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Factors affecting willingness of doctors to work in rural areas

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Abstract

This study aimed to explore the factors affecting the willingness of doctors to work in rural areas. It aims to understand the approach of young doctors in Gujranwala towards serving in rural areas and to dig out their apprehensions and expectations regarding this issue to make recommendations for betterment in future. Its objective is to assess the willingness of physicians to work in rural areas. To determine the factors influencing the decision of physicians to serve in rural areas. To find suggestions that can improve the retention of doctors in rural areas. Methods: A descriptive cross-sectional study was carried out among 120 doctors working at district headquarter hospital, Gujranwala. Doctors working at DHQ hospital Including House officers, Postgraduate trainees, medical officers. The data was collected using structured questionnaire in the form of google response forms. The results were analyzed statistically. Out of 120 doctors, 30 % showed positive attitude and were willing to work in rural areas.45.8 % showed neutral attitude. 24.2 % showed negative attitude and were not willing to work in rural areas. This study concludes that most of our doctors showed neutral attitude. A considerable proportion of doctors were unwilling to go and work in rural areas. They however, suggested that improvement in opportunities for further studies and living conditions for doctors in rural areas would help in retention of doctors in rural areas.

Keywords: Rural areas, willingness, doctors, DHQ hospitals

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1. Introduction

Unequal geographical distribution of health resources and professionals is a challenge throughout the world, both in under developed and developing nations (Silvestri et al., 2014). Although half of the world population resides in rural areas, yet only a quarter of the world's physicians are available in these areas (Organization, 2010). The disparity of doctor-population ratio in rural and urban settings is less conspicuous in developed countries. In the case of US, 20% of the population resides in rural areas and is served by 9% of the registered physicians (Hongoro & McPake, 2004) According to a study in New Zealand, only 8% of medical trainees preferred the option of serving in rural areas (Hongoro & McPake, 2004). In developing countries, the contrast between urban and rural distribution of the health workforce becomes even sharper because of the lesser total number of doctors available. Sub-Saharan Africa has only 2 doctors per 10 000 people, compared with approximately 30 physicians per 10 000 people in high-income countries (Badru, 2018). The situation exacerbates by rural to urban migration of professionals (Lemiere, Herbst, Jahanshahi, Smith, & Soucat, 2010). The

Economic Survey of Pakistan 2015 endorses the fact that the availability of doctors is 1 per 1073 persons and health infrastructure is clustered mostly in urban areas (Ahmad, 2016). Staff shortages are particularly stark outside large cities especially in rural areas (Sultana, Awais, Mughal, & Anwar, 2017).

Several countries have introduced incentives to retain doctors in rural settings. In India, doctors are being offered financial incentives, accommodation, life insurance, and extra marks during PG admission for retention of doctors in under-served localities (Lisam et al., 2015). Similarly in Bangladesh, a provision for rotation in rural areas (Rawal, Joarder, Islam, Uddin, & Ahmed, 2015) is in place along with a financial incentive of an additional 33% of the basic salary Indonesia offers placement schemes for strategic health workers and contracted staff, combined with an incentive scheme (Efendi, 2012). In Pakistan the Government of Punjab recognizes the shortage of health workers in rural areas and particularly of WMOs. In order to retain doctors in rural areas, those working in rural areas are given financial incentives and recently it has been announced that extra marks will be awarded to those PGTs with experience of work in primary healthcare settings and applying for paid seats in teaching hospitals (Sultana et al., 2017). Worldwide studies indicate that several factors dictate the choice of area for a job such as marital status, income, surroundings, cooperation with colleagues and prospects for career development (Mollahaliloglu, Ugurluoglu, Isik, Kosdak, & Taskaya, 2015; Nallala, Swain, Das, Kasam, & Pati, 2015; Steinhäuser, Annan, Roos, Szecsenyi, & Joos, 2011)The shortage of health professionals in rural areas cannot be overcome unless the reservations and expectations of health staff are addressed. This study aims to understand the approach of young doctors in Gujranwala towards serving in rural areas. It aims to dig out their apprehensions and expectations regarding this issue to make recommendations for betterment in future.

This study aims to assess physicians' willingness to work in rural areas, determine the key factors influencing their decisions to serve in these underserved regions, and identify actionable suggestions to improve the recruitment and retention of doctors in rural healthcare settings. By addressing these interconnected objectives, the research seeks to inform targeted strategies that bridge urban-rural healthcare disparities and ensure sustainable access to quality medical services for rural populations.

2. Methods

A cross-sectional descriptive study was conducted at the District Headquarter Hospital (DHQ) in Gujranwala, Pakistan. The study population comprised 120 doctors actively working at DHQ hospital, including house officers, postgraduate trainees, and medical officers. Participants were selected via convenience sampling (non-probability technique) and met the inclusion criterion of having completed their MBBS and holding valid registration with the Pakistan Medical and Dental Council (PMDC). Physicians planning to emigrate for work abroad were excluded. Data collection employed a structured questionnaire, with written informed consent obtained from all participants and anonymity rigorously maintained throughout the research process. Statistical analysis was performed using SPSS software (version 21).

3. Results

The age distribution analysis of 120 doctors at District Headquarter Hospital, Gujranwala, reveals that the overwhelming majority (98.3%) are aged 30 or younger, with 52.5% belonging to the 21–25 years' age group and 45.8% to the 26–30 years' cohort, while only 1.7% are aged 31–35 years. This stark demographic skew highlights a workforce heavily dominated by early-career physicians (house officers, trainees, and junior medical officers), indicating critical challenges in retaining mid-career doctors and raising concerns about long-term clinical mentorship, service sustainability, and experiential depth in this rural healthcare setting are stated in figure 1. The gender analysis of 120 physicians at District Headquarter Hospital, Gujranwala, indicates a near-balanced representation, with 52.5% male and 42.5% female doctors, while 5% of responses remain unaccounted (potentially reflecting non-response or undeclared gender data). This distribution suggests moderate gender diversity in the early-career medical workforce at this rural facility, though the slight male predominance warrants further investigation into potential retention challenges for female physicians such as workplace safety, maternity support, or career advancement barriers—that may impact long-term staffing

