

PG Certificate in Medical Management of CBRNE Disasters Programme

Developed under an MoC Between

Indira Gandhi National Open University (IGNOU) And Institute of Nuclear Medicine and Allied Sciences (INMAS)



Monitoring Report

PG Certificate in Medical Management of CBRNE Disasters Programme

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Acknowledgement

Acknowledgement

We express our sincere thanks to Prof. Nageshwar Rao, Vice Chancellor, IGNOU for continuously supporting this programme and constant guidance on various aspects of the programme.

We are grateful to DGLS, DRDO for his vision for developing a programme for training Medical Professional in CBRNE through Open and Distance Mode. We thank Director INMAS, DRDO for advising us from time to time for improving the implementation of the programme.

We express our gratitude to Director DRDE, DCIDS IDS, DG DGAFMS, Director Medical CAPF for bestowing trust in us for offering the programme and their continuous inputs for improvising the programme package and delivery mechanisms.

We also express our thanks to the Directors of the Learner Support Centres for housing the programme and constant motivation and suggestions to the Programme Incharges and Coordinators for improving the programme delivery.

We express our sincere gratitude to all Students, Programme in charges, Counsellors Subject Coordinators, Subject Experts and also the Drop Out students who provided valuable feedback for the report.

We have been supported by the various divisions of IGNOU including Student Registration Division, Student Evaluation Division, Regional Services Division, Material Planning and Distribution Division, Electronic Media Production Division and Regional Directors for providing important information to help us complete the report.

We express our sincere thanks to Director, SOHS and Director, STRIDE for their direction in suggestions for the feedback collection for the programme.

We are grateful for the secretarial assistance provided by Mr. Dinesh Chand, who assisted in the typing and report preparation work.

Programme Coordinators

Foreward

- 1. It is a matter of great satisfaction that the 'PG Certificate in Medical Management of CBRNE Disasters Programme' developed under the MOC between IGNOU and INMAS with active support of IDS and CAPF has been launched.
- 2. The present curriculum addresses three very important needs which had been felt for a long time. These include Standardisation and uniformity of CBRN training curriculum at training establishments, Integration of civil-military CBRN training and emphasis on simulation based training.
- 3. For first time CBRNE which stands for 'Chemical Biological, Radiological, Nuclear and Explosive' has been addressed in totality. This programme also makes it clear that it is meant for medical personnel who will be trained in medical management of CBRNE causalities. This programme very clearly delineates the role of medical personnel from the first responders at the time of CBRNE disasters.
- 4. Suggestions for further improvement: As the programme has just been launched, it will take a few years for the process to be stabilised. It is only at that time that one could talk about the suggestions for further improvements. However as shown by the recent COVID 19 pandemic, the management related to biological agents may find a greater place in future courses. Creation of employment opportunities for civil doctors who have undergone this course will further enhance the utility of the programme.
- The programme is going to become more and more relevant as the non state actors as well as the states which openly harbour and launch terrorists are a sad reality of the day. Current COVID Pandemic further emphasises the need for an international collaborative effort to address the issues related to CBRNE disasters including their prevention and management.

Air Mshl Daljit Singh VSM DGMS (Army)

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Foreward

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Foreward

The current program on CBRN preparedness is of high relevance to the nation. With the advent of modern technology, security of the civil institutions are at stake from chemical, biological and radiological contaminants. Professionally trained scholars can play a vital role in the development and production of 'technologies' and 'systems' for mitigating the chem bio emergencies. Program launched by the IGNOU will proved to be a milestone in the preparing trained professionals, current curriculum is aptly designed to meet the requirement and may be continued.

In case of CBRN emergency preparedness, practicals and / or practical demonstrations are essential to understand the principles, theories and practicalities (including limitaions and virtues) of mitigation technologies. It is suggested to incorporate the practicals for each aspect of this curriculum.

Dr. D. K Dubey

Former Director Defence R & D Establishment (DRDE), Gwalior •••

Foreward

It is a wonderful effort of a group of experts from IGNOU, DRDO, MAHE Manipal, DRDE, all the Defence forces and CAPFs in developing this unique course under the coordinating efforts of Prof. Ruchika Kuba . A great achievement in that ,all the Officers participated over years to make the Course possible. The best thing is that all the Stakeholders sat down with the Domain experts to finalise the Syllabus and the Course material. The pandemic challenged the delivery of the Course however required changes were made to improve the delivery, even in the pandemic scenario. The Course will be evolving over the years with all the stake holders continuing to participate in improving it.. There have been many short courses on this Subject, but it is probably first structured course , We have been immensely benefited with spontaneous encouragement by AVM Daljit Singh, Maj Gen A.N.Bharadwaj, Dr Aseem Bhatnagar Addl Director INMAS, officials of DGAFMS and all the Officers of participating organisations.

