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Training Needs Assessment of Academic Teaching Staff in College of Medicine, Najran University, Kingdom of Saudi Arabia 2021

Abdelraheem Abdallah Almhboub¹, Abubakr Khidir Yousif², Ozaz Yagoub Mohammed Ahmed³, Eisa Gahzwani⁴, Tasabih Ismail Zain elabdin⁵, Wael Mohammed Alzahrani⁶, Abdullah M. Assiri⁷

Abstract

Medical colleges strive to improve the competencies of their teaching staff through conducting impactful research, delivering teaching with high quality, and providing community service and development. These can be achieved when designing training according to the needs. Assessing the gap before implementing any training activities, maximizes the resources and focuses to the point. This study aimed to assess the training needs of Academic teaching staff (ATS) in the College of Medicine at Najran University, Kingdom of Saudi Arabia by selecting competencies and giving suggested priorities for implementation. A descriptive study to determine the training needs of ATS used an adapted, validated Hennesy-Hicks Questionnaire on thirty tasks covering main five categories, research/audit, communication/teamwork, clinical tasks, administration, and management/supervisory tasks. The questionnaire was divided into two sections, the importance, and performance, and then the differences between the two were calculated. The Questionnaire was distributed to all available staff, the respondents were 80 out of 93 (86%), 33 were basic sciences and 47 were clinical staff. Results showed an urgent need for all research, management, and clinical domains for clinical staff and only two tasks in the research domain for basic sciences staff. The training committee and quality unit in the college must prioritize their investment and efforts to improve ATS with emphasis on research, and leadership competencies.

Key words: Assessment, Training needs, Teaching staff, Medicine

Introduction

The global advancement in the medical education era, especially accreditation standards and total quality management concepts, created benign competition in development and innovation. These can only be achieved when the Academic institutions (AI) have a qualified, well-trained, and competent academic teaching staff (ATS)[1]. Raising the competencies of

¹ Department of Family and Community Medicine, College of Medicine, Najran University, Najran City, Kingdom of Saudi Arabia
Email: Abdo.mhboub@yahoo.com. Tel cell +966544996028

² M.PHARM, MHPE, National Medical Supplies Fund, Ministry of Health Gezira State, Wadmadani city, Sudan
Email: abubarkhidir@hotmail.com. Tell cell +249-122644331

³ Department of Family and Community Medicine, College of Medicine, Najran University, Najran City, Kingdom of Saudi Arabia
Email: dreisaa@gmail.com. Tell Cell+966548635939

⁴ MHPE, University Hospital. College of Medicine, Najran University, Najran City, Kingdom of Saudi Arabia
Email: Tasabeeh.ismail89@gmail.com. Tell cell: +966550968557

⁵ Associated Professor, Faculty of Medical Laboratory Sciences, University of Gezira, Wadmadni City, Sudan
Email: ozaz1921@yahoo.com. Tell cell +249121222774

⁶ Department of Surgery, College of Medicine, Najran University, Najran City, Kingdom of Saudi Arabia Email: w.aldehri@hotmail.com
Tell Cell+966552245819

⁷ Corresponding Author, Department of Surgery, College of Medicine, Najran University, Najran City, Kingdom of Saudi Arabia
Email: Al-hayani@hotmail.com, Tell Cell:+966566445866

ATS by training is crucial for development [2-3] and excellence in performance[4]. Conducting training activities for ATS according gaps is the cornerstone, otherwise wastes resources. Training needs assessment (TNA) before designing any training activities is recommended [3, 5].

Different methods are used for TNA[6]. The main three approaches were investigating through students' view, peer lens[7], and self-assessment [8]. In systematic review included 151 studies, aimed at studying the approaches used in TNA the majority used was self-assessment, while mixed-methods approaches were reported only in 20%[9]. One of these self- assessment approaches is the Hennessy-Hicks Questionnaire[8]. It can be used in different professions [10-15]. The tool was used in different settings worldwide [2, 16]. Its main aim is to identify training needs at the individual, group, or organizational level, and to prioritize these training needs[8].

The literature that conducted TNA on health professional staff was huge [1, 15, 17-21], but in ATS was scarcity [6, 22]. As far as we know, no such published research assessed the training gaps in ATS in kingdom of Saudi Arabia in general and in Najran University specifically using the faculty staff description. This study was an added value in providing evidence for TNA in medical colleges. The aim of this study was to determine the TNA for ATS by selected competencies and prioritize these training needs for both Basic and clinical staff in the College of Medicine University of Najran.

2. Materials & Methods

2.1. Study Design

The study was designed as a descriptive, population survey with full coverage (because all faculty members were targeted in the study).

