
ORIGINAL ARTICLE**Impact Analysis of the National Faculty Development Program for Medical Teachers: A Way Forward***Shubhada Gade^{1*}, Vedprakash Mishra²*

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Abstract:

Background: Medical Council of India, New Delhi launched a National Faculty Development Program (NFDP) across India in 2009. NFDP was never evaluated in the context of its operational utility, efficiency and effectivity. *Aim and Objectives:* Present study was undertaken to evaluate the NFDP at one of the Medical Council of India (MCI) Nodal Centre for identifying the gap with regards to its impact, operational utility and effectivity as envisioned by the regulatory body and to invoke interventional operations arising thereof and to calibrate it and to create evidences for the same. *Material and Methods:* The study has been carried out at Jawaharlal Nehru Medical College (JNMC), Sawangi (Meghe), Wardha, a Nodal Centre recognized by MCI New Delhi for the NFDP. A validated questionnaire was sent to 667 participants of the NFDP at JNMC from 1st July 2009 to 31st July 2017 and responses were obtained about generating evidences in education technology, transfer of knowledge at the workplace and contribution in the institutional growth. The impact analysis was studied in terms of individualization, internalization and institutionalization of the participants. *Results:* 220 (52%) of the participants confirmed their involvement in educational research activities in the form of either advance course or a conference or an educational research project. 250 (59%) of the participants could transfer their learning to the workplace and brought

changes in the teaching learning Practices and 28.3% in assessment methods. 255 - 338 (60.32% to 79.90%) participants opined positive impact of NFDP on personal/ professional/ Institutional growth. *Conclusions:* In terms of the observations and findings thereto, it was proposed that certain modifications (structural, operational and conceptual) are warranted in the said program. Operational utility of the NFDP is discussed under two headings. Its link with Competency Based Medical Education and its relation to Accreditation Status of Medical schools in India.

Keywords: National Faculty Development Program, Recommendations for modifications, Accreditation of Medical Schools

Introduction:**Faculty Development:**

Faculty development includes all those activities that an academic staff or teachers may undertake in an educational institution which will contribute to individual, intellectual and professional growth [1].

National Initiatives:

The history of faculty development programs can be studied under four headings as per the initiatives taken from 1976 viz. (i) National Teachers Training Centers (NTTC), (ii) “Consortium of 4 Medical colleges” to suggest Reforms in Medical Education

to begin with (iii) “Medical Education Units” (MEUs) started in medical schools as per the directives from MCI in 1997 and (iv) “Foundation for Advancement in International Medical Education and Research, Philadelphia” (FAIMER) since 2005 [2].

Faculty Development after 1997 through Apical Council's Initiatives

Medical Council of India (MCI) New Delhi took a major initiative that made it compulsory for all medical schools to set up departments / MEU by making “Regulations on Graduate Medical Education (RGME)” in 1997 [3]. In 2009, a few MEUs were upgraded to Regional and Nodal Centres for the National Faculty Development Program (NFDP) and permitted to conduct basic course workshops and advanced course workshops in medical education. Currently, there are 22 Regional Centres and 10 Nodal Centres recognized by the Medical Council of India. The MCI launched the NFDP through the Basic Course Workshop (BSW) in MET at 8 Regional Centers across India in 2009 with, certain aims and objectives “To sensitize, equip and empower medical teachers for discharging their professional responsibilities.” The basic course workshop was made mandatory for medical faculty up to the level of professor. In 2015, MCI, New Delhi launched the Revised Basic Course Workshop (RBCW) in Medical Education Technology (MET) with the incorporation of concept of Competency Based Medical Education (CBME) and Attitude Communication (ATCOM) module. The MCI through its Nodal and Regional Centres and Medical Colleges has trained 45, 613 teachers in MET from July 2009 to April 2019 [4]. In 2019, MCI launched Curricular Implementation Support

Program (CISP) for the implementation of CBME. In order to roll out the curriculum successfully, the MCI and its Nodal and Regional Centres initiated CISP for sensitizing faculty of Medical Colleges about the competency based under graduate curriculum.

Advance Course in Medical Education:

In 2010, an Advance Course in Medical Education (ACME) was approved by the MCI and was launched across the country. This ACME was meant to foster concept of educational Research and scholarship along with accomplishment of educational project [5].

Evaluation of Faculty Development Programs (FDPs):

Evaluation of FDPs must address both the process, and outcome which is only being done by pre and post test that evaluates only level reaction and the leanings thereof, which is not sufficient to measure competencies / skills acquired. The missing link is the evaluation of the “impact analysis of the FDP” in terms of the modified behavior of the faculty at the workplace and to find out the challenges in implementations if any and also the role of educational research / educational scholarship [6].

