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Identify Formation in Medical Doctors Teaching Basic Medical Sciences

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ABSTRACT

Background: This transition of medical doctors from clinical practice to roles in basic medical sciences is often motivated by a desire for work-life balance, reduced clinical pressures, and intellectual fulfillment. However, the shift poses challenges related to identity formation, financial adjustments, and societal perceptions.
Objective: This study explores the motivations and challenges medical doctors face transitioning to roles in basic medical sciences.
Materials and Methods: This qualitative study utilized Constructivist Grounded Theory (CGT) to explore professional identity formation among medical doctors engaged in basic medical sciences, over six months duration. Nine medical doctors from various departments at Khyber Medical University were recruited using purposive sampling.
Results: Nine participants, including professors and associate professors, engaged in teaching and research in basic medical sciences and preferred non-clinical roles. Four key themes emerged: (1) acceptance of a non-clinical identity as researchers and educators, (2) recognition of the demanding and exhaustive nature of the clinical practice, (3) prioritization of family and self-care enabled by flexible non-clinical roles, and (4) financial challenges associated with reduced earning potential in non-clinical roles. Despite these challenges, participants expressed satisfaction with their professional identities and the balance afforded by their current roles.
Conclusion: The faculty of BMS has identified themselves as basic scientists and has made a clear demarcation that they are non-practicing doctors and researchers. They are proud of their position and enjoy their life as non-practicing doctors. They consider themselves a part of a worldwide community of researchers. They have shifted their focus from treating individual patients to serving the community and making work force that can serve the community.
Keywords: Basic medical sciences, Healthcare professionals, Identity, Multiple identities, Non-practicing clinicians, Professional identity.

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INTRODUCTION

Identity formation is a dynamic process through which individuals develop a sense of self, aligning their personal and professional values with societal and occupational expectations.[1] In medical education, professional identity formation is critical, shaping healthcare professionals to meet the demands of clinical and academic environments.[2] This process is particularly significant for medical doctors transitioning from clinical practice to non-clinical roles, such as teaching and research in basic medical sciences.[3] Such transitions often lead to developing new professional identities, with a shift from patient care to academic responsibilities.[4]

Medical education has traditionally emphasized the development of clinical skills and patient-centered care, often overlooking the evolving roles of medical doctors who pursue careers in basic medical sciences.[5,6] This gap in focus leaves a lack of understanding regarding how such transitions impact professional identity and what challenges these individuals face. While existing literature has explored identity formation among clinicians and medical students,[7,8] there is limited insight into how non-clinical roles influence the professional identities of healthcare professionals, especially those in basic medical sciences.

Basic medical sciences encompass anatomy, physiology, biochemistry, and pharmacology, and they are integral to the foundation of medical knowledge and education.[9] Healthcare professionals in these fields often redefine their roles, balancing academic pursuits with societal perceptions of their identity as medical doctors. Despite the critical importance of these roles in medical education and research, the challenges associated with transitioning into basic medical sciences remain underexplored.

This study aims to address this gap by investigating the motivations, perceptions, and challenges faced by medical doctors transitioning into non-clinical roles. By examining how these roles influence professional identity formation, the research seeks to provide insights into the evolving identities of medical doctors and contribute to improving support mechanisms for these professionals.

The rationale for this study lies in the increasing trend of medical professionals opting for careers in basic medical sciences, driven by factors like work-life balance, intellectual fulfillment, and reduced clinical

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demands. Understanding this shift and its implications can enhance the design of medical education programs, promote career satisfaction, and improve the integration of basic medical scientists into the broader healthcare framework.

While this study identifies motivations for pursuing non-clinical roles, it also recognizes that these motivations may differ among individuals and evolve. Financial constraints, family prioritization, personal satisfaction, and intrinsic interest in education and research often intersect in complex ways, shaping professional identity formation. A deeper exploration of these dynamics is critical to understanding the nuanced personal drivers behind such career transitions. By addressing these gaps, this research aims to contribute to a comprehensive understanding of the challenges and opportunities medical professionals face in basic medical sciences.

MATERIAL AND METHODS

This qualitative study employed Constructivist Grounded Theory (CGT) to explore professional identity formation among medical doctors engaged in basic medical sciences. Data collection and analysis were conducted iteratively to align with CGT principles. Over six months, from 14th November 2019 to 14th May 2020.

Ethical approval for this study was obtained from the KMU-Ethics Committee, Khyber Medical University, Peshawar, during its 22nd meeting on November 11, 2019 (Approval No. DIR/KMU-EB/IT/000712). Participants were selected based on inclusion and exclusion criteria, and informed consent was obtained before proceeding. Participants were provided with detailed information about the study, including its objectives and methods, and informed consent was obtained before participating. Written informed consent was obtained before participation, ensuring that participants were aware of their rights, including the option to withdraw from the study at any stage without repercussions.