stability in underserved regions stated in figure 2. The professional composition analysis of 120 doctors at District Headquarter Hospital, Gujranwala, reveals that House Officers (HOs) dominate the workforce at 50.8%, followed by Medical Officers (MOs) at 25.8%, while Postgraduate Trainees (PGTs) and other categories (PO/PET) show 0% representation. Notably, 23.4% of responses remain unclassified (denoted as "HO/MO/PGT" in the graph but unspecified in percentage). This extreme skew toward junior physicians (HOs) and mid-level staff (MOs)—with no senior trainees or specialists documented—highlights critical hierarchical gaps in clinical leadership and specialized care capacity, potentially exacerbating supervision deficits and service quality challenges in this rural healthcare setting are stated in figure 3. The monthly household income distribution among 120 doctors at DHQ Hospital Gujranwala reveals significant financial stratification, with 50.8% earning 50,000–100,000 PKR (lower-middle income bracket), 25% reporting incomes >100,000 PKR (upper-middle/high bracket), and 24.2% falling into an unspecified lower-income category (implied as <50,000 PKR). This triad of economic segments—where half of physicians occupy modest income tiers—highlights acute financial pressures that may exacerbate rural retention challenges, particularly for early-career doctors balancing educational debts, familial obligations, and limited rural salary increments, potentially driving migration to urban centers or abroad for higher compensation are stated in figure 4.

The analysis of rural residency exposure among 120 doctors at DHQ Hospital Gujranwala reveals that 68.4% have lived in rural areas for over 3 months, contrasting with 31.6% reporting no such experience. This significant majority with prior rural exposure suggests a workforce largely familiar with rural community dynamics and lifestyle challenges, potentially serving as a foundation for targeted retention strategies. However, the disconnect between this familiarity and the hospital's extreme reliance on junior staff (per earlier age/distribution data) implies that exposure alone is insufficient for long-term retention—necessitating complementary interventions like financial incentives, career progression pathways, and workplace infrastructure upgrades to convert short-term experience into sustained service are stated in figure 5. Attitude analysis among 120 doctors at DHQ Hospital Gujranwala reveals a predominantly ambivalent workforce, with 45.8% expressing neutral willingness to serve in rural facilities, while 30% hold positive attitudes and 24.2% report negative inclinations. This tripartite distribution—where nearly half remain non-committal—signals both a significant opportunity for retention interventions (targeting the neutral majority through incentives) and a challenge in overcoming resistance from the negative quarter. Critically, the limited positive cohort (only 1 in 3 physicians) underscores an urgent need for systemic reforms—including financial compensation, professional development, and workplace safety measures—to convert neutrality into commitment and reverse aversion among a quarter of the rural medical workforce are stated in figure 6.

Perceptions of employment accessibility among 120 doctors at DHQ Hospital Gujranwala reveal profound pessimism, with 52.5% believing it would be "very difficult" to secure a job in Pakistan's healthcare sector, 29.2% describing it as "difficult," and only 18.3% considering it "easy." This overwhelming consensus (81.7% combined "very difficult/difficult") reflects acute anxiety about career instability—particularly among early-career physicians—and may inadvertently reinforce reliance on rural posts as temporary placements while simultaneously fueling emigration intent or attrition from the medical workforce. Such entrenched uncertainty necessitates urgent policy interventions to expand transparent hiring mechanisms, stabilize public-sector recruitment, and align medical graduate output with national healthcare demands are stated in figure 7. Analysis of decision-making factors among 120 doctors at DHQ Hospital Gujranwala reveals that "Relevance to Studies" (37.5%) is the overwhelming determinant in choosing between urban and rural practice, dwarfing secondary influences like "Living Environment" (13.3%), "Social Recognition" (10.8%), and "Individual Interest" (0.8%). This stark prioritization of career-advancement opportunities—particularly for early-career physicians—highlights a critical gap in rural postings, which are perceived to lack specialized training pathways, academic growth, and skill-development resources. The near-irrelevance of personal interest (0.8%) further underscores that retention strategies must fundamentally restructure rural roles to offer tangible professional development rather than relying on altruism or environmental adjustments are stated in figure 8. Assessment of 120 doctors' awareness regarding Pakistan's rural health system reveals fragmented understanding, with approximately 40% reporting "little" knowledge, 35% possessing "some" awareness, and 25% claiming "sufficient" familiarity. This distribution indicates that a significant majority (75%) lack comprehensive insight

into rural healthcare challenges—such as infrastructure gaps, resource limitations, or community health needs—which may impede informed decision-making about rural service. The pronounced knowledge deficit among early-career physicians (aligned with the study's junior-heavy cohort) underscores an urgent need for medical curricula reforms and structured rural exposure programs to bridge this awareness gap, thereby fostering more realistic expectations and commitment to underserved areas are stated in figure 9

The primary barriers deterring physicians at DHQ Hospital Gujranwala from accepting rural positions are predominantly financial and infrastructural, with low salary and poor benefits cited as the most pervasive obstacle, closely followed by lack of access to urban amenities (e.g., education, shopping) and poor living conditions (housing, utilities). Critical professional concerns—difficulty developing clinical skills due to limited caseload diversity and absence of continuing medical education (CME) opportunities—amplify retention challenges, particularly for early-career doctors seeking specialization. Social and cultural factors (family/friends' opposition, low social status associated with rural practice) and unfamiliarity with rural community's further compound reluctance. This multidimensional resistance aligns with the workforce's young age profile (98.3% ≤30 years), neutral/negative attitudes toward rural service (70% combined), and prioritization of career advancement ("relevance to studies" = 37.5% top factor), underscoring that effective retention requires integrated solutions: competitive compensation, skill-building partnerships with urban hospitals, CME access via telehealth, and community-integration initiatives are stated in figure 10.