Gaps identified in the evaluation of NFDP:

NFDP of MCI was never evaluated in the context of its impact, operational utility, efficiency and effectivity in the past in regards to following parameters.

- Utility in terms of transfer of knowledge.
- Efficiency in generating evidences about the medical education process.
- Calibration and outcome analysis of the NFDPs is not on records

- Relevance of the NFDP to competency-based curriculum and as a measure of accreditation status of medical schools in India

In view of this, the present study was undertaken at one of the Nodal Centers, Jawaharlal Nehru Medical College (JNMC), Sawangi (Meghe) Wardha, recognized by the MCI New Delhi, to study the extent of impact and the operational utility of the NFDP and to invoke interventional operations arising thereof and to calibrate it and to create evidences for the same.

The aim of study was to evaluate the NFDP at one of the MCI Nodal Centre in bridging the gap with regards to its impact, operational utility and effectivity as envisioned by the regulatory body with following objectives –

Impact Assessment of NFDP:

To study and analyze the impact of NFDP on generating evidence in the field of medical education (Individualization).

Analysis and Assessment of Operational Utility of NFDP:

To study the change in the behavioral practices of the participants with regards to transfer of knowledge in teaching learning and assessment practices to the working place (Internalization).

Analysis and Assessment of Effectivity of NFDP:

To study the perception of participants about the NFDP on personal, professional and institutional growth (Institutionalization).

To study the perception of the participants about the strengths and weaknesses of the NFDP.

Material and Methods:

Study Locus:

MCI Nodal Centre Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha

Ethical Consideration:

Ethical issues were assessed and the study was approved by Institutional Ethics Committee.

Study Design:

A cross sectional study was conducted among the medical teachers trained in MCI BCWs and RBCWs conducted by MCI Nodal Centre at JNMC Sawangi (Meghe), Wardha to study the impact of the NFDP for ascertaining the veracity of the program in the context of its impact, operational utility and effectivity.

Study Tool/ Instrument:

A semi structured questionnaire consisting of 24 questions was used to collect data. Five of the 24 questions were meant to collect demographic data, 5 questions were related to impact, 6 questions about the operational utility, 5 questions to know the effectivity while 3 open ended questions were meant to invite suggestions for the modification of NFDP. The questionnaire was validated with regards to its content, reliability and reproducibility by conducting a pilot study. The questionnaire was sent to the participants through e-mail. The participants of these workshops were from 5 states of the country. Non respondents were contacted by reminder mails and phone calls. The data confidentiality was maintained throughout. Other relevant data such as number of medical schools and number of NFDP workshops conducted and the number of teachers trained in them was obtained from the official website of MCI and Datta Meghe Institute of Medical Sciences (DMIMS) respectively.

Sample Size:

Sampling frame included number of medical teachers trained in NFDP at JNMC from 1st July 2009 to 31st July 2017 and was the sampling unit. A

total of 667 medical teachers participated in these workshops. Sample size was calculated taking into consideration expected impact and relative precision i.e. error due to no response, which comes out to MCI Nodal Centre [7]. Sample size was determined considering the impact of the FDP in proportion as the main outcome measure.

Following assumptions were made from the study of Srivastava *et al.* [8] and Priya Chandran *et al.* [9].

1. Expected Impact of the Faculty Development Program (30% and 28% respectively)
2. Relative precision (error due to nonresponse) (0.5 % of 30%)
3. Desired Confidence Interval $(1 - \alpha) = 95\%$
Estimated sample size worked out to 398 which was rounded off to 400.

Results:

A total of 423 participants provided responses to the questionnaire which was analysed

Discipline and designation profile of the participants is shown in Table 1.

Participation in Various Educational Research Activities:

The involvement of the participants in various educational research activities ranged from 34% teachers publishing papers in scientific journals to 68% participating in various research conferences. While around, half of the teachers attended advance training workshops 58% undertook research projects 54% and presented paper in conferences 49% (Fig. 1). This can be attributed to the fact that maximum number of participants were from the Nodal Centre that also hosts a school of health professional education and research. The school runs various educational qualification programs like M Phil and Ph. D in Health Sciences Education. So, the participants had more opportunities for pursuing educational research activities.