Participants were selected using purposive sampling based on specific inclusion and exclusion criteria. The inclusion criteria required participants to be medical doctors engaged as teachers or researchers in basic medical sciences. In contrast, the exclusion criteria excluded clinicians and basic medical science teachers actively involved in clinical practice.

An initial pool of potential participants was identified based on purposive sampling criteria, focusing on medical doctors who had transitioned to non-clinical roles in basic medical sciences. The study initially targeted 12 participants to ensure diversity in professional backgrounds and departments. However, due to scheduling constraints and participant availability, the final sample comprised nine participants. These participants were drawn from various departments at Khyber Medical University and included professors, associate professors, and assistant professors.

Health Care Professionals
Doctors having an MBBS or BDS degree.

Basic Science subjects
These include non-clinical subjects like Anatomy, Physiology, Biochemistry, Pathology, Community Medicine, and Pharmacology.

Teacher/researcher
Faculty on any post in BMS: Assistant professor, associate professor, professor.

Each participant was interviewed in a single session, lasting approximately 30 to 45 minutes, depending on the depth of their responses. The sessions were audio-recorded with their permission and transcribed verbatim for analysis.

The interviews were semi-structured, allowing for consistency across participants while providing the flexibility to explore unique experiences and perspectives. Questions were designed to examine participants' motivations for transitioning from clinical to non-clinical roles, their challenges during this transition, and how their current roles influenced their evolving professional identity. Specific aspects of professional identity formation (PIF) addressed in the interviews included participants' perceptions of their roles as educators and researchers, their motivations and long-term career goals, societal perceptions of their identity shift, and the personal fulfillment they derived from their non-clinical positions.

The research team conducted thematic analysis manually using an iterative coding process. Interview transcripts were coded in two cycles, with initial codes refined into categories and overarching themes. Data analysis was carried out collaboratively among team members to minimize researcher bias, with regular discussions to ensure consistency in coding and interpretation. However, the study did not include formal intercoder reliability checks or validation by independent researchers.

The study was conducted at Khyber Medical University, a public university in Peshawar, Pakistan. It included participants from the Institute of Basic Medical Sciences (IBMS) and the Institute of Public Health (IPH). While this setting provided rich insights into identity formation among medical doctors transitioning to non-clinical roles, it is acknowledged that the single-institution focus limits the generalizability of the findings. This study did not capture the experiences and perspectives of doctors in private universities or international settings, where institutional and cultural dynamics may differ.

RESULTS

The study included faculty from various disciplines who participated voluntarily. There were a total of nine participants from different departments. Among them, two were professors, five were associate professors, and two were assistant professors. Two participants had completed postgraduate clinical degrees, while two had started clinical training but shifted to basic medical sciences. All participants were involved in teaching and research with postgraduate students; some had additional administrative duties or qualifications in health professional education. None were involved in clinical practice, except one who provided free services at home. Eight participants received scholarships for PhD studies in the UK, influencing their focus on Basic Medical Sciences (BMS). One participant was interested in non-clinical fields, particularly Public Health and community service. The coding analysis included first and second cycles, organized by question responses (Table 01, 02).

Table 01. Participant Demographics

Participant	Department	Position	Clinical Background
1	Biochemistry	Professor	Yes (Gynae and Obs)
2	Anatomy	Associate Professor	No
3	Public Health	Associate Professor	No
4	Public Health	Associate Professor	Yes (Surgery)
5	Histopathology	Associate Professor	No
6	Hematology	Associate Professor	No
7	Physiology	Associate Professor	No
8	Biochemistry	Professor	Yes (Surgery)
9	Anatomy	Associate Professor	No

Table 02. Summary of Participant Demographics

Department	Number of Participants
Biochemistry	2
Anatomy	2
Public Health	2
Histopathology	1
Hematology	1
Physiology	1

In the initial coding cycle, various codes emerged to capture the experiences and perspectives of the participants. These included identifiers related to their roles and responsibilities, reflections on career trajectories, and challenges encountered. Here is a list of codes identified in the first cycle of coding:

1. Researcher
2. Academician
3. Teaching and supervising students
4. Curriculum developer
5. Grant writing
6. Postgraduate students
7. UK PhD scholarship
8. Serving the community
9. Not inclined towards clinical
10. Clinical is tiring and demanding
11. Contribution to making teachers
12. Do not see patients
13. BMS is mental fatigue
14. Clinical is physical fatigue
15. In BMS, we have plenty of time
16. Have time to update ourselves
17. Postgraduate teaching is different and challenging
18. People do not understand that I am not a doctor anymore
19. Para-clinical field
20. Finances are challenging to manage
21. No faculty training program
22. Need for career counseling for students
23. Spare time for family
24. Do spend time with kids
25. My identity is changed
26. Pay is less
27. Monetary problems
28. Can take a day off easily
29. Part of the community of researchers
30. I am OK with the current identity