Dr Subrata Chakravarty, DIG and Former ADG CAPF

Foreward

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Executive Summary

IGNOU and INMAS under an MOC and with active support of Integrated Defence Services (IDS), Medical Branch, DRDE and CAPF, developed a six months Post graduate Certificate in Medical Management of Chemical Biological Radiological Nuclear and Explosive (CBRNE) Disasters programme of 16 credits, for Medical Doctors with Indian citizenship through Open and Distance Education learning Mode. Experts from various organisations like INMAS DRDO, IGNOU, DRDE, AFMC, CME Pune, experts from armed forces, NDMA, AIIMS Delhi, Safdarjung Hospital, Manipal University were involved.

The programme was launched in July 2020 with 54 students admitted as the pilot batch in one of the four Learner Support Centres – AIIMS Jodhpur, AIIMS Bhopal, AIIMS Rishikesh and NIMS Hyderabad. The age of the enrolled students varied from 27 years to 63 years and were mainly MBBS doctors with 19 (35%) having a post graduation. 11 were from armed forces and 5 sponsored by CAPF. Seven were factory medical officers. Seven of the students had undergone at least one training programme in CBRN organised by organisations like AMC training college Lucknow, CME Pune, IDS Medical, Narora Atomic Power Station and BARC Mumbai. The counsellors were senior faculty members in the medical colleges of AIIMS Jodhpur, AIIMS Bhopal, AIIMS Rishikesh and NIMS Hyderabad from departments of nuclear medicine, microbiology, community medicine, biochemistry, medicine and senior scientists from INMAS and DRDE.

The programme consists of two theory courses of 4 and 6 credits respectively and 6 credits practical course. (1 credit is equivalent to 30 hours of learning time of an average student). The programme package includes hard and soft copies of customized self-learning material, online and face to face counselling sessions, video recordings of the online classes and assessments for theory and practical courses. All the resources and information were made available to them through a web portal. At the end of the programme, the students were required to clear term end examination for both the theory as well as practical courses with a minimum of 50 % pass percentage to be declared successful.

Executive Summary

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Although 34 (63%) students submitted their assignments for both MME 011 and MME 012 theory courses, two submitted only for MME 011. Twenty seven students appeared for Term End Theory Examination, both for MME 011 and MME 012 and only two failed in the MME 012 examination. Twenty five (46%) students appeared in the Term End Practical Examination and all were successful.

Feedback was obtained from various stake holders including students, counsellors, programme in charges, course writers, course and block editors, drop out students and the various divisions and centres of IGNOU involved in the implementation of the programme.

Forty two students responded to the feedback questionnaire. Of the remaining 12, 8 filled in the form for the drop outs. No feedback could be obtained from only 4 students. 83% (25/30) of the counsellors 43 % (17/39) of course writers and editors and all the Regional Directors responded to the semi structured questionnaires shared with them through google forms. The objectives of the programme were felt to have been achieved by almost all the students and counsellors. Course material was appreciated for its relevance, clarity, language and understanding by course writers and editors, students as well as the counsellors. Suggestions were received to club the topics of Radiology, biology and Chemical as separate books respectively.

The theory counselling sessions were found to be adequate although it was felt by most of the students and counsellors that few sessions if taken face to face would be useful. Practical counselling sessions were felt to be useful and the feedback was that both online and face to face counselling sessions were helpful for the students to learn the skills. Suggestions were made to increase the number of face-to-face contact sessions especially where hands on training by the students could be done. Few more skills to be included in the practical syllabus was recommended. Video recordings of lectures were found to be very useful.

Majority of the counsellors and students felt that pre lecture assessment provided motivation to prepare before the lectures and post lecture assessment a guide for self-assessment.

The main reason for missing the classes and drop out was due to duty commitments and not getting leave. Few of the students also experienced some net connectivity issues.

The assignments, papers of the theory term end Examination were found to be easy by students and for the practical examination, the examiners felt that most of the students fared well.

The programme has been well appreciated by all the stakeholders.

Introduction

Rationale

PG Certificate in Medical Management of CBRNE Disasters Programme has been developed under the MOC between IGNOU and INMAS with active support of IDS (medical), DRDE and CAPF for medical doctors. The programme was launched in July 2020 through IGNOU Platform as an Open and Distance Learning Programme. Since this is the first Certified programme in the area of CBRNE, feedback was obtained from multiple stakeholders involved in the planning, development and delivery of the programme, as part of the monitoring strategy and the same compiled in the form of a report.