2.2. Study Setting

The study was conducted at the College of Medicine, Najran University (NU) which is a Saudi public university. College of Medicine is one out of five health Colleges at NU. Since opening in 2009, the College has strived to provide students with meaningful and engaging learning experiences. The College Program is based on an integrated hybrid Problem-based learning curriculum, its vision is Leadership in medical education, scientific research, and community service to enhance the health and awareness of society, and one of its objectives is to establish an academic environment that attracts talented faculty members. The program is composed of three main phases namely the preparatory phase (foundation of basic medical sciences), preclinical phase, and clinical phase.

2.3. Study Population

The study population was the faculty staff, which mainly divided into two groups:

2.3.1. Basic Sciences Teaching Staff

Basic sciences faculty are those who are teaching students in basic science and preclinical phases of the curriculum of the program covering the first three years of the curriculum. All basic sciences faculty are Ph.D. holders in basic sciences (Anatomy, Physiology, Biochemistry, Pathology, Histology, microbiology) and graduates of medicine in the majority but some of them are graduates of the College of Applied Medical Sciences.

2.3.2. Clinical Teaching Staff

Clinical faculty are those who are teach students in the clinical phase of the curriculum of the program, starting from the fourth year up to the supervision in the internship year, besides their assistance in the preclinical phase in the form of tutoring in problem-based and team-based learning sessions. All of the clinical year's faculty are graduates of clinical boards or medical doctorate and accredited by the Saudi Commission for Health Specialties (SCFHS) in clinical specialties (medicine, surgery, pediatric, family medicine, obstetrics, and gynecology) or their subspecialties, e.g. otolaryngology, ophthalmology, orthopedic, and psychiatry.

The criteria for performance evaluation clearly include quality of teaching, scientific research, and community service. The College adopted an annual training program for faculty staff, provided by the development and quality unit of the College and the training committee where they are planning and implementing it.

2.4. Sample Size & Sampling

The total population (ATS was 93). The sample size is considered as total coverage.

2.5. Data collection: The data were collected through a validated, adapted Hennessy-Hicks Questionnaire. Then the questionnaire was self-administered and addressed to ATS through Google-form, from 2th to 22th December 2020.

2.5.1. Description of the Hennessy &Hicks Questionnaire

Hennessy and Hicks's questionnaire based on thirty tasks covers main five categories. These categories were the research/audit (items 3, 6, 7, 9, 15, 21, 25, 26, 28), communication/teamwork (items 1, 5, 8, 13, 14, 27), clinical tasks (items 10, 12, 17, 18, 22, 24), administration (items 2, 20, 29) and management/supervisory task (items 4, 11, 16, 19, 23, 30) as their orders in the questionnaire (see Annex-1).

Two sections A: represented the importance of competencies, and was consisted of seven points (1=not at all important, 2= low important, 3 = slightly important, 4= neutral 5 = moderate important, 6= very important, and 7= extremely important). B: represented the performance of competencies (1= not well, 2= rarely well, 3 = sometimes well, 4= neutral, 5 = sometimes well, 6 = well, 7 = very well). Comparing the scores for importance/performance provides an assessment of where the greatest training needs lie. The greater the difference in scores, the greater the training needs[8]. The basic sciences staff responded to 24 competencies (six questions related to clinical skills were withheld from them), while all thirty questions were answered by clinical staff.

2.5.2. Quadrant Line

Quadrant line was used in this present study to explain the current situation of the training needs in four areas Q-1 up to Q-4. The interpretation of these is as follows (Q-1: means important task, not well performed so training required urgently, Q2: means important task, well performed, so no training required, Q3: means unimportant task, not well performed, so the training required but as a lower priority, Q4: unimportant task well performed, so no training required)[8].

2.6. Data Analysis: The data was entered and analyzed using SPSS version 23

2.7. Ethical Considerations: Ethical and technical approval was obtained from the Scientific Research and conferences Committee of the College of Medicine University of Najran (approval no 00067-NU-020).

3. Results

The total available ATS at the time of this study was 93. The response rate was 86% (80 respondents), 78.8% were males, 86% higher academic staff (Professor, Associated and Assistant Professor), and 14% were lower academic staff (Lecturer and teaching assistant). The basic faculty staff was 41.3% and the clinical staff was 58.7%. The respondents' demographic characteristics (Gender, Job title, specialty, nationality, and years of experience in post) were shown separately in "Table -1" for Basic sciences staff and "Table-3" for clinical staff.

