

Postgraduate Residents' Experience with District Residency Program from a Government Medical College in North India: A Mixed-method Study

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Abstract

Background: The National Medical Commission of India mandated a 3-month District Residency program (DRP) for all post-graduate (PG) residents from admission year 2021 onwards. We initiated it in our institute in September 2023, with a cohort of 2nd year PG residents. As a quality control initiative in our institution, we explored their experiences, perceptions and suggestions for improvement.

Methods: All PG residents of 1st batch of District Residents answered a pre-validated questionnaire and participated in a group discussion regarding their experiences. A questionnaire-based survey (Google Forms®) and Focus Group Discussion sessions (FGDs) were carried out. Descriptive statistics were reported for quantitative data, while for qualitative data, grounded theory approach was used to generate themes and subthemes.

Results: A total of 52 PG residents participated in the study. Overall, 40 (76.9%) felt that they contributed to community healthcare and 44 (84.7%) performed duties in their own specialty. Twenty-nine (55.8%) felt that their time was not well utilized and rated learning opportunities available in district hospitals as unsatisfactory. A vast majority (43, 82.6%) did not report any improvement in their procedural skills. Safety concerns were reported by 20 (38.5%) residents. Various themes identified through FGD sessions included updating of diagnostic and management protocols in district hospitals, and gaining confidence in managing diverse patients. Negative themes included a lack of basic amenities, and overburdening of PG residents in the parent institution.

Conclusion: There is an overall dissatisfaction among PG residents with their academic enrichment or procedural skill acquisition during DRP. Reduction in duration, capacity building of district hospitals, and provision of a conducive learning environment may help improve program implementation.

Key words: District Hospital, Education, Medical Graduate, Medical students, Training Program

Introduction

The National Medical Commission (NMC), the apex policy-making body regulating Medical Education in India, introduced a novel initiative,

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the 'District Residency Program' (DRP) as an amendment to the Post-Graduate Medical Education Regulations-2020 (PGMER) [Sub-clause 13 (11), Gazette of India, dated 16th September, 2020] (*Gazette of India: Notification No. 367, 2020*). The DRP envisaged a compulsory three-month posting in a "district hospital" (100 beds or more) for post-graduate (PG) residents of all specialties (pre-clinical, para-clinical and clinical) across all medical Colleges (government or private) of India, as a mandatory requirement for



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appearing for final summative examination (Gazette of India: Notification No. 367, 2020). The stated objectives were (Gazette of India: Notification No. 367, 2020; Postgraduate Medical Education Regulations, 2021):

- a. To expose the PG residents to the District Health System/ District Hospital, and involve them in health care services being provided by District Health System/District Hospital for learning while serving;
- b. To acquaint them with the planning, implementation, monitoring, and assessment of outcomes of the National Health programs at the district level;
- c. To orient them to promotive, preventive, curative and rehabilitative services being provided by various categories of healthcare professionals under the umbrella of National Health Mission

Due to the exigencies imposed by the COVID-19 pandemic, the DRP failed to take off initially. However, in December 2022 (*Implementation of District Residency program, 2022*), and then in January 2023 (*Clarification on implementation of District Residency program, 2023*), the Post-Graduate Medical Education Board (PGMEB) notified mandatory implementation of DRP from PG admission year 2021 onwards.

Though news reports of problems being faced by PG residents during their posting, including compromised training, poor program support, lack of basic amenities, and safety concerns have been emerging across the country (Abraham, 2023; Singh, 2023), limited data are available regarding the impact of the program on PG training (Raj et al., 2024; Muthukumar et al., 2024; Khilnani et al., 2024; Jain et al., 2023; Desai and Ghatge, 2024). The program was implemented very rapidly. The state governments took time to initiate the allocation of district hospitals to medical colleges. There were apprehensions regarding the depletion of manpower in the medical college hospitals, as well as the conduct of thesis work during this posting (Grover, 2024).

We conducted this study as a quality control initiative, aiming to collect and analyse the experiences, perceptions and suggestions for improvement from the first batch of PG residents posted as district residents from our college. Their learning experiences and challenges experienced by them in various specialties were explored. The alignment of program implementation with its stated objectives was explored.