Among female doctors at DHQ Hospital Gujranwala, security concerns emerge as the paramount barrier to rural service, with 38% citing "Lack of Security for Women in Rural Areas" as the most critical issue. This is followed by significant challenges related to childcare accessibility (reflected in high frequency for "Lack of Nannies/Daycare Centers") and educational limitations for children ("Difficult to Find Schools"). The prominence of security and family-centric obstacles—over professional or financial factors—highlights gender-specific retention challenges that disproportionately affect female physicians. These structural gaps in safety infrastructure and social support systems not only deter women from accepting rural positions but also risk exacerbating gender inequities in rural healthcare delivery. Addressing these issues through secured housing, subsidized childcare, and remote schooling partnerships is essential to retain a diverse medical workforce in underserved regions are stated in figure 11. When asked to prioritize interventions for rural retention, physicians at DHQ Hospital Gujranwala overwhelmingly emphasized financial and infrastructural reforms, with "Better Salary" (6%) ranking as the top individual factor. However, the combined weight of environmental and logistical supports—"Better Transport" (3.75%) + "Better Living Conditions" (3%) reveals a broader demand for foundational quality-of-life upgrades. Notably, career advancement factors ("Regular Promotions" at 0.75% and "Better Employment Opportunities" at 1.5%) received minimal prioritization, contradicting earlier data where "Relevance to Studies" dominated career decisions—suggesting junior physicians may view rural posts as transient placements rather than long-term career paths. The negligible focus on security ("Provide Protection": 0.75%) also contrasts sharply with female physicians' expressed safety concerns (per prior data), while the high "No Answer" rate (4.5%) and unexplained 79.25% gap (*total = 20.75%*) indicate either survey limitations or unresolved complexity in retention priorities are stated in figure 12.