The results were explored as means of importance and performance for all ATS rather than individuals. Then the differences between the importance and performance were interpreted as the actual training needs for both basic and clinical staff as shown in "Table-2" and "Table-4"

Table -1: Demographic Characteristics of Basic Sciences Teaching Staff.

Demographic		Respondents total n=33		Missing	
		n (%)	n(%)		
Gender	Male		24(72.7)		
	Female	9(27.3)		0(0.0)	
Job Title	Professor			0(0.0)	
	Associated Professor		5(15.2)		
	Assistant Professor		17(51.5)		
	Lecturer		10(30.3)		
Teaching Assistant		1(3.0)		0(0.0)	
Specialty	Pathology			5(15.2)	
	Physiology		7(21.2)		
	Anatomy		10(30.3)		
	Biochemistry		5(15.2)		
	Microbiology		6(18.2)		0(0.0)
Nationality	Saudi		1(3.0)		
	Non Saudi		32(97.0)		0(0.0)
		Years in post			
	Less than 5		1(3.0)		
	(5-10) Years		11(33.3)		
	More than 10 years		21(63.6)		0(0.0)

3.1. Basic Staff Results

In this study, basic staff represented 41.3% of the whole respondents. They respond to 24 tasks in four domains communication/teamwork (6 tasks), management/supervisory task (6 items), research/audit (9 tasks), and administration (3 tasks). The results of basic staff are shown in "Table-3". The research /Audit domain namely two tasks, critically evaluating published research, and designing a research study showed the remarkable difference between importance and performance. While other domains showed slight differences in means.

The quadrant line of all tasks is located in Q-2. The differences in importance and performance as quadrant line for basic staff presented in “Figure-1”.

Table -2: Means of Importance and Performance of Basic Scientists Staff.

Category	Tasks	Importance	Performance	Differences
Communication/Teamwork	Establishing a relationship with patients	4.3939	4.5152	-0.12
	Providing feedback to colleagues	5.303	5.3636	-0.06
	Communicating with patients face-to-face	4.6061	4.4848	0.12
	Giving information to patients and/or carers	4.8788	4.7273	0.15
	Getting on with your colleagues	5.5455	5.303	0.24
	Working as a member of a team	5.6061	5.303	0.3
Management/Supervisory task	Personally, coping with change in the health service	4.9394	4.9697	-0.03
	Making do with limited resources	5.3333	5.303	0.03
	Organizing your own time effectively	5.4545	5.3333	0.12
	Introducing new ideas at work	5.3939	5.2121	0.18
	Showing colleagues and/or students how to do things	5.6061	5.3636	0.24
	Appraising your own performance	5.4848	5.0909	0.39
Research/Audit	Applying research results to your own practice	5.2424	5.2727	-0.03
	Identifying viable research topics	5.3333	5.1515	0.18
	Statistically analyzing your own data	5.3333	5.1515	0.18
	Interpreting your own research findings	5.3636	5.1212	0.24
	Collecting and collating relevant research information	5.4545	5.1212	0.33
	Writing reports of your research studies	5.6667	5.2424	0.42

Administration	Accessing research resources (e.g. time, money, Information, equipment)	5.4545	5.0303	0.42
	Critically evaluating published research	5.4848	4.8182	0.67
	Designing a research study	5.697	5.0303	0.67
	Undertaking administrative activities	5.0606	5.1212	-0.06
	Using technical equipment, including computers	5.6667	5.4848	0.18
	Doing paperwork and/or routine data inputting	5.3333	5.1212	0.21

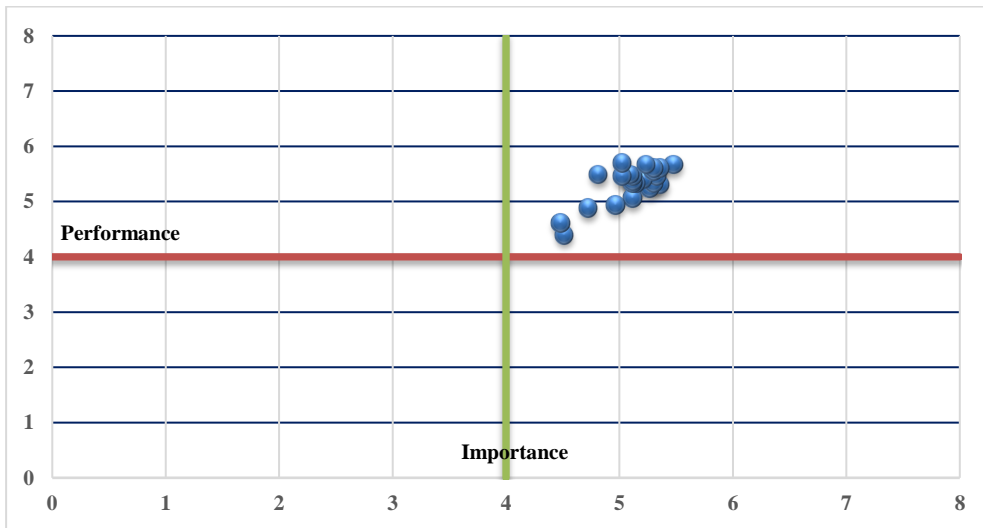


Figure-1: Quadrant line for Basic Sciences Staff.