Objectives

The objectives of the monitoring study are to:

- assess if the objectives for the programme have been achieved;
- evaluate the quality of the course materials prepared;
- determine the appropriateness of the competencies outlined for the programme;
- work out the best delivery strategies for the counselling sessions;
- ascertain the evaluation methodology for the formative and summative assessments;
- modify the course content, implementation model and evaluation strategies as and where required.

Methodology

Research Design

Descriptive research method has been used.

Population

The following stakeholders used as population for preparing this report:

Chapter 1 Introduction

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Slno	Stakeholders	Nos of stakeholders involved
(i)	Course Writers and Editors	39
(ii)	Programme In-charges and Counsellors	31
(iii)	Students	54
(iv)	Regional Directors	4

Sample

The entire population has been considered as sample for this study. The following number of responses has been received from the various stakeholders:

17 Course Writers and Editors, 25 Programme In-charges and Counsellors; 42 Students (filled feedback form), 8 filled the Drop outs form since no responses was obtained on feedback form after repeated requests; 4 regional directors were considered for this study.

Parameters Considered

Monitoring of the various parameters was undertaken. These are enumerated below:

- (i) Outcome objectives of the programme
- (ii) Quality of the course material
- (iii) Quality of theory and practical counselling sessions
- (iv) Formative and summative assessment methodologies
- (v) Face to face training sessions
- (vi) Theory term end examination
- (vii) Practical term end examination
- (viii) Administrative support

Data Collection

Google forms were used to collect feedback data from the stakeholders. Data collection was carried out as a continuous process as soon as the admissions of the students was finalized. Data was also obtained from the various divisions of IGNOU – Student Registration Division, Student Evaluation Division, Material Production and Distribution Division, Regional Services Division, Electronic Media and Production Division.

Statistical Tools

MS-EXCEL has been used to develop charts and graphs and MS-WORD has been used to write the monitoring report.

Limitation of the study

The study has been conducted through feedback taken on semi structured questionnaires delivered through google forms and email. No face to face interviews could be held due to the COVID pandemic. The feedback related to the first batch only was taken so that the results could be collated and applied on the subsequent batches.

About Programme

Development of Programme

INMAS (DRDO) officials presented their proposals for offering specialized technical programmes to cater to the needs of officials of armed forces as well as civilians, in the first meeting of Inter – school Group for industry interactions tie-ups and NSQF compliance in January 2018.

An MOC was signed between IGNOU and INMAS (DRDO) to achieve this objective on 21st May 2018. A Joint Monitoring and Coordination Committee was constituted under this MOC with Vice Chancellor IGNOU as Chairman, Director INMAS as Co Chairman and two officials each from INMAS and IGNOU as the members. The Committee was notified on 25th September 2018 with the responsibility of overall administration and implementation of the MOC. It was planned to jointly develop a of PG Certificate in Medical Management of CBRNE Disasters Programme under this MOC and launch it through ODL mode. A core group was constituted for overall monitoring, development and implementation of the programme.



Chapter 2

About Programme

An Expert Committee Meeting for the programme was held on 21st August 2018 to finalise the programme admission criteria, development and implementation modalities. The members of this committee were from various organisations like CAPF, AFMC, IDS (Med), Red cross, CBRN (PP), NIDM, NDMA, Safdarjung Hospital, Jamia Hamdard, Manipal University etc. After much deliberations the Committee recommended a 6 months PG Certificate programme in Medical Management of CBRNE Disasters to be developed for medical doctors. The admission criteria, course syllabus, programme package, modalities for implementation and evaluation were worked out.



A script writers workshop was organized in Electronic Media Production Centre (EMPC), IGNOU on 15th and 16th January 2019 and a follow up workshop on 28th to 30th January 2019. for the subject experts involved in the course preparation to learn to write academic notes, scripts and participate in video preparation. A total of ten experts participated in the meeting.

The programme design and delivery mechanisms were further fine-tuned in a series of Core Group Meeting.

The core group also decided the names of course writers and editors. The Course Material was prepared as per IGNOU guidelines. The material was also vetted by Course editors. It was composed and printed in January 2020.

All the phase forms and approvals for the development and launch for the programme were as per the guidelines and requirements. An Orientation Training programme was organized in INMAS from 26^{th} 29th November to November 2019 for orienting the Academic counsellors of the PGCMDM programme to the teaching learning strategies in the Open and Distance Learning System and the methodology of conduction of the theory and practical counselling at the centres (learner support centres) where the students will be attached for training.



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Ten experts from IGNOU, INMAS, DRDE, Manipal and IDS were the resource persons for the training programme. Sixteen counsellors from AIIMS Bhopal, AIIMS Rishikesh and AIIMS Jodhpur attended the orientation training programme.

The practical course material for the students and counsellors was finalized and detailed work plans of the practicals to be conducted were formulated during the workshop. Evaluation strategies were also discussed and finalized.