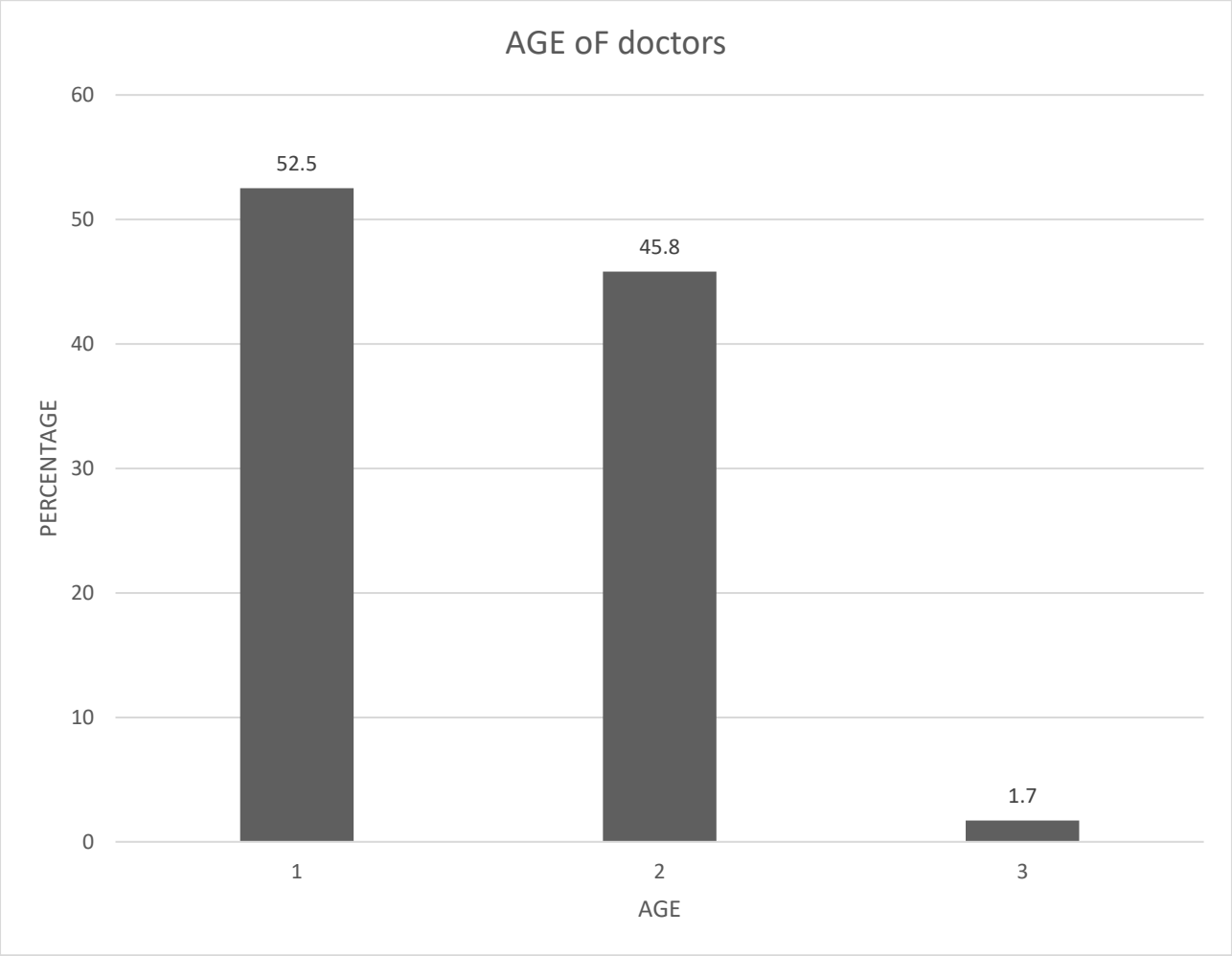

Figure 1. Shows age of doctors

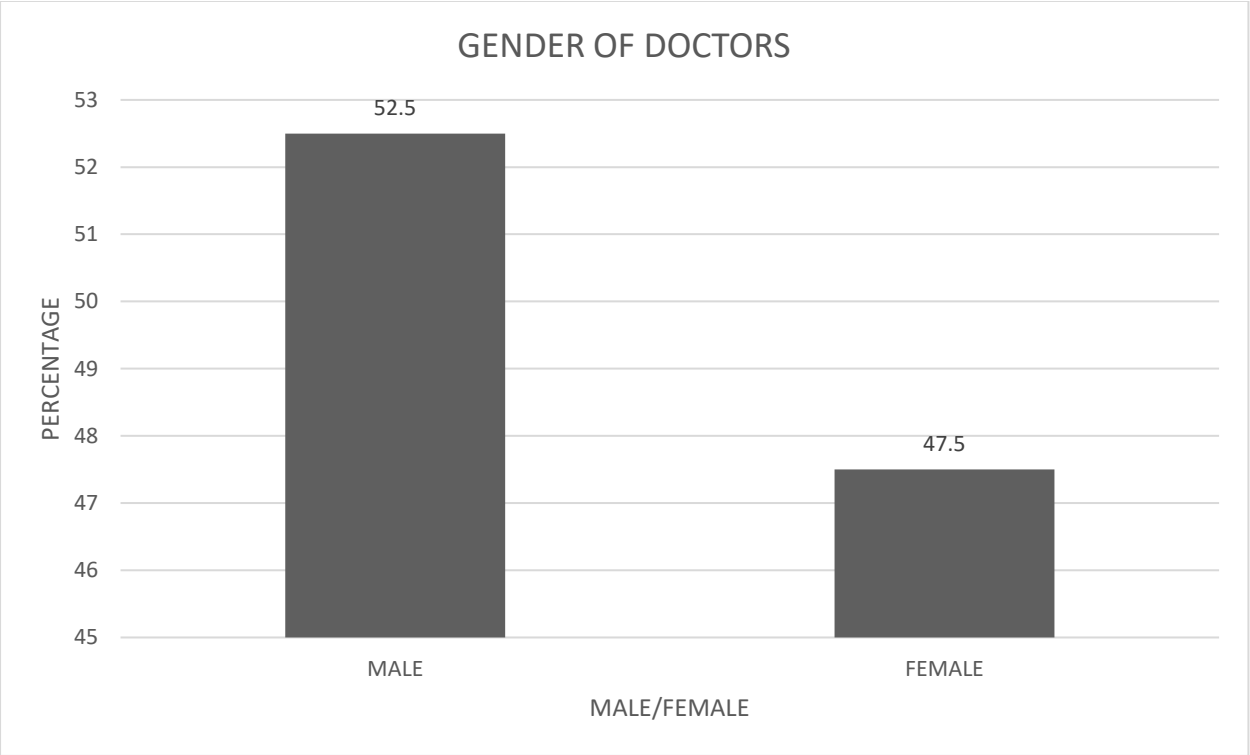

Figure 2 shows gender of doctor

Figure 3. Shows target population

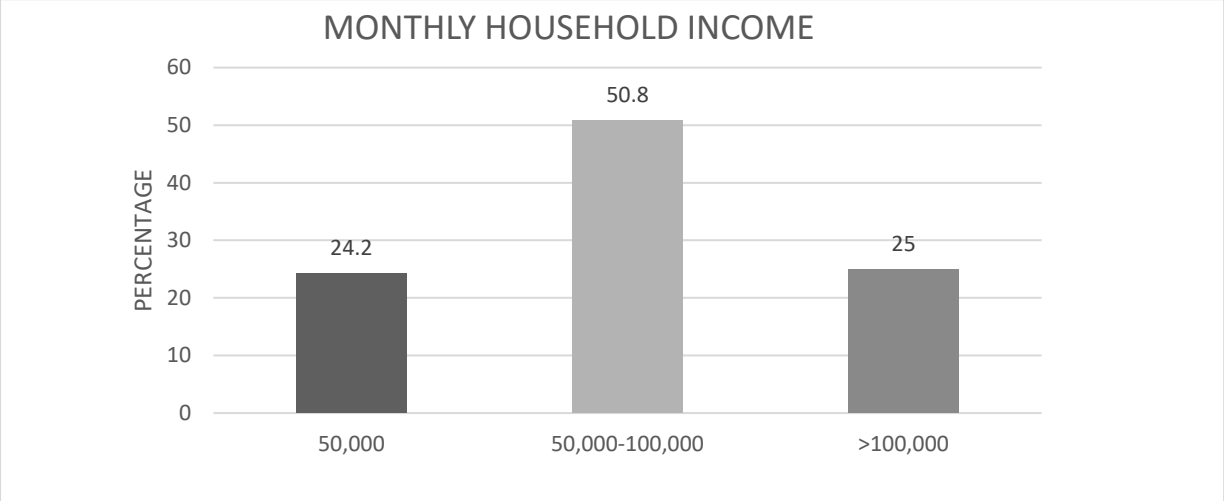

Figure 4. Shows monthly household income