Table -3: Demographic Characteristics of the Clinical Teaching Staff.

Demographic Respondents total n=47 Missing n (%) n(%)		Gender Male 39(83.0)	
Female 8(17.0)	0(0.0)	Job Title Professor 1(2.1)	Associated Professor 7(14.9)
Assistant Professor 39(83.0)	Lecturer 0(0.0)	Teaching Assistant 0(0.0)	0(0.0)
Specialty	Surgery 13(27.7)	Medicine 15(31.9)	Family& Community Medicine 7(14.9)
Pediatrics 8(17.0)	Obstetric & Gynecology 4(8.5)	0(0.0)	Nationality Saudi 27(57.4)
Non Saudi 20(42.6)	0(0.0)	Years in post	Less than 5 10(21.3)
(5-10) Years 24(51.0)	More than 10 years 13(27.6)	0(0.0)	

3.2. Clinical Staff Results

The clinical staff represented 58.7% of the whole respondents. They respond to 30 tasks in five domains. The above-mentioned four domains are in addition to the clinical domain (6 tasks). The results of clinical staff as shown in “Table-4” showed remarkable differences in the

majority of the research /Audit domain, management/Supervisory domain, and clinical domain. While only one task in the communication/team domain namely providing feedback to colleagues. Two tasks out of three in the Administration domain have clear differences between importance and performance. “Figure 2” represents the differences in means of importance and performance as a quadrant line for clinical staff is located in Q2.

Table -4: Mean of Importance and Performance of Clinical Staff.

Category	Tasks	Importance	Performance	Differences
Communication/Teamwork	Establishing a relationship with patients	6.06	6.11	-0.04
	Getting on with your colleagues	5.77	5.75	0.02
	Communicating with patients face-to-face	5.94	5.7	0.23
	Working as a member of a team	6.23	5.77	0.47
	Giving information to patients and/or carers	6.11	5.53	0.57
	Providing feedback to colleagues	6.19	5.36	0.83
	personally coping with change in the health service	5.94	5.23	0.7
Management/Supervisory task	Showing colleagues and/or students how to do things	5.98	5.23	0.75
	Making do with limited resources	5.79	4.94	0.85
	Introducing new ideas at work	6.02	5.11	0.92
	Appraising your own performance	5.96	5	0.96
Clinical Task	Organizing your own time effectively	6.23	5.06	1.17
	Planning and organizing an individual patient's care	5.58	5.26	0.32

	Treating patients	6.02	5.47	0.55
	Accessing relevant literature for your clinical work	6.09	5.43	0.66
	Evaluating patients' psychological and social needs	5.79	5.11	0.68
	Assessing patients' clinical needs	6.04	5.17	0.87
	Undertaking health promotion studies	5.77	4.68	1.09
	Identifying viable research topics	5.83	5.23	0.6
	Collecting and collating relevant research information	5.75	5.02	0.72
	Writing reports of your research studies	5.87	4.89	0.98
	Applying research results to your own practice	5.79	4.79	1
	Designing a research study	5.75	4.68	1.06
Research/Audit	Critically evaluating published research	5.83	4.58	1.26
	Interpreting your own research findings	5.92	4.45	1.47
	Statistically analyzing your own data	6.02	4.49	1.53
	Accessing research resources (e.g. time, money, Information, equipment)	6.04	4.32	1.72

	Doing paperwork and/or routine data inputting	5.58	5.34	0.24
Administration	Using technical equipment, including computers	6.04	5.45	0.6
	Undertaking administrative activities	5.55	4.83	0.72