Methods

This mixed-method, cross-sectional study was conducted at the University College of Medical Sciences and Guru Teg Bahadur Hospital, between December, 2023 and March, 2024. Our institute established its DRP Cell in August 2023 to oversee the implementation of the program for college Residents. The state government allotted District Hospitals to all medical colleges. Initially, our college, located in Shahadra District, was allotted two district hospitals, one each in East District and South-West District. There was a regional mismatch in the location of the medical college and district hospital assigned for other medical colleges also. After negotiations regarding mutual exchange, two hospitals in nearby districts were allocated to us for DRP. The roster for posting one-third of the PG residents batch 2021 was prepared and the first sub-cohort of residents (in 3rd semester of post-graduation), were posted with effect from 1st September, 2023.

PG residents, of all specialties, who completed their DRP posting in the first round i.e. September-November 2023 were included in this study. Approval of the Institutional Ethics Committee was obtained vide letter no IECHR-2024-65-3. The quantitative evaluation followed a cross-sectional design through a self-administered feedback questionnaire, which explored the learning opportunities received by the PG residents. Apart from collecting the baseline demographic information, the questionnaire assessed the nature of work, experience in various domains of learning (including academic rigour, procedural skill training, and communication skills), facilities provided (canteen,

accommodation, restrooms etc.), and overall satisfaction of PG residents. Their field of specialisation was compared with their field of posting in the district hospitals. Satisfaction levels concerning various domains were assessed on a Likert scale of one (highly unsatisfied) to five (highly satisfied), with a higher score being indicative of higher satisfaction. Additional open-ended questions were included to obtain suggestions from PG residents to improve their posting experience. The questionnaire was pretested and pre-validated on a sample of six postgraduates. Thereafter, all posted residents were asked to fill in the questionnaire shared using Google Forms®. The responses were entered in Microsoft Excel® and descriptive statistics were analyzed including median and range of the scores, and proportion of participants satisfied with respect to the domains explored. Content analysis was done for open-ended questions.

Data collection for the qualitative component of the study comprised of FGD sessions, one each for PG residents belonging to the pre- and para-clinical departments, the medical and allied specialties, and the surgical and allied specialties. These were conducted in the Medical Education Unit using an FGD guide and moderated by the first and the second authors. FGDs explored learning opportunities received by the PG residents, and their suggestions to improve the district hospital posting experience. All participants consented to the study as well as recording of the proceedings. They were allowed to speak in either English or Hindi depending on preference. Recorded FGDs were transcribed and analyzed using the Grounded Theory approach.

Themes were generated using an iterative approach. A framework approach was adopted to assess the alignment of the learning experiences with the objectives of the DRP. Reflections written by the district residents in their logbooks were also reviewed and analyzed, and themes and some select quotations are presented.

Results

A total of 52 postgraduate residents, posted as the first batch of District Residents, participated in the study. Of these, 30 were females (57.6%) and 22 were males (42.3%). Their specialty wise breakup is summarized in Table 1, along with their departments of posting. Overall, eight residents (15.3%) did not work in their specialty throughout their posting. These included residents from pre-clinical (anatomy, physiology, biochemistry) and para-clinical (pharmacology and community medicine) departments. An additional 13 residents (25%) worked outside their specialty through a variable part of their posting.

Most of the residents (45, 86.5%) reported working 40-60 hours per week, while 6 (11.5%) stated that they worked less than 40 hours per week. Only one resident stated that duties were more than 60 hours per week. Overall, 77% (n=40) residents gained experience in outpatient department while 75% (n=39) worked with inpatients (Figure 1)

Overall, 76.9% (n=40) residents felt that they contributed to the community health care through this posting; however, 55.8% (n=29) felt that their time was not well utilized at the district hospitals. The distribution of the respondents with respect to their satisfaction levels and utility value for various aspects of the DRP are summarized in Table 2. The overall satisfaction score with DRP posting ranged from 1 to 5 with a median score of 3 (Figure 2).