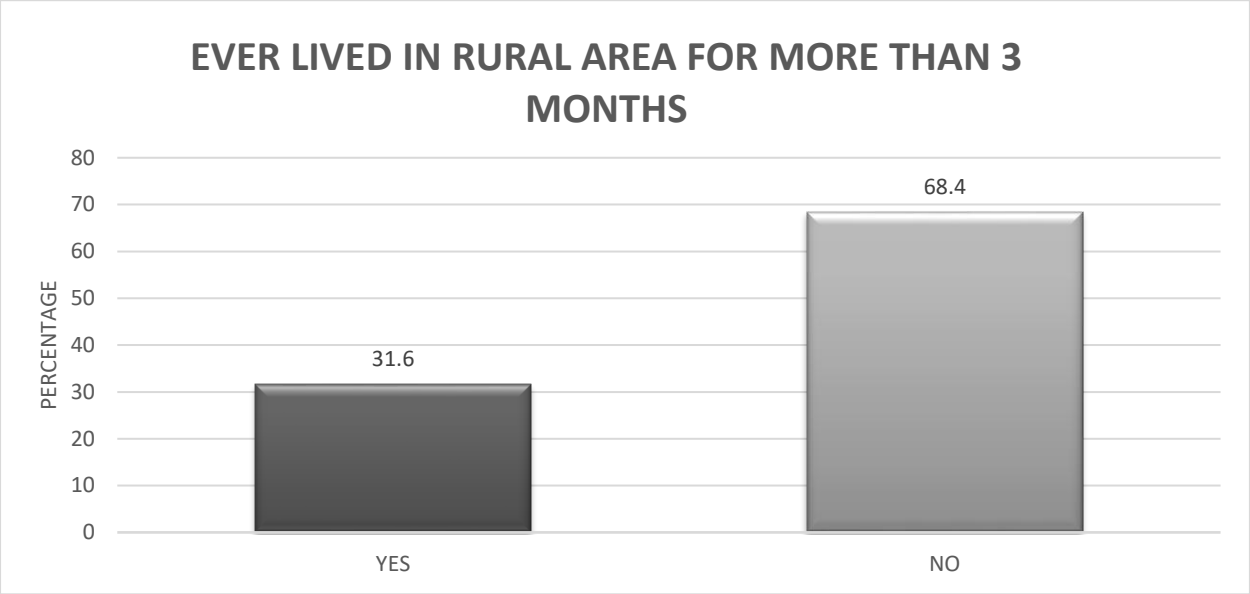

Figure 5. Shows ever lived in rural area for more than 3 months

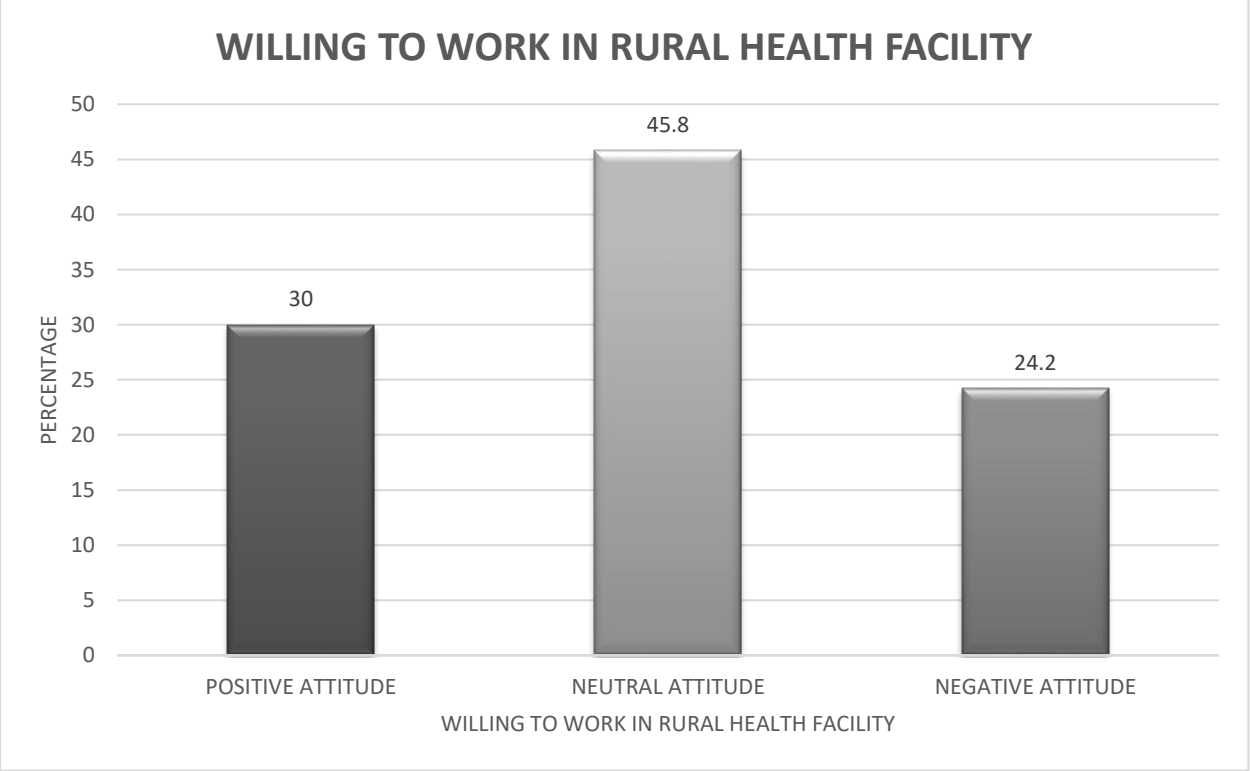

Figure 6, Shows willing to work in rural health facility

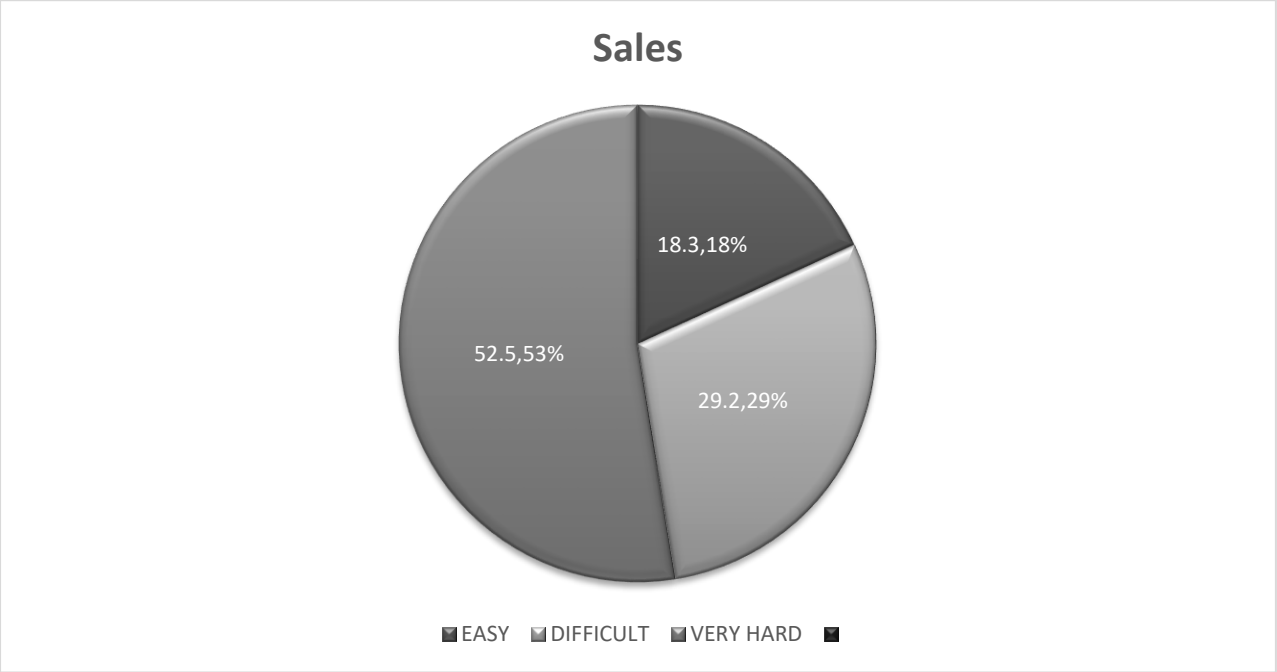