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Programme Details

About the Programme

Post Graduate Certificate in Medical Management of CBRNE disaster programme (PGCMDM) of is 6 months duration with the flexibility available to the students to complete the programme in a maximum period of 2 years. The target group is MBBS doctors with Indian Citizenship. This programme was specially designed to improve the skill of medical professionals in medical management of CBRNE disasters. In this course, the knowledge was imparted through Self-learning Material written by subject experts from all over the country, who shared their experiences about their own cases with the students.

Intended Learning outcomes

After completing this programme, you shall be able to -

- comprehend the parameters, enormity and complexity of CBRNE threat from a medical perspective
- describe the impact of chemical, radiological, biological, explosive and nuclear agents on human health
- assess the health effects of a CBRNE scenario using external and internal assessment tools
- discuss regarding the medical counter measures, detection equipment and SOPs of medical management of CBRNE impacts.
- deliver first aid and initiate immediate life-saving responses
- develop competencies on protection, mitigation and medical management of CBRNE casualties
- get sensitized about the current R&D initiatives and future directions.

Chapter 3 ••• Programme Details

Admission Procedure

The admissions are made twice a year. The admission to the programme is through the common prospectus of IGNOU for all programmes. Students are selected on the basis of a merit list prepared on the basis of final MBBS marks. In case of tie, the older candidate is selected. The students are allotted the learner support centre based on their choice and availability of seat. For the first batch the students applied through offline mode, however from the second batch onwards, i.e. January 2021 admissions have been made through an online application form. After checking for eligibility and allotment of centre, the students are required to pay the admission fees.

Number of Seats

The maximum number of seats allotted to each learner support centre is 30.

Academic Session

The Programme commenced from January/July of every year.

Eligibility

The eligibility criteria is MBBS doctors from MCI required colleges and Indian citizens.

Age of Admission

There is no maximum age limit.

Duration of the Programme

The minimum duration of the programme is 6 months. However, the students can complete the programme within 2 years from the date of registration.

Course Fee

The course fee for the pilot batch is Rs. 5,500/- plus registration fee of Rs. 400/-.

Medium of Instruction

The medium of instruction for this programme was English.

Programme Structure

The PGCMDM programme consisted of three courses. There are two theory courses and one practical course.

The courses have been designed on the basis of learning hours required by an average student. The design of the PGCMDM programme in terms of credit distribution of the courses is shown below:

Course Code	Title	Credits
MME 011	CBRNE Threats and Agents	4
	Block 1 – Introduction to CBRNE threats	
	Unit – 1 – Understanding chemical and explosive threats	
	Unit – 2 – Understanding radiological and nuclear threats	
	Unit – 3 – Understanding biological threats	
	Block 2 – Basics of Radiological Agents	
	Unit – 1 – Characteristics of Radioactivity and Radiation	

Detailed Programme Design

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	Unit -2 – Diagnostic and forensic tools in nuclear and	
	radiological attack	
	Unit – 3 – Epidemiological considerations and case studies	
	Unit – 4 – Elements of preparedness	
	Block 3 –Basics of chemical / industrial disaster agents	
	and new age explosives	
	Unit –1 –Characteristics of chemical / industrial disaster	
	agents	
	Unit-2 –Diagnostic and forensic tools in chemical /	
	industrial attack / incident	
	Unit -3 –Epidemiological considerations and case studies	
	Unit –4 –Elements of preparedness	
	Unit –5 –Elements of preparedness and current doctrine in	
	early medical management of new age explosives	
	Block 4 – Basics of Biological agents	
	Unit –1–Characteristics of a biological warfare agent	
	Unit-2 –Diagnostic and forensic tools in biological	
	attack/incident	
	Unit -3 –Epidemiological considerations and case studies	
	Unit – 4 – Elements of preparedness	
MME 012	Health effects and Medical Management of CBRNE	6
	Agents	
	Block – 1 – Effect of nuclear and radiological agents on	
	human health	
	Unit -1 – Acute and chronic effects of ionizing radiation	
	Unit – 2 – Contamination in different scenarios	
	Block – 2 – Medical Management of Radiation & Nuclear	
	injuries	
	Unit -1 – Hospital Preparedness	
	Unit -2 – Radioactivity decontamination, decorporation&	
	protection	
	Dial - 5 - Patient management	
	Block - 3 - Health effects of chemical agents	
	Unit – 1 – Health effects of chemical warfare agents (main-	
	Unit 2 Health effects of chemical agents (other than	
	nerve gas and mustard)	
	Unit $= 3 =$ Health effects of Industrial hazardous chemicals	
	$Block_4 - Medical management of chemical threats and$	
	new age explosives	
	Unit -1 – Medical management of chemical agents I	
	Unit $-2 - $ Medical management of chemical agents II	
	2 meaneur management of enemieur agents ff	
	Unit – 3 – Current doctrine in medical management of new	
	Unit – 3 – Current doctrine in medical management of new age explosives	
	Unit – 3 – Current doctrine in medical management of new age explosives Block – 5 –Health effects and medical management of	