Table 1: Profile of the Participants

Profile	Percentage
Designation	
Assistant Professor	34.80
Associate Professor	32.80
Professor	20.80
Professor and Head	11.60
Disciplines	
Preclinical Department	21.9
Paraclinical Department	23.64
Clinical Department	54.46
Average Teaching experience (in years)	13.21 (years)

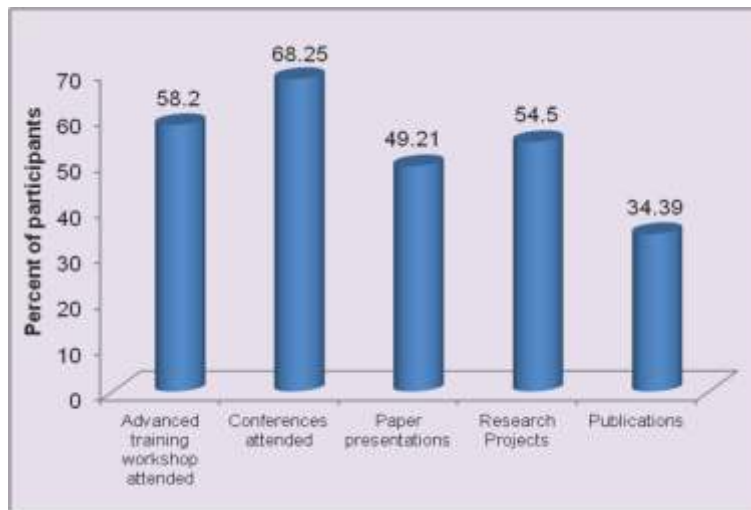


Fig. 1: Response of Participants to Various Educational Research Activities

Changes in the Medical Education Practices at the Work Place:

About 59% of the participants could transfer their learning to the workplace and brought about changes in the teaching learning practices and 28% in assessment methods. Most of the participants were from JNMC, a MCI Nodal Centre and the conducive environment and support from the higher authorities available there may have helped the participants in bringing about this change.

Teaching Learning Activities Transferred to the Work Place:

The most common teaching learning practice method transferred to the workplace was integrated teaching 46%, followed by syndicate seminars 37%, problem-based learning 37%, group discussion 21%, and case-based learning (18%) (Fig. 2). The probable reason could be, smaller number of teachers are required for conducting integrated teaching and syndicate seminars and

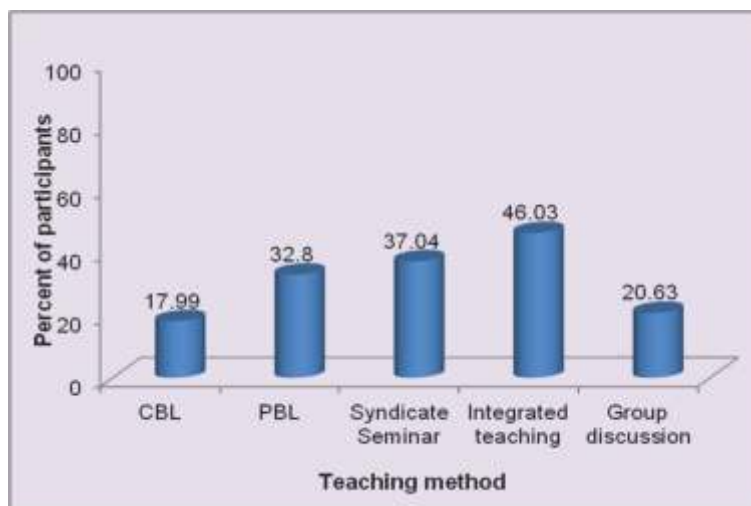


Fig. 2: Teaching Learning Activities Transferred to the Work Place

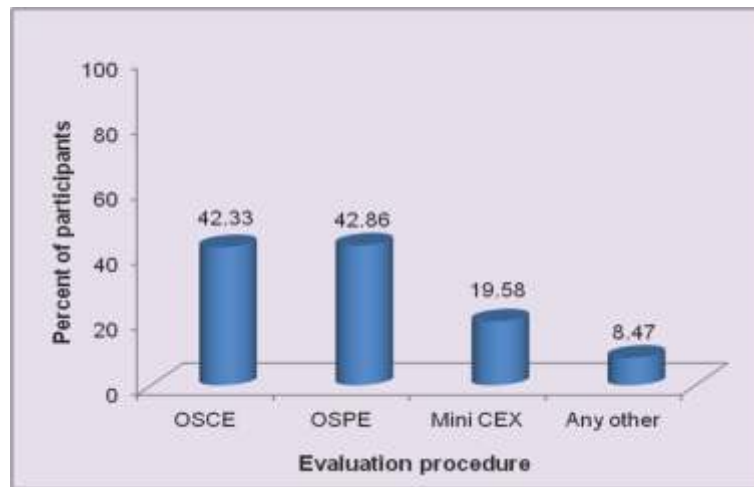


Fig. 3: Assessment Methods which were Transferred to the Work Place

faculty crunch is one of the commonest challenges for the implementation of the learnings of the NFD. The most commonly transferred assessment method was objective structured practical examination (43%) and objective structured clinical examination (42%) as these are widely discussed in detail in NFD (Fig. 3).