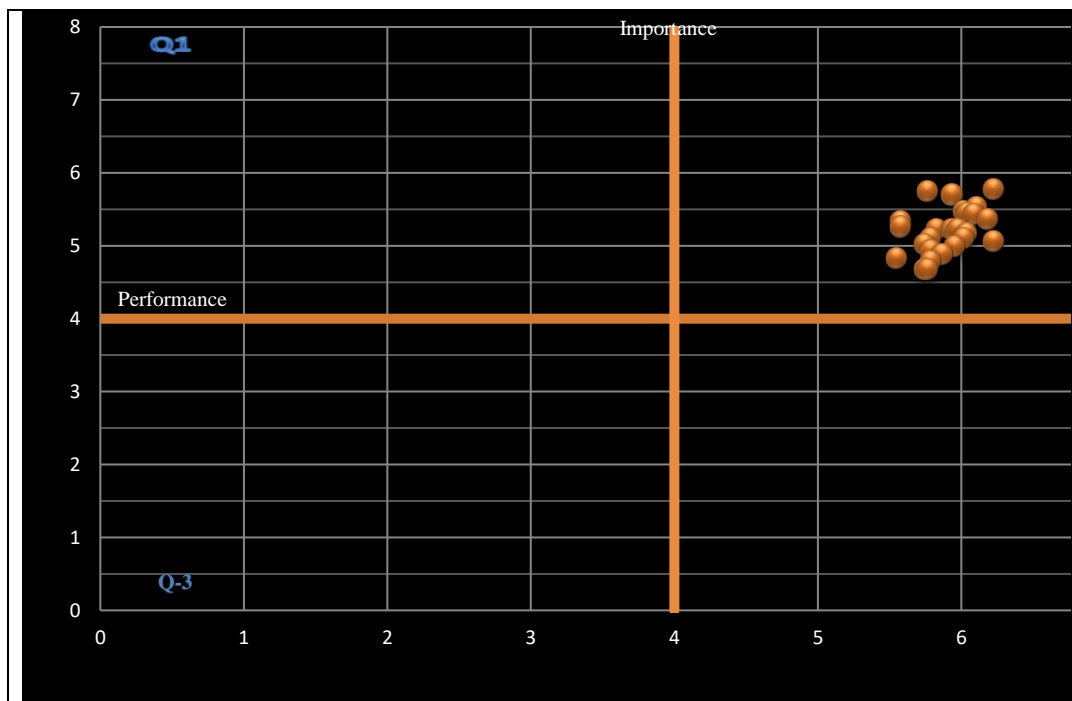


Figure-2: Quadrant line of Clinical Teaching Staff.

4. Discussion

Refer to the job description of ATS at University of Najran as described in Annex-2, these domains screened in this study must be mastering by all staff, except the clinical domain for basic staff. Excellence in these tasks means high performance (grade 7 in the mean). Any gap in the performance of these domains must be filled by training according to the priority. The present study assumed that any differences in means of performance and importance greater than 0.5 are considered as remarkable gaps and need to be improved.

4.1. The Basic Staff

The results of Basic sciences academic staff showed smaller differences in means of importance and performance in the majority of domains. The only two tasks in the research domain that

needed to empower were critically evaluating published research, and designing a research study. When designing training activities to these academic staff, focusing on research capacities would be a priority.

4.2. The Clinical Staff

The results of clinical academic staff showed remarkable differences in means of importance and performance in the majority of domains. All research (9 tasks), and management (6 tasks), had a gap greater than 0.5 in means. Although the clinical tasks are mandatory for the clinical staff, remarkable differences appear in five out of six. These results comply totally with [2],and [10],and [1] and in research and management priority with [17-18],and in research as highest priority with [19],[20],and [21].While low differences in communication and administrative tasks in contrast with [2].

This study in ATS provided clear evidence and a training road map for the training committee in the College of Medicine, University of Najran. Conducting such a training programme for both basic sciences staff and clinical staff will be according to the priorities and real gaps.

The priority of training investment to improve ATS in the college of Medicine, University of Najran, could be from highest to the lowest as follows: Research domain(all 9 tasks), Management and supervisory domain(all 6 tasks), clinical domain (5t asks out of 6), and communication domain(only two tasks out of 6) and Administrative domain(2 out of 3 tasks) for clinical staff .While only research domain(2 tasks out of 9) for basic sciences.

4.3. Limitations

As this study was descriptive, a single institution, an analytical multi-center future studies were recommended.

4.4. Conclusion

Training needs by self-assessment of academic teaching staff, college of Medicine, University of Najran, by using the Hennessy and Hicks Questionnaire showed remarkable need for research, Leadership, and clinical competencies for the clinical staff. While basic sciences staff only need further emphasis on research competencies

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Authors Contribution: The first author planed, designed, and conducted the research. Third,fourth,and fifth authors were analyzed, revised the results and the paper. The second author was drafting the paper to be published . The sixth author was revised and supervised the whole process.

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