Health* **2017**, *15*, 77. [CrossRef] [PubMed]
31. St. Jacques, P.J.; Patel, N.; Higgins, M.S. Improving anesthesiologist performance through profiling and incentives. *J. Clin. Anesth.* **2004**, *16*, 523–528. [CrossRef]
32. Glance, L.G.; Fleisher, L.A. Anesthesiologists and the transformation of the healthcare system: A call to action. *Anesthesiology* **2014**, *120*, 257–259. [CrossRef]
33. Amos, M.; Popovich, M.T. Anesthesiologists among top performers in pqrs. *ASA Monit.* **2014**, *78*, 52–53.
34. Miller, R.D. Academic anesthesia faculty salaries: Incentives, availability, and productivity. *Anesth. Analg.* **2005**, *100*, 487–489. [CrossRef]
35. Masursky, D.; Dexter, F.; Garver, M.P.; Nussmeier, N.A. Incentive payments to academic anesthesiologists for late afternoon work did not influence turnover times. *Anesth. Analg.* **2009**, *108*, 1622–1626. [CrossRef]
36. Chandrabose, R.K.; Pearson, A.C. Organizing women in anesthesiology. *Int. Anesthesiol. Clin.* **2018**, *56*, 21–43. [CrossRef]
37. Egger Halbeis, C.B.; Macario, A. Factors affecting supply and demand of anesthesiologists in western europe. *Curr. Opin. Anesthesiol.* **2006**, *19*, 207–212. [CrossRef] [PubMed]
38. Panday, B.C.; Gupta, M. Anaesthesiologist-surgeon: An idiosyncratic relation. *Curr. Med. Res. Pract.* **2022**, *12*, 41. [CrossRef]
39. Cooper, J.B. Critical role of the surgeon–anesthesiologist relationship for patient safety. *Anesthesiology* **2018**, *129*, 402–405. [CrossRef]
40. Klein, A.; Earnshaw, J. Perioperative care and collaboration between surgeons and anaesthetists–it's about time. *J. Br. Surg.* **2020**, *107*, e6–e7. [CrossRef] [PubMed]
41. Verma, R.; Mohan, B.; Attri, J.P.; Chatrath, V.; Bala, A.; Singh, M. Anesthesiologist: The silent force behind the scene. *Anesth. Essays Res.* **2015**, *9*, 293–297.
42. Tuyishime, E.; Powell, W.F., Jr.; Evans, F.M. Anesthesiology training in lmics: Defining the problem, challenges, and solutions. *ASA Monit.* **2021**, *85*, 35–36. [CrossRef]