Figure 7. Shows how difficult it would be to find a job in Pakistan

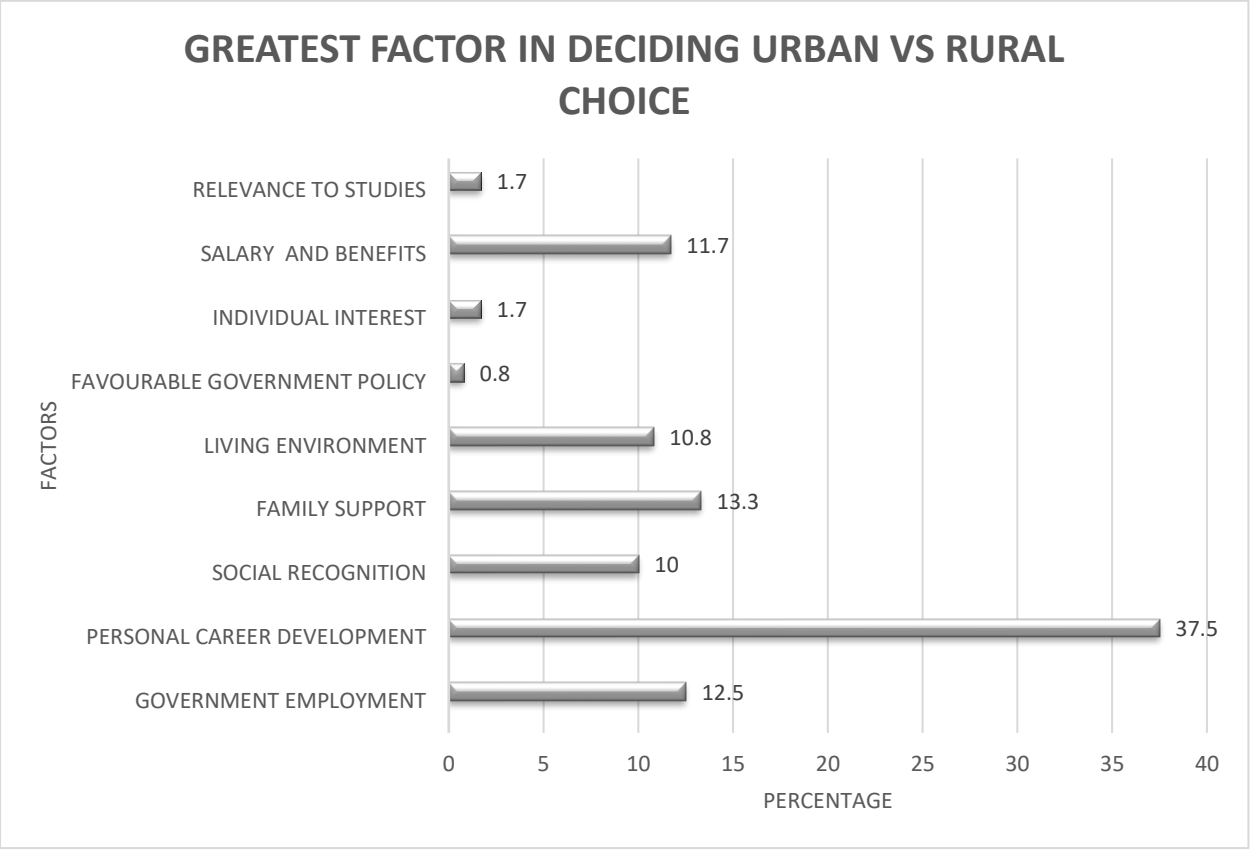

Figure 8. Shows greatest factor in deciding urban vs rural choice

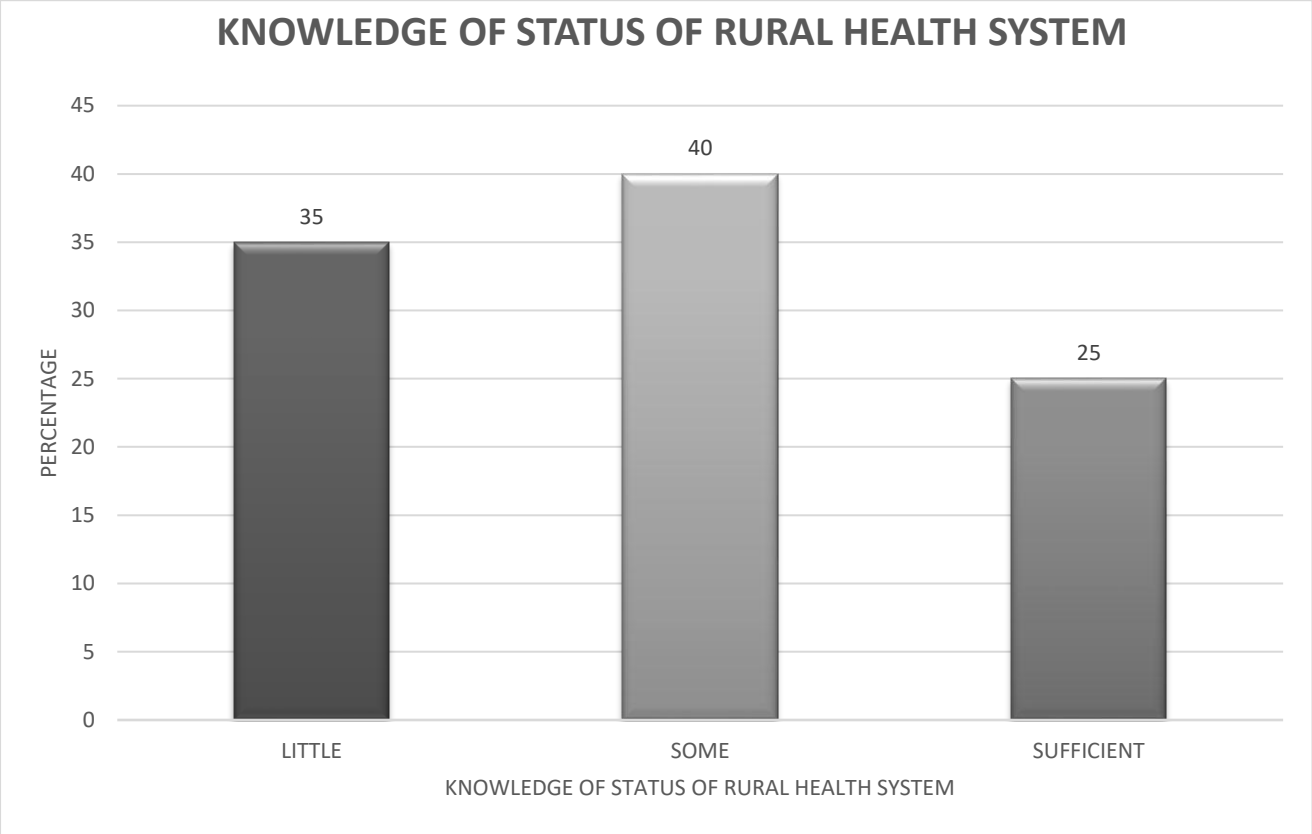

Figure 9. Shows knowledge of status of rural health system