Academic Rigour

The utility of DRP posting during postgraduation was rated at a median value of 2.63 on a Likert scale of 1-5. Approximately 44% (n=23) residents were satisfied with it, while 29% (n=15) residents did not find it useful. Additionally, 20% (n=10) of residents stated that they were unable to come back to the parent college for academics during the posting (Figure 3); hence, fell out of touch with the curricular activities. The median rating for learning opportunities available in district hospitals was rated 2.46 (range 1-5), with approximately 30% residents (n=16) being

highly satisfied and 10% residents (n=5) being highly dissatisfied. The overall learning opportunities available in the district hospitals

were rated unsatisfactory by more than 55% of residents (n=29).

Table 1: Specialty-wise breakup of District Residents (n=52) and their departments/units of posting in District Hospitals

Postgraduate Specialty	Number of Residents (n)	Department/Unit of posting in District Hospitals
Pre- & Para-clinical specialties	18	
Anatomy	1	Non-Communicable Disease clinic, Accident and Emergency, General Ward
Biochemistry	1	Pathology
Community Medicine	3	Non-Communicable Disease clinic, Accident and Emergency, General Ward, Dermatology OPD, Anti-Retroviral therapy center
Forensic Medicine	2	Accident and Emergency, General Ward
Microbiology	3	Microbiology
Pathology	5	Pathology, Blood bank, Accident and Emergency, General Ward
Pharmacology	2	Pharmacy and Drug store, Accident and Emergency, General Ward
Physiology	1	Blood Bank
Medical Specialties	14	
General Medicine	4	Medicine, Accident and Emergency, General Ward
Dermatology & STD	1	Dermatology
Paediatrics	6	Pediatrics, Accident and Emergency, General Ward
Radiodiagnosis	3	Radiodiagnosis
Surgical Specialties	20	
General Surgery	4	Surgery, Accident and Emergency, General Ward
Otorhinolaryngology	2	Otorhinolaryngology, Accident and Emergency, General Ward
Obstetrics and Gynaecology	5	Obstetrics and Gynaecology, Accident and Emergency, General Ward
Ophthalmology	1	Ophthalmology
Orthopaedics	2	Orthopaedics
Anaesthesiology	6	Anaesthesia, Accident and Emergency, General Ward
Total	52	

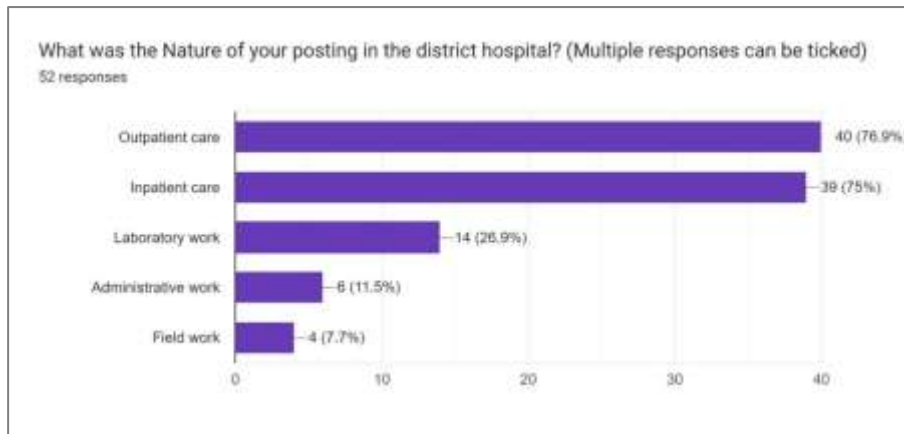


Figure 1: Horizontal Bar-Chart showing the nature of work undertaken

Table 2: Distribution of the respondents with respect to their satisfaction level and utility value for the various items in the District Residency Program Feedback Questionnaire (n=52)