Useful Sessions as Predicted by Participants Vs Academic Position:

It was observed that the majority of the assistant professors found specific learning objectives, microteaching, and adult learning useful whereas professors and associate professors found feedback, question paper setting, oral viva, systems approach, AETCOM and CBME more useful.

Perception of the Teachers on the Impact of FDP on Personal/ Professional/Institutional Growth:

A significant number of teachers agreed upon more involvement in MET activities (73%) and organizing institutional/ departmental educational activities (63%). As many as 80% teachers felt to have become more confident and as per 93% felt

that they improved presentation and teaching skills. About two third of the teachers were of the opinion that NFD leads to professional development (67%), improved leadership skills (67%) and improved organizational skills (60%). A sizable number (67%) of the teachers felt that institutes are benefitted by FDP.

Discussion:

To the best of our knowledge no such study of this magnitude has been reported in the recent past where evaluation of MCI NFD is studied. There have been reports of smaller studies at some institutes describing medical education in India. Hence, the need for NFD and evaluation of the NFD. The NFD is meant for the individual growth of a medical teacher transforming him/her into a change agent who would be capable of changing teaching learning practices at the workplace, taking the standards of medical education to a higher level producing competent health professionals who will be efficient locally as well as globally. In short, NFD has long term implications, nationwide and global.

In one of the review articles on “evaluation of medical education unit trained teachers by learners” authors recommended to evaluate these training workshops for the improvement of the teaching skills of the teachers, since learners are the main stakeholders of such training sessions” [10]. Joshi and Vyas highlighted that biggest challenges in implementation were hierarchical, administrative and infrastructure related issues in addition to faculty crunch, constraints of time and already existing heavy departmental workload [11]. Gupta and Omar reported that MEUs were deficient in infrastructure and both human and physical resources [12]. Priya Chandran *et al.* also mentioned that challenges in implementation were resistance from the superiors and colleagues [9]. Nagdeo *et al.* found maximum benefits to the participants were in the areas of Specific Learning Objectives (SLO) and interactive teaching [13].

Operational Utility of the NFDPP:

The training of medical teachers in the NFDPP of MCI is linked with implementation of CBME and will also facilitate accreditation of health professional institutes in India in near future and hence operational utility of the NFDPP needs to be discussed under these two headings.

NFDPP and its Link with CBME:

MCI New Delhi has implemented CBME with the incorporation of AETCOM module in all phases in all medical schools in India from the academic year 2019-20. For CBME implementation training of the faculty is mandatory in CISP. Unless the medical teachers are trained in basic and revised basic NFDPP, they would not be able to avail CISP. Till date not even 50% are trained under the NFDPP. This means a backlog of more than 50% teachers is required to be trained under the NFDPP in times

to come. This inevitably creates a huge and substantial 'carry forward' group in its own way.

A situation of 'backlog' and 'carry forward' is piling up in an open-ended incremental manner with passage of time with paucity of the capacity to handle the same. In the recent past number of medical schools/teachers has increased exponentially but the FDPs are not commensurate to cater to the need of this ever-increasing number of teachers due to opening of new medical schools and also augmentation in the existing annual intake of medical colleges in India. NFDPP under the aegis of MCI as such in the said context has turned out to be governed by law of 'tapering returns' which otherwise should be governed by the law of 'growing returns' or at least 'proportionate returns' but in no case by the law of 'diminishing returns'. Till date a comprehensive outcome analysis report on NFDPP is not available. Distribution of trained faculty is also unequal. A majority belong to Southern or Western India for the obvious reason that greater number of MCI Nodal and Regional Centres for NFDPP are located in the said parts of the country. Most of the trained faculty is from the medical schools under private sector as against the medical schools under public sectors for the obvious reasons of promotional support on the said count.

An ACME is being conducted by the MCI Nodal Centres is also a victim of unequal distribution of the trained personnel for the very similar reasons as applicable to revised basic medical education workshop. Utility and effectiveness of advanced course in medical education is also not on record for want of required studies on the said count. In view of the aforesaid ground realities it is inevitably imperative to work out effectiveness and utility of NFDPP under the aegis of MCI.