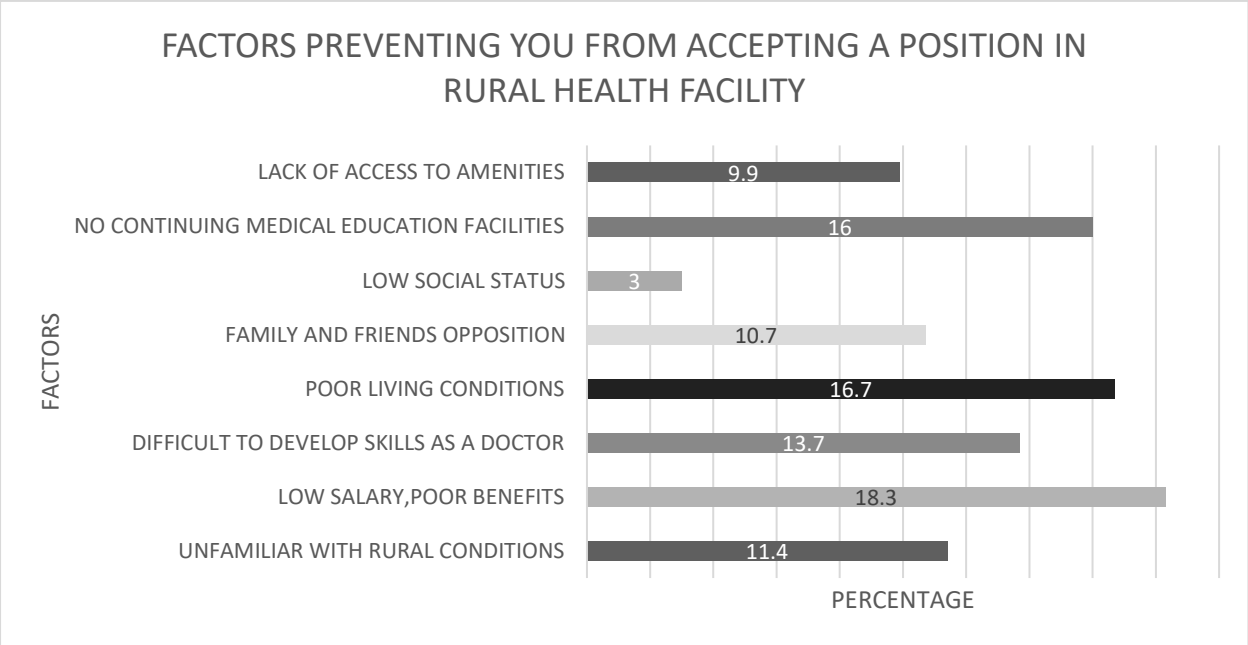

Figure 10. Shows preventing you from accepting a position in rural health facility

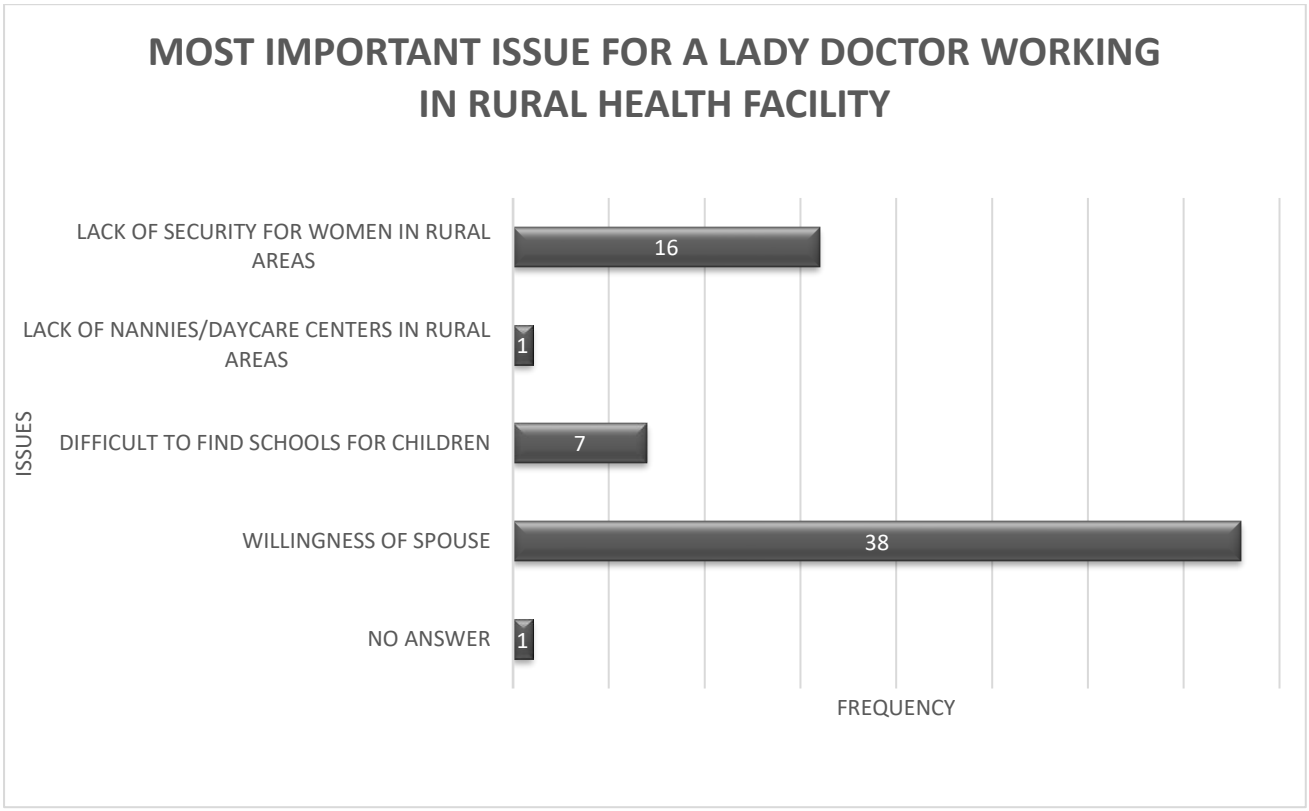

Figure 11. Shows most important issue for a lady doctor working in rural health facility