Item	1-Highly unsatisfied N (%)	2- Unsatisfied N (%)	3-Can't say N (%)	4-Satisfied N (%)	5-Highly satisfied N (%)	Mean
How much are you satisfied (overall) with the DRP posting?	4 (7.7)	11 (21.2)	14 (26.9)	12 (23.1)	11 (21.2)	3.28
How would you rate the availability of learning opportunities in the hospital of posting?	16 (30.8)	13 (25)	11 (21.2)	7 (13.5)	5 (9.6)	2.46
	1-Not useful at all N (%)	2- Somewhat not useful N (%)	3-Can't say N (%)	4- Somewhat useful N (%)	5-Very useful N (%)	Mean
How would you rate the utility of DRP posting for yourself?	12 (23.1)	12 (23.1)	17 (32.7)	5 (9.6)	6 (11.5)	2.63
How much has this posting added to your KNOWLEDGE to your postgraduate specialty subject?	14 (26.9)	18 (34.6)	11 (21.2)	6 (11.5)	3 (5.8)	2.36
How much has this posting added to your PROCEDURAL SKILLS concerning your postgraduate specialty subject?	18 (34.6)	14 (26.9)	11 (21.2)	5 (9.6)	4 (7.7)	2.28
How much has this posting changed your ATTITUDE/ COMMUNICATION SKILLS concerning your postgraduate specialty subject?	12 (23.1)	12 (23.1)	15 (28.8)	11 (21.2)	2 (3.8)	2.59

Procedural skill training

Overall, 90% residents (n=46) stated that they got an opportunity to perform their specialty related procedures independently (23, 44.2%) or under supervision (24, 46.2%). However, less than 20% (n=10) stated that it added to their procedural skill training during their residency (Figure 4).

Attitude and Communication Skills

Most residents (24, 46.2%) felt that the posting did not help with respect to acquiring communication skills. Only one-fourth of residents (14) felt that the posting helped improve communication skills with patients as well as interpersonal communication with hospital authorities, staff members and police personnel.

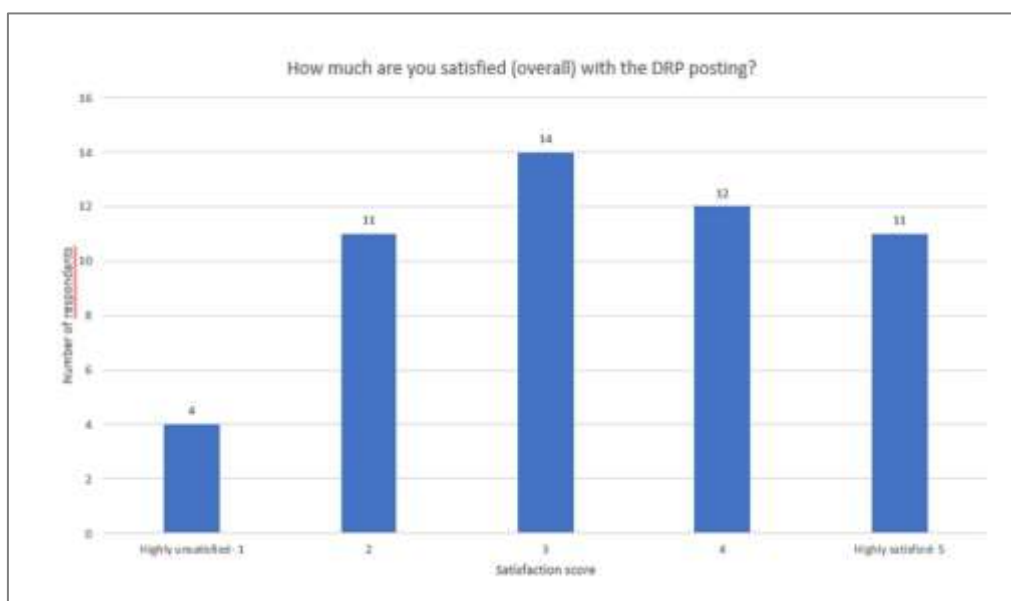


Fig 2: Bar-chart demonstrating the overall degree of satisfaction of PG residents with three month district residency posting