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Unit – 1 – Virus	
Unit – 2 – Bacteria	
Unit – 3 – Toxins	
Unit – 4 – Agroterrorism and Veterinary Terrorism	
Block – 6 – Approach to investigate and manage a	
CBRNE attack	
Unit –1– Approach to investigate an unknown radiologica	1
& Nuclear attack and macro management of the	
emergency	
Unit -2 – Aftermath of a CBRNE disaster	
Unit -3 – Response to Chemical weapon incident	
Unit -4 – Approach to investigate and manage an	
unknown biological entity and macro	
management of the emergency	

PRACTICAL COURSES

Course Code	Title	Credits
MMEL 013	Practical Aspects of CBRNE	6
	Practical Manual 1(Radiology) and Logbook	
	Practical Manual 2 (Chemical) and Logbook	
	Practical Manual 3 (Biology) and Logbook	

Implementation Plan

The programme is being implemented through a network of Learner Support Centres (LSC), with a maximum intake of 30 students each. A team of trained teachers called academic counsellors are identified and trained for providing academic counselling, assignment and term-end evaluation in the Learner Support Centres.

The administrative control is through the Regional Centres (RCs) of IGNOU located usually at state capitals in India and the School of Health Sciences (SOHS) located at the IGNOU Headquarters, Delhi, India.

Monitoring of the implementation is an important component to ensure quality and any changes are approved by the core group of the programme.

As per original plan, the counselling was be undertaken in two centres:

- a. INMAS Delhi where all students were required to go for the 1st phase of counselling. There was scheduled to be a theory counselling for two days and a practical counselling for 8 days.
- b. Learner support centre The students were to be attached to their respective learner support centres for theory counselling sessions for one day and practical counselling for four days. The counselling session was to be followed by Practical term end examination.

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However due to COVID 19, a modified contact session plan was prepared and implemented after approval of the competent authorities. As per the modified plan, all the theory counselling sessions and most of the practical counselling sessions involving the demonstration and discussion among the students were taken through web conferencing using google meet and few of the face-to-face sessions were conducted at the learner support centre for hands on skill training. This was followed by the practical term end examination in the respective learner support centres.

Evaluation

Evaluation is to be conducted for both theory and practical courses. Each component has a term-end and internal assessment. For the theory courses 30% of weightage is reserved for internal assessment and 70% for term end theory whereas in the practical course 50% weightage is reserved for both internal assessment as well as practical term end exam. Student must secure a minimum of 50% marks separately in internal assessment and term-end of theory and practical of each course to successfully clear the component.

The theory term end examination papers are subjective in nature and for a duration of 3 hours each. For the practical course the students are to be provided with scenarios in each of the radiology, biology and chemical component, a photo quiz, an instrument quiz and a grand viva. For the practical examination one internal and one external examiner has to be present. An observer each from INMAS and IGNOU would be present for the examination.

Some modifications had to be done due to COVID 19. The internal assessment of the practical course was divided into online and face to face component. The online assessment would have a weightage of 30 marks and the face to face a weightage of 20 marks. The external examiners were not allowed to travel and the examination was conducted with the students physically attending at the examination centre and the external and observers connecting online.

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Implementation of PGCMDM JULY 2020 BATCH

Admissions

The programme was advertised in the National Dallies and on IGNOU Website along with the other programmes of IGNOU in the month of May 2020. The students were required to download and fill the common admission form giving their option for the learner support centres in order of their preference.

54 learners were admitted for the July 2020 session. Admissions were delayed due to the COVID pandemic and closed on 30th September 2020.

The learners were distributed in the four Learner support Centres based on their preference and availability of seats. All the learners got the centre of their first choice. The distribution of the learners is provided in **Table 1**

Table 1: Regional centre and Learner support Centre wise distribution of learners based upon admissions in respective respective programme study centres

respective		programme study centres		163
Regional Centre	RC Code	Learner support Centre	Frequency	Percentage
Hyderabad	1	NIMS Hyderabad	14	25
Jodhpur	88	AIIMS Jodhpur	11	20
Bhopal	15	AIIMS Bhopal	9	16
Dehradun	31	AIIMS Rishikesh	20	37
		Total Students	54	

Of the 54 learners who took admission, 36 were MBBS graduates, with few having some additional qualification after MBBS other than post-graduation. Eighteen learners were post-graduates in specialties like community medicine, general medicine, nuclear medicine, pediatrics,

Chapter 4

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Implementation of PGCMDM

JULY 2020 BATCH

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surgery, pathology, pharmacology and forensic medicine. Distribution of the students according to their qualification is placed in **Table 2**.