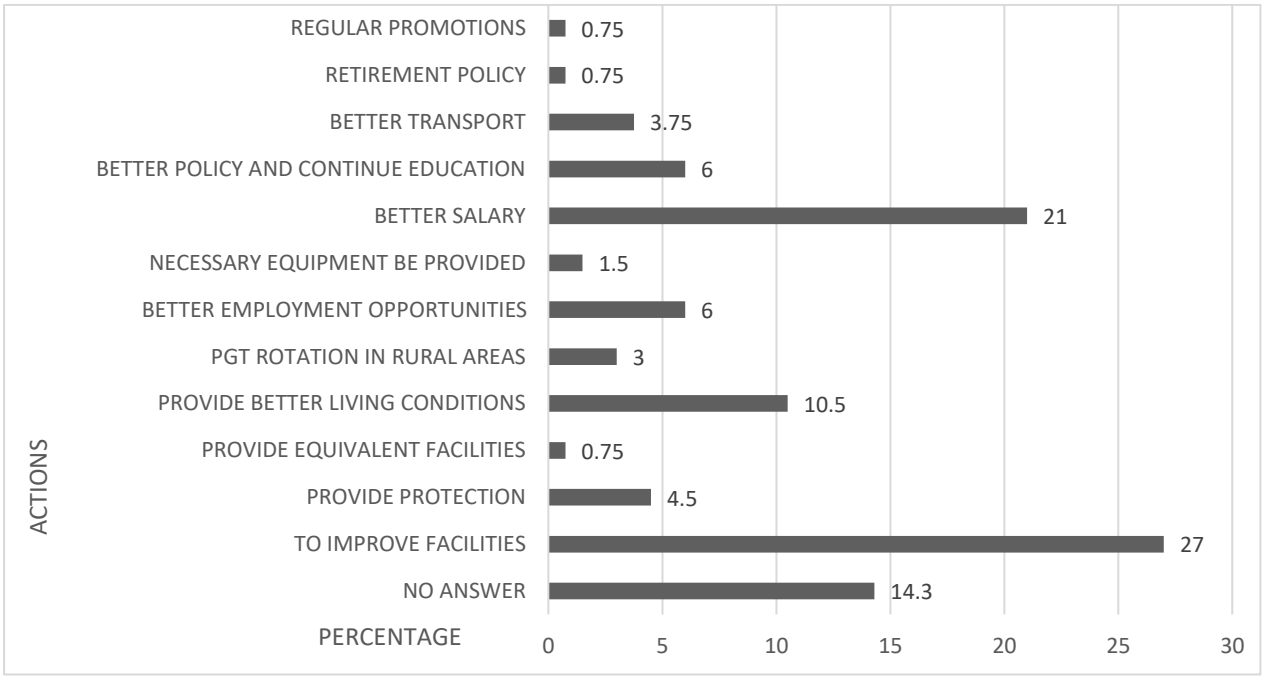

Figure. 12 Shows percentage actions

4. Discussion

Overall, 30% respondents showed a positive attitude regarding work in a remote area. 45% were neutral and 24% displayed a negative attitude. This trend was higher than that found in a study in New Zealand (8%),(Organization, 2010) but lower than that seen in India where 44% showed a positive attitude.14 Personal career development was considered the single most important factor (37%) in making a choice between rural and urban setting. A study done in India exhibited a similar trend where 44.5% considered career growth and

26.8% stated higher education prospects to be better in urban settings and consequently chose urban area for employment (Steinhäuser et al., 2011). In our study, among the facilitating factors were passion to serve the people (18.1%) and the prospect of increased time to prepare for exams (16%). This had a similarity with another research where out of the 55.4% of students who stated that they were likely to or definitely would work in an under-served area, mostly due to strong intrinsic motivation (desire to serve, pay back etc.)(Agyei-Baffour et al., 2011).However, close proximity to home was the most important factor for 22% of the respondents in another research.16 In our study 18.3% people considered low salary and poor benefits as another significant factor preventing them from accepting a job in a rural facility although in Australia and India, factors other than salary eg, living conditions, professional growth etc seemed to have a greater decisive influence(Hays, Veitch, Cheers, & Crossland, 1997; Kamien, 1998; Peters, 2002), 27% of the respondents suggested that the government should improve facilities in the rural setups and 21% advised increasing the salary to improve retention in remote areas. For female doctors willing to work in a rural environment, willingness of spouse (31%) was the most important issue. This is consistent with other researches that show that female health professionals are more likely to work where their husbands are deployed (Dixit, 1997; Kletke, Marder, & Silberger, 1990; Wilson et al., 2009)

Conclusion

This study highlights a complex and multifaceted reluctance among doctors to serve in rural healthcare settings, with only 30% expressing a positive attitude and nearly half remaining neutral. Despite a significant proportion having prior rural exposure, key deterrents—including limited career development opportunities, inadequate financial incentives, poor living conditions, and lack of continuing medical education—continue to undermine retention efforts. Gender-specific challenges, particularly for female physicians, further compound the issue, with safety concerns and family-related constraints playing a decisive role. The findings underscore that rural service is often viewed as a temporary or transitional phase rather than a viable long-term career path. To reverse this trend, targeted interventions must address both professional aspirations and quality-of-life concerns, transforming rural postings into attractive, growth-oriented opportunities for Pakistan's medical workforce.

Recommendations

To enhance physician recruitment and retention in rural Pakistan, policymakers should implement comprehensive reforms, including competitive financial packages that directly address income disparities (reflecting findings where 50.8% of doctors earn ≤100,000 PKR/month). Mandatory rotations for postgraduate trainees in rural facilities would build early-career exposure while expanding clinical capacity. Recognizing rural service through privileged experience certificates—valuable for future career advancement—would incentivize participation, alongside guaranteed provision of basic living necessities (secure housing, utilities, transport) to mitigate infrastructure gaps. Additionally, allocating special quotas for candidates from rural backgrounds would leverage community ties and prior adaptation to local challenges, creating a sustainable pipeline of committed healthcare workers.

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