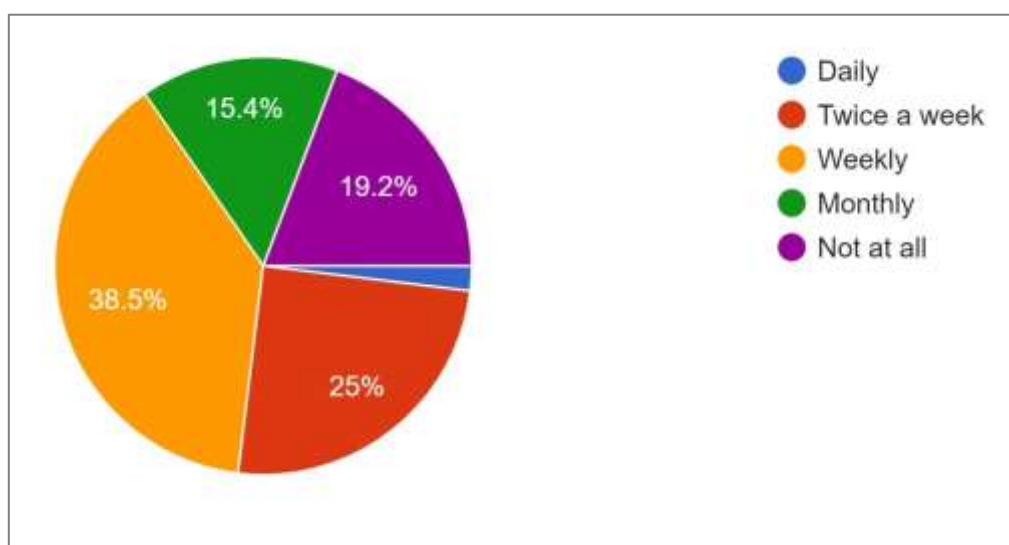


Figure 3: Pie-chart showing the frequency of contact with the parent department at the medical college, during three months of district residency

Amenities provided during DRP

None of the residents were provided accommodation at the hospital of posting. All had to use personal or public transport to commute. More than 50% (27) used public transport, with 15.4% (n=8) residents devoting more than an hour daily. The availability of canteen or hygienic food was also rated badly. Safety concerns during duty hours were perceived by 38.5% (n=20) residents, especially female residents. Many had to modulate their duty hours to travel to and from

the hospital during daytime. Nil to poor availability of 'doctor's duty room' or a designated place to rest during night duties was highlighted.

The majority (34, 65.4%) of the residents opined that DRP posting should be held in the 2nd year of residency. The themes, and subthemes that emerged from the three FGD for the learning experiences and objectives of the DRP posting are summarized in Tables 3 and 4

Table 3: Themes and subthemes generated from the focus group discussions conducted with the residents about their DRP experience

Themes	Subthemes
Contribution of the post-graduate student to the services at the district hospital where they were posted.	1. Provided added manpower. 2. Updated certain diagnostic protocols. 3. Updated certain management protocols. 4. Capacity building of interns in certain professional courses 5. Helped in referral of patients to the tertiary care teaching hospital 6. Unable to contribute to their full potential
Contribution of the DRP posting to the learning experiences of the PG.	1. Gained confidence in managing diverse patients. 2. Missed learning opportunities in the medical college during DRP posting 3. Understood the patient referral system 4. Did not learn anything new 5. Difficulty in conducting their thesis research especially studies which required follow up of patients or investigations.
Challenges faced by the post-graduate student during their DRP posting.	1. Lack of ready availability of food 2. Difficult to access toilets especially by the women post-graduate student in certain departments 3. Lack of a separate seating or resting room 4. Unsafe environment around the hospitals 5. Lack of a safe and reliable last mile connectivity to the hospitals
Effect of DRP on the healthcare services of their parent teaching hospital (from where they were withdrawn for posting to the district hospital).	1. Overburdened post-graduate student at respective departments, in the parent teaching hospital, from where the District Residents were withdrawn.
Suggestions of the post-graduate student with regards	1. Reduce the duration of DRP posting 2. Posting to subspecialty hospitals