S.no	Qualification	Marks			
1.	MBBS	26			
2.	MBBS with additional qualification	8			
3.	MD Community Medicine 6				
4.	MD/DNB General Medicine	5			
5.	M.D DNB/Nuclear Medicine/Radiation Medicine	3			
6.	M.S. General Surgery	1			
7.	M.D. Paediatrics	1			
8.	M.D. Pathology	1			
9.	M.D. Pharmacology	1			
10.	M.D. Forensic Medicine	1			
	Total	54			

Table 2 Distribution of the students based on their qualification

Of the 54 learners admitted, 5 students were sponsored by CAPF, 11 were from armed forces, 7 employed as medical officers in an industry. 12 were faculty in medical colleges, while 9 were employed in private hospitals/clinics. Seven were working in Government Hospitals. Three of the students were not practicing anywhere.

The distribution of the students as per their designation is placed in **Table 3**. **Table 3**: Distribution of the students as per their designation

s.no	Designation	No. of students		
1.	Medical Officer/Sr. Medical Officer	7		
2.	Industry/Factory Medical Officer	4		
3.	Director	3		
4.	Medical Officer Armed Personnel	9		
5.	Armed Personnel Director	3		
6.	Jr. Resident/Sr. Resident	8		
7.	CAPF	5		
8.	Consultant Medical College	6		
9.	Consultant Hospital	5		

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10.	Not employed	3
	Total	54

Provision of the course material

Although the Course Material was available in IGNOU stores since January 2020, but, it could not be made available immediately to the students, due to the COVID 19, when all postal services were on hold. Hence a dedicated web portal was created and the soft copy of the material was placed on the web portal for all the learners to access immediately after the admission. As had been decided in the core group meetings, the material could only be read and not downloaded. Hard copy of the course material was dispatched from the material distribution division of IGNOU to the students directly and reached them by November 2020.

The practical course material was not printed, since it was expected that the content was likely to be modified after the pilot run. The soft copies of the course material of the individual counselling sessions were provided before the respective counselling sessions.

Assignments

The programme has one assignment for each of the theory courses. The assignments were shared with the students through email as well as placed on the Web Portal for easy location and access. Assignments for both the theory courses were received from 34 students, two students gave the assignment only for one course – MME 011. The last date for assignment submission was 31^{st} December within which most of the assignments were received from all the students except two who submitted in January after extension of the date.

Implementation of theory counselling sessions

Eight theory counselling sessions were taken through web conferencing mode using google meet platform. The details of the theory counselling sessions with dates, experts and number of students who attended the theory counselling sessions is provided in **Table 4**.

Table 4: Details of the Theory Counselling Sessions for PGCMDM programme for July2020 batch

Post lecture assessments were administered through google forms immediately after the lectures to get feedback on the level of knowledge of the students regarding the topics.

Date of Counselling	time	Торіс	Name of Expert	Number of students who attended the sessions online
24 th October 2020	6 to 8 pm	CW agents - General Characteristics	Dr. K. Ganesan	38
21 st November 2020	3 to 5 pm	Characteristics of Biological agents and their epidemiological considerations	Dr. Pankaj	33
28 th November 2020	3 to 5 pm	Basics of radiation and diagnostic tools in Nuclear and Radiological attack	Dr. Aruna kaushik	44
30 th November 2020	6 to 8 pm	Detection & Identification of CW Agents	Dr. J. Acharya	42
12 th December 2020	6 to 8 pm	Preparedness for Radiological/Nuclear disasters	Dr. Aseem Bhatnagar	30
19 th December 2020	6 to 8pm	Contamination, decontamination and decorporation (Radiological/Nuclear)	Dr. Dhruv	32
5 th February 2020	3 to 5 pm	Agroterrorism	Dr. Mudassar	16
5 th February 2021	5 to 7 pm	Medical management of chemical casualities evacuation and decontamination	By Dr. K Ganesan	16

Online Practical Demonstration/and Discussion Sessions

40 Online classes of about two hours duration were held for the various practical skills. The details of the classes are given in the **Table 5**.