31. Do not miss my primary identity as a doctor
32. Got promoted earlier than my classmates
33. I miss being surrounded by patients
34. Research students surround me
35. Doctor's identity is supporting my current identity

These codes were further refined and categorized in the subsequent coding cycle to delve deeper into the underlying themes and patterns. Here is a list of codes and categories identified in the second cycle of coding:

1. Making good future teachers and researchers
2. Teachers and researchers will serve the community
3. Postgraduate teaching is different from undergraduate teaching
4. Postgraduate teaching is a difficult job
5. Clinical is far more demanding than BMS
6. Clinical is physical fatigue
7. Can easily spare time for family and Self in BMS
8. Primary identity is not a doctor anymore; it is a researcher, academician, and researcher
9. Good job prospects
10. Accepted my primary identity as a non-clinical (non-practicing doctor)
11. Monetary benefits are less
12. Very difficult to manage finances
13. Thinking of going to clinical practice for financial reasons (As a part-time job)

After conducting two cycles of coding, four overarching themes emerged, listed here in order of significance (Table 03):

1. Accepted my primary identity as a non-clinical (non-practicing doctor)
2. Clinical is far more demanding than BMS
3. Can easily spare time for family and self in BMS
4. Monetary benefits are less and very difficult to manage finances

Table 03. Themes Identified from Interviews

Theme	Description
Accepted Primary Identity as Non-Clinical (Non-Practicing Doctor)	Participants acknowledged their roles as researchers, teachers, and administrators in basic medical sciences, distancing themselves from clinical practice.
Clinical Far More Demanding than BMS	Participants emphasized the demanding nature of clinical practice compared to roles in basic medical sciences, citing long hours, physical fatigue, and lack of family time as key factors.
Can Easily Spare Time for Family and Self in BMS	In BMS roles, participants enjoyed flexibility and ample time for family and personal pursuits, contrasting with the time constraints and rigidity of clinical practice.
Monitory Benefits Are Fewer, and Finances Are Very Difficult to Manage	Participants expressed dissatisfaction with the financial aspects of BMS roles, highlighting lower pay and financial challenges compared to clinical practice. For financial reasons, they considered returning to clinical work.

All participants embraced their roles as non-clinical professionals, viewing themselves as researchers and educators rather than practicing doctors. They expressed comfort with this shift in identity and emphasized their dedication to academic pursuits. "People don't understand that I am not a clinical doctor anymore... I only do research and academics." (Interview 3). "I see 5-10 patients in my free time, but my identity is now as a researcher and academician." (Interview 4). "I am now a teacher, researcher, and administrator." (Interview 5) "If I practice clinically, it will impact my research skills." (Interview 9)

Participants unanimously found clinical work more demanding than basic medical sciences (BMS). They noted the round-the-clock nature of clinical duties, contrasting it with the flexibility and reduced physical strain of BMS roles. "Clinical is a 24-hour, tiring job with no family time." (Interview 1). "BMS leads to mental fatigue, while clinical work is physically exhausting." (Interview 3). "I have time for my family and can easily take a day off." (Interview 6)

Participants appreciated the ample time BMS roles afforded them for family and personal pursuits, contrasting it with the time constraints of clinical practice. "I joined BMS to have more time for my family." (Interview 1). "I have free evenings to spend with my family." (Interview 6). "I enjoy the flexibility to plan trips and personal activities." (Interview 2)

Concerns about lower pay and financial difficulties were prevalent among participants, with some contemplating a return to clinical practice for financial stability. "I am considering clinical practice for financial reasons as my kids are growing." (Interview 1). "The pay is less, and finances are hard to manage." (Interview 2). "Managing finances is tough due to lower pay." (Interview 5).

DISCUSSION

This study explored the professional identity formation of medical doctors transitioning to non-clinical roles in basic medical sciences. Four key themes emerged: acceptance of a non-clinical identity, recognition of the demanding nature of the clinical practice, prioritization of family and self-care, and financial challenges. These findings contribute to the growing literature on professional identity formation, highlighting healthcare professionals' complexities adapting to non-clinical roles.