NFDP and its Relation to Accreditation Status of Medical Schools in India:

India is a signatory to World Federation of Medical Education (WFME) regulations since 2003 which mandates that medical schools that would not be accredited by the end of July of 2023 shall not find a place in the “Directory of Medical Schools” formulated by WHO [14]. India approximately has well over 591 medical schools out of a total of well over 2600 medical schools located globally. The present accreditation status of the medical schools in India is not even 10% of its total number as accreditation is discretionary in terms of the governing policy and is not linked with any incentives or gains except for value addition. Accreditation of the Indian medical schools will invariably have a global impact on the health education in its entirety. The teachers are trained and oriented under the competency-based curriculum FDP to enable them to handle and dispense the competency-based curriculum notified and operationalized by the MCI in all the medical schools from the academic year 2019-20. To summarise,

Recommendations (A Way Forward):

In this study, impact analysis of NFDP of MCI with reference to its impact, operational utility and effectivity has been studied.

In terms of the observations and findings thereto, it is proposed that certain modifications at three levels are warranted in the said program.

- Structural Modifications
- Operational Modifications
- Conceptual Modifications

Structural Modifications:

A standing mechanism needs to be created at an apical level to bring timely structural modifications

in the ongoing program to be percolated down for its operational execution by all the medical education units or the departments in medical schools in the country.

Likewise, an apical monitoring mechanism for the ongoing program including assessing the effective implementation thereto needs to be created by an appropriate policy decision.

Operational Modifications:

A meaningful structured coordination at the various levels namely the institutional level, the level of the regional / nodal centres and the apical coordinating level needs to be worked out in an operational mode vide structured mechanism thereto which would be binding in regard to their diligent execution and reporting thereto with periodicity of the reporting prescribed and shortcomings, inadequacies of any and all types are timely dealt to evoke operational optimal outcome based functioning.

Conceptual Modifications:

The NFDP in terms of the prescribed policy should be made mandatory for all medical teachers at the point of entry, and also with the placement and promotion of the medical teacher in every medical school in the country. It should be mandated by a policy directive that every medical teacher will have to undergo revised course in basic medical education under the aegis of NFDP every five years. The aforesaid requirement should be incorporated explicitly in the governing regulations on graduate medical education regulation and also in the regulations in minimum standard requirements for the corresponding annual intake in the medical school by the regulatory authority. Accreditation should be made mandatory by the prescribed policy by the regulatory body through

an autonomous accreditation board created for the said purpose to make an outcome-based assessment. The accreditation vides a definite directed policy should be linked with added incentives accruable to an accredited medical school so as to promote the said cause. The medical education units in each medical school should be directed to be upgraded to the level of medical education department through an appropriate policy frame.

Medical education should be evoked as a subject with worked out competencies in the competency-based mode in various phases of medical education with worked out assessment thereto on the similar basis as has been worked out for AETCOM Module. Medical education as a subject be designated as a career for full time teaching faculty in medical schools on parity as medical teachers for any other prescribed subject. The required eligibility qualification for recruitment, placement, and promotion of fulltime teaching faculty in the subject of medical education should be prescribed under the regulations on teacher's eligibility qualification by the apical regulatory council. The scope and extent of advance course in medical education should be broadened for wider ambit and coverage in the first phase and then to be converted into a full-fledged postgraduate medical education course by incorporation as an added entry into the list of subjects in the regulation on postgraduate medical education by the apical regulatory authority. By an appropriate policy regulation research in medical education should be promoted. To begin with permitting 50% of the requirement of research publications in indexed journals as a part of promotion of the teaching faculty to be covered by publications in medical education. It be set out in the objectives of medical education itself

vide an appropriate policy declaration to the effect that 'evidence based medical education is sine-qua-non' for healthcare delivery system.

Floor Level Operation (at the Institutional Level):

Teaching, training and learning should be an ongoing/continuous process in any medical school and evidence needs to be generated on the said count by promoting educational research amongst the teachers for the dissemination of the information through appropriate and needed incentives.

Ensuring diligent implementation of the policy frames notified from time to time by working out periodic compliances thereto and reported to the concerned authorities from time to time.

Managerial Operation:

The director/coordinator of the MEU should be made accountable to ensure the diligent and faithful implementation of the NFDPP and submit periodic report to the concerned authorities for its assessment and evaluation. The dispensations on the required count should be a listed item in the agenda for consideration of the college council headed by its dean at its monthly meeting and assessment outcome thereto if any should be timely implemented and reports on implementation thereto should be reflected in the annual report on the required count.

Limitations:

The study has been limited to one Nodal centre of MCI to study the analysis of the NFDPP with reference to impact, operational utility and effectivity. Recommendations/suggestions represent to view point of a small proportion (sample) of the medical teachers in 591 medical schools across the nation.

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