Table 5: Details of Practical Counselling sessions

SI. No.	Date	Time	Name of practical	Area	Name of counsellor	Institution	No of students
							attended

1.	28 th Dec	6 to 8	Dispersal of chemical agents in the environment	Chemical	Dr. B N Acharya	DRDE	37
2.	30 th Dec	3 to 4	Decontamination technology of surfaces and humans	Biology	Dr.Mathuria	AIIMS Rishikesh	29
3.	30 th Dec 2020	4 to 6	Early Warning signals, Syndromic Surveillance	Biology	Dr. Akhil	AIIMS Jodhpur	38
4.	11 th Jan	4 to 6	Correct usage of detection equipment , data creation and result interpretation	Correct usage of detection Radiology Dr. Madhur equipment , data creation and result interpretation		NIMS Hyderabad a	39
5.	11 th Jan	6 to 8	Detection of suspected hidden radiations source and ''neutralizing'' it	Detection of suspected Radiology Dr.Manishi hidden radiations source and ''neutralizing'' it		AIIMS Rishikesh INMAS	36
6.	14 th Jan	3 to 5	Principle of Shielding and Alara	Radiology	Dr. Madhur	NIMS Hyderabad a	39
7.	14 th Jan	5 to 6	Radioactive Spill and Radioactive Wound Management	Radiology	Dr. Sameer	AIIMS Jodhpur	28
8.	14 th Jan	6 to 7	Mock drill of high calibre spill and its management	Radiology	Dr. Sameer	AIIMS Jodhpur	28
9.	15 th Jan	3 to 5	Simulated Demo of Acute Radiation Syndrome	Radiology	Dr.Saikat Das	AIIMS Bhopal	25
10	15 th Jan	5 to 7	Clinical presentation of acute Radiations syndromes	Radiology	Dr.Suruchi Jain	AIIMS Bhopal	25
11	16 th Jan	6 to 7.30	Simulants and detectors for CWQ	Chemical	Dr. J Acharya	DRDE	30
12	16 th Jan	7.30 to 9	Decontamination for CWA	Chemical	Dr. J Acharya	DRDE	30
13	19 th Jan	3 to 5	Interaction of gamma energy ray beam in human body /matter	Radiology	Dr.Manishi	AIIMS Rishikesh	25
14	19 th Jan	5 to 7	Dealing with radioactive patients	Radiology	Dr.Suruchi Jain	AIIMS Bhopal	29
15	20 th Jan	3 to 5	Ring vaccination technology	Biology	Dr.Vartika	AIIMS Rishikesh	30
16	20 th Jan	5 to 7	IPEs and Donning and Undonning exercise and ario specific standard precautions	Biology	Dr.Pratima Gupta	AIIMS Rishikesh	30
17	21 st Jan	.3 to 5	Triage strategies	Radiology	Dr.Saikat Das	AIIMS Bhopal	24
18	21 st Jan	5 to 7 pm	Outbreak Vs attack (when should QMRT will respond)	Biology	Dr. Manoj	AIIMS Jodhpur	26

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19	22 nd Jan	3 to 5	Radiation quantification and radiation spectroscopy	Radiology	Dr.Aruna	INMAS	27
			Data Interpretation & Data Management of High end Equipment				
			Observation visits to facilities dealing with high end radioactivity				
20	23 rd Jan 2021	6 to 8	NBC suits and canister changing	NBC suits and canister changingChemical SahooDr. Manoj Sahoo		DRDE	30
21	27 th Jan	3 to 4	Water treatment strategy(field condition)	Biology	Dr.Vartika	AIIMS Rishikesh	27
22	27 th Jan	4 to 5	Water testing for the community (field condition)	Biology	Dr. Pratima	AIIMS Rishikesh	28
23.	28 th Jan	3 to 4	On spot QC of IPE	Biology	Dr. Sukanya	NIMS Hyderabad	28
24.	28.01.20 21	4 to 5	Modelling to decide when to give Chemoprophylaxis, whom to give		Dr.Neelima	NIMS Hyderabad	27
25.	29 th Jan	3-4	Waste Management in Field & Hospital	radiology	Dr M Popli	INMAS	28
26.	29 th Jan	4-5	Creating Isolation Space	Biology	Dr. Suman Saurabh	AIIMS Jodhpur	27
27.	29th Jan.	5 to 7 pm	Choice of sample based on scenarios and syndromes	Biology	Dr.Mathuria	AIIMS Rishikesh	29
28.	30 th Jan	4 to 5	Detection technologies and interpretation of lab data for clinical decision making and BWA based on signs and symptoms	Biology	Dr.Vibhore	AIIMS Jodhpur	26
29.	30 th Jan	5 to 6	Self Care & buddy care	Chemical	Dr. Ganashan	DRDE	25
			Chemical Management of Chemical incident Correct usage of medical & decontamination kits				
30.	30 th Jan	6 to 7	Disposal of bodies in radiation/nuclear disasters	Radiology	Dr. Madhur	NIMS Hyderabad	25
31.	15 th Feb	3 to 4	Epidemiological investigations,	Chemical/ biology	Dr. Arun Kolane	AIIMS Bhopal	25