Professional identity formation is inherently dynamic, evolving through interactions with personal, societal, and institutional factors. Studies from high-income countries, Brindley J and F. Qureshi et al. 2024 emphasize the role of intrinsic motivation and intellectual curiosity in transitions to academic roles.[10,11] Similarly, Toh et al. (2022) and Ramani et al. 2024 highlight that educators often derive satisfaction from mentoring and developing future medical professionals,[12,13] which aligns with the motivations identified by our participants. In contrast, Zhao et al. (2022) reported that societal expectations in resource-constrained settings often impose additional challenges, such as financial constraints and perceived loss of professional status.[14]

The financial challenges highlighted in our study resonate with findings from Schluger et al. (2018) and Van Zyl C et al. 2021, who noted that non-clinical roles in low-resource settings often offer fewer monetary incentives than clinical practice.[15,16] This discrepancy is particularly significant in public universities, where remuneration may not reflect the workload and expertise required for teaching and research. Furthermore, van der et al. (2021) and Wald et al. 2019 observed that transitioning from clinical practice often leads to a perceived loss of identity and professional status.[17,18] Our study builds on this by emphasizing how participants overcame these societal perceptions, embracing their roles as educators and researchers while finding satisfaction in contributing to the academic community.

Family prioritization and work-life balance, as identified in this study, are consistent with international findings, such as those by Kim et al. (2024), Shiozawa et al. 2020, and O'Doherty et al. 2021, who explored how medical educators navigate personal and professional commitments.[19-21] Our participants valued the flexibility of non-clinical roles, contrasting with the physically demanding nature of clinical practice. These insights underscore the importance of institutional support for educators, particularly in balancing their dual identities as healthcare professionals and academics.

Limitation and Future Recommendation

This study's findings must be interpreted in light of several limitations. The research was conducted at a single public institution, Khyber Medical University, which limits the generalizability of the findings. Doctors from private universities or international settings were omitted, where institutional structures and cultural dynamics may differ significantly. This single-institution scope may have introduced context-specific biases related to public-sector funding and resource allocation. Future research should adopt a multi-centre approach to enhance external validity, including participants from private universities and diverse geographical regions.

Additionally, the small sample size of nine participants, selected using purposive sampling, reflects practical constraints such as participant availability. While data collection and analysis adhered to Constructivist Grounded Theory (CGT) principles, with iterative coding and thematic development, the limited sample size may not fully capture the breadth of experiences among medical doctors transitioning to non-clinical roles. Although theoretical saturation was approached, complete saturation may not have been achieved due to the single-phase data collection process. Future studies should consider expanding the sample size and conducting multi-phase data collection to ensure comprehensive thematic saturation.

Identity formation is inherently a longitudinal process, evolving through ongoing experiences. This study captures a snapshot of participants' perceptions and motivations but does not address how these identities may change over time. Longitudinal studies are needed to explore whether financial challenges prompt doctors to return to clinical practice or how continued engagement in teaching and research influences their self-identity and career satisfaction. Such designs would provide a deeper understanding of the dynamic nature of professional identity formation.

Despite its limitations, this study provides valuable insights into the experiences of medical doctors transitioning to non-clinical roles. The findings underscore the need for institutional support mechanisms to address financial constraints, societal perceptions, and work-life balance challenges. Mentorship programs, financial incentives, and career counseling can help medical educators navigate the complexities of identity formation and career transitions.

Future research should adopt multi-center and longitudinal designs to validate these findings further, exploring doctors' experiences in diverse institutional and cultural contexts. Additionally, integrating perspectives from private universities and international settings would enhance the comprehensiveness of the findings and provide a global perspective on professional identity formation in basic medical sciences.

CONCLUSION

The faculty of BMS has identified themselves as basic scientists and demarcated themselves as non-practicing doctors and researchers. They are proud of their position and enjoy their life as non-practicing doctors. They consider themselves part of a worldwide community of researchers. They have shifted their focus from treating individual patients to serving the community and creating a workforce that can serve the community.

Ethical consideration

This study was approved by Institutional Review Board of Khyber Medical University (DIR/KMU-EB/IT/000712), Peshawar, Pakistan.

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Conflict of Interest

Authors declared no conflict of interest.

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DATA SHARING STATEMENT: The data that support the findings of this study are available on request from the corresponding author. The data is not publicly available due to privacy or ethical restrictions.

AUTHORS' CONTRIBUTION

The following authors fulfill authorship criteria as per ICMJE guidelines;

Saleem S, Khan FM: Substantial contribution to conception and design, drafting the manuscript, final approval, agreed to be accountable for all the work.

Hassan B, Zaib A: Substantial contribution to conception and design, data acquisition, drafting the manuscript, final approval, agreed to be accountable for all the work.

Aurangzeb U: Analysis and interpretation of data, drafting the manuscript, final approval, agreed to be accountable for all the work.

Haris S: Analysis and interpretation of data, critical revision, final approval, agreed to be accountable for all the work.

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