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- to the DRP.
3. Ways to contribute with our full potential to the district hospital must be explored with our involvement
 4. District hospital must be made aware about the objectives of the DRP
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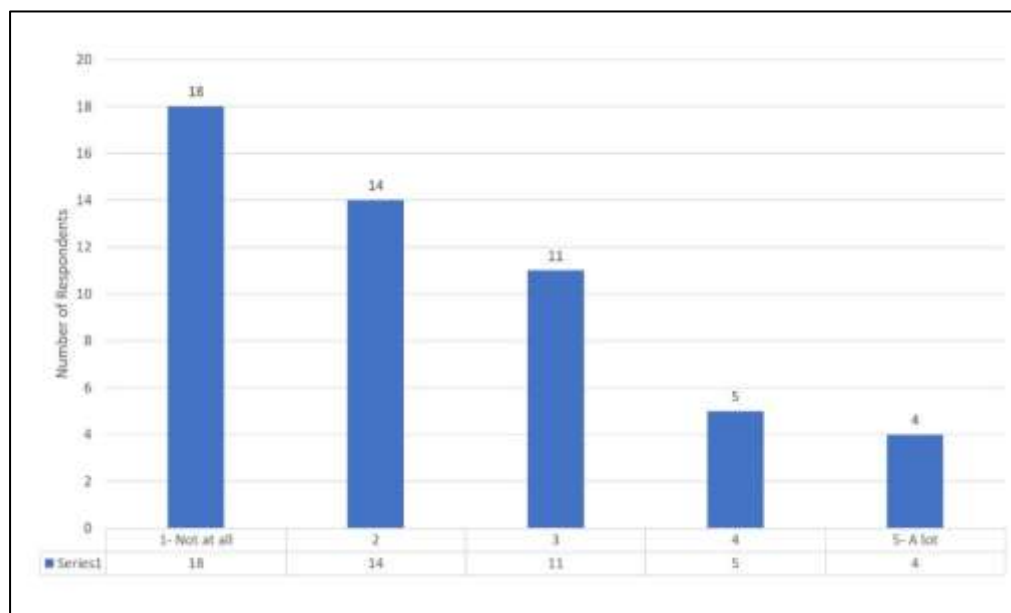


Figure 4: Bar-chart demonstrating the acquisition of procedural skills by district residents

Table 4: Alignment of the learning experiences of the PG posted under DRP with respect to the objectives of the DRP

Objectives of DRP	Alignment status of the learning experience of PG and objectives of DRP	Reasons for the alignment status allotted
To expose the post-graduate student to District Health System/ District Hospital and involve them in health care services being provided by District Health System/District Hospital for learning while serving	Aligned	The postgraduates were exposed to the district hospital and its functioning and to some extent the District health system, as they were understanding the referral system in the district. They became aware of the human resources status, the material resources and the infrastructure available at the district hospital level.
To acquaint post-graduate student with the planning, implementation, monitoring, and assessment of outcomes of the National Health programs at the district level	Not aligned	The post-graduate student were not exposed to any national health program planning and implementation, monitoring and assessment of outcomes at the district level.
To orient post-graduate student to promotive, preventive, curative and rehabilitative services being provided by various categories of healthcare professionals under the	Not aligned	No such orientation to promotive, preventive and rehabilitative services were given to post-graduate student Only curative care and providing out-patient and in-patient services in the district hospitals,

umbrella of National Health Mission.

was the main focus during the DRP posting.

Discussion

Our evaluation of experiences, perceptions and suggestions for improvement of PG residents posted as district residents revealed that DRP was helpful in enhancing community healthcare. However, there was a high level of dissatisfaction among the residents with respect to the nature of duties, disconnect with the parent institution and curricular activities, suboptimal learning opportunities at district hospitals, questionable procedural skill training, lack of basic amenities, as well as safety concerns. We analyzed the experience of all residents including pre- and para-clinical residents, a cohort not represented in earlier studies. Our study found them to be more at loss due to lack of clearly defined roles for them under DRP. The study limitations included a small sample size and the fact that it was a single-center experience. The experiences and opinions of other stakeholders (district hospital administration, state government, medical college administration and faculty) were not collected. However, the study strengths included a lack of selection bias as all residents were included. The unique methodology of FGD helped identify additional issues, which could be discussed and documented, giving deeper insights.

District Residency Program outlines two essential tenets of PG training as (a) deriving learning experiences from the community and targeting actions towards its need (b) training of residents in diverse settings, especially those close to the community (Postgraduate Medical Education Regulations, 2021). It aims to strengthen the District Health System including District hospitals (Postgraduate Medical Education Regulations, 2021). Though it was launched with clearly defined objectives; our study revealed a high level of dissatisfaction among the PG residents. The pre-clinical and para-clinical residents were more disillusioned as most district hospitals do

not have defined roles for them. Our study found them to be working in unrelated departments (Table 1) and even providing bed-side patient-care for which they felt ill-equipped. Raj et al. (2024) had excluded this subgroup from their analysis. DRP provides avenues for their posting in “research units / facilities, laboratories and field sites of the Indian Council of Medical Research and other national research organizations” (Gazette of India: Notification No. 367, 2020). A higher level of coordination between state government and central organisations could facilitate this.

Though most of the medical and surgical residents were posted with their respective departments; their satisfaction scores were also suboptimal with up to 30% residents being unsatisfied. Higher dissatisfaction scores have been reported by Jain et al. (64.7 %) and Raj et al. (67.4%), reflecting a need for careful rethink in program methodology and implementation; otherwise, it may be a missed opportunity at strengthening the health care services (Raj et al, 2024, Jain et al, 2023). Measures for incentivizing performance of residents have been suggested (Desai & Ghatge, 2024). Most discontent was because of a disruption of learning caused by DRP spanning over 3-months, with a lack of learning opportunities in district hospitals and broken communication with parent departments. Earlier studies have highlighted similar concerns (Raj et al, 2024; Muthukumar et al, 2024). Almost 46% of residents rated poor utility of DRP posting to their PG training. While the need to strengthen district hospitals is appreciated, the need to strengthen PG training should also not be ignored (Grover, 2024). This disadvantage could be offset by reducing the duration of district residency (Raj et al, 2024). District residents should be treated as students and provided with opportunities for continuing medical education, through a revamp of work culture at district hospitals. Most concerns arise from disruption

of thesis work as the chain of data collection and compilation was broken. Thesis writing is a time-tested essential component of PG curriculum and compromise in its quality due to the length of DRP needs to be prevented. Competency based PG Curricula focus on the knowledge, skill and affective domains of training. Our results showed all the three domains of learning were being compromised. More than 60% of residents opined that knowledge and skill acquisition was suboptimal at district hospitals. As the tenure of PG residency is limited at 3 years, special measures are needed to ensure that PG training and quality (especially surgical skill acquisition) do not suffer.

Through the themes derived from FGD sessions, we analyzed program implementation vis-a-vis the objectives of DRP. The objective of exposing and involving doctors in the District Health System was served the best (Table 4). However, rest of the objectives were not being helped any more than what was already happening within the medical college. Raj et al. (2024), reported that only 17% of district residents felt that program objectives were fulfilled. Another theme highlighted was the increased workload in medical college departments due to withdrawal of resident strength. This impact of DRP on patient-care and community service also needs to be thoroughly assessed.

The program mandates the State Government to provide appropriate amenities to District Residents including suitable accommodation (within a maximum of 2-3 km radius), mess, transportation (if living quarters are far away), security (especially for lady residents), among others (Gazette of India: Notification No. 367, 2020; Postgraduate Medical Education Regulations, 2021). Our results showed a clear lack of these contributions. The state government expenditure should be increased to provide for the increased workforce. Availability of appropriate amenities will increase the satisfaction levels. Recent incidents demonstrating safety concerns being experienced by resident doctors nation-wide (Pai et al, 2024; Nayanar et al, 2024) point towards an alarming and potentially

threatening situation. NMC as well as the National Task-Force should take cognizance of the situation of district residents working in smaller hospitals in far-flung areas as well (Mitra, 2024).

Conclusion

Our study highlights the existing discontent and dissatisfaction with the novel district residency program. As a part of action research, our findings suggest a reduction in its duration, defining clear roles for residents, ensuring devoted time for academic activities, and ensuring provision of amenities by the state, to improve implementation of DRP. Better coordination between state government and central research institutions may help ensure a useful experience for pre- and para-clinical residents. Ensuring the safety and security of resident doctors posted in peripheral hospitals is paramount. The suggestions may be further validated by studies obtaining feedback from other stakeholders. Larger studies, across different states, involving more residents can help derive more robust conclusions.

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None

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