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			counselling, health education, trainings				
32.	15 th Feb	4-5	Donning & doffing of IPE, NBC medical kit & simulation of radioactive plume.	Radiology	Dr. Dhurv	DRDO	27
33.	17 th Feb	2 to 4	Triage	Chemical	Dr. Ashish Bhute	AIIMS Rishikesh	28
34.	17 th Feb	4-5	Human Decontamination technologies, radioactivity decorporation technology and potable water & clean air technologies	Radiology	Dr. Dhurv	DRDO	27
35.	18 th Feb	3 to 4	Methodology of Sample Collection (Site & Human) and Chain of Custody (CoC) and Transportation of samples	Chemical	Dr. Ashish Bhute	AIIMS Rishikesh	27
36.	18 th Feb	4 to 5	Methodology of sample collection (Human & Environment)	Biology	Dr. Biswas	AIIMS Bhopal	26
37.	18 th Feb	5 to 6	Fumigation technology	Biology	Dr. Biswas	AIIMS Bhopal	26
38.	19 th Feb	3 to 4	Disposal strategy for Dead bodies and dead animals	Chemical	Dr. Shakhawat and Dr. Vikas	AIIMS Jodhpur	25
39	19 th Feb	6 to 7	Simulation exercises & drills and Response command incidents	Chemical	Dr. B. N. Acharya	DRDE	23
40.	20 th Feb	6-8	First responder, QRT/QMRT/ medical responders	Chemical & Radiology	Mr. Kunal	Min of Labour	28

Formative assessment for the online counselling sessions

Post lecture assessments were administered through google forms for the online practical counselling sessions. These were marked assessments and carried a weightage of 30 out of 50 marks for the internal assessment of the practical course.

Face to Face Counselling sessions

Face to face counselling sessions for 5 days had been originally planned in the four LSCs. However due to COVID 19, the implementation plan had to be modified due to the restrictions on travel and social distancing measures. After discussion in the core group the approval of the revised methodology of the contact sessions was obtained from the competent authorities of IGNOU. The skills to be taken up during the contact session of one and a half day was discussed and finalized with the programme in charges in a meeting held on 19th February 2021. The skills taken in face to face session are:

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- i. Detection of suspected Hidden radiation source and neutralising it radiology
- ii. Mock drill of spills and waste management radiology, biology, chemicals
- iii. Decontamination technologies- radiology, chemical and biology
- iv. Methodology of sample collection and transportation radiology, chemical and biology
- v. Donning and doffing biology
- vi. Correct usage of detection equipment, data creation and result interpretation biology and radiology

Internal Assessment of Face-to-Face sessions

The counsellors marked the students for the face-to-face sessions taken in the LSC. Weightage for the internal assessment of the face to face sessions was kept as 20 marks out of 50 marks for the practical course.

Theory Term End Examination

The theory term end examination was held for the two theory papers on 9th February for MME 011 and 11th February for MME 012. The papers were of 3 hours duration. 26 students appeared for the examination.

Practical term end examination

The practical examination was carried out in the month of March after the counselling sessions. Due to Covid it was decided to have the external examiner participate in the examination through web conferencing. The Programme coordinator from IGNOU, Regional Director of the respective centre and coordinator from INMAS also connected for the examination through the web conferencing link as observers. The details of the Practical Term End Examination held in the four Learner support centres are placed in the **Table 6**.

 Table 6: Details of the Term End Practical Examination of the PGCMDM Programme July

 2020 batch

S.no	Name of LSC	Date of Examination	Number of Students appeared for exam	Number of students successfull y cleared the exam	Superintendent exam	External	internal
1.	AIIMS Rishikesh	10 th March	11	11	Dr. Manishi	Dr. Manju. B. Popli, Head & Additional Director, Radiological Imaging, INMAS	Dr. Pratima Gupta Dept Microbiolo gy
2.	AIIMS Bhopal	9 th March	5	5	Dr. Prof. Arun Kokane	Dr. Vibhore Tak AIIMS Jodhpur	Dr. Saikat Das Radiothera Py
3.	NIMS Hyderabad	6 th March	4	4	Dr. Madhur Srivastava		Dr. Suruchi Jain - Assistant Professor, Dept. of Nuclear

							Medicine, AIIMS, Bhopal.
4.	AIIMS Jodhpur	5 th March	6	6	Dr. Pankaj	Dr. Yoginder Mathuria Dept Microbiology AIIMS Rishikesh	Dr. Tanuj Dept of Forensic medicine
	Total			25			

The Practical Term End Examination Methodology consists of four components. The details of each component and the distribution of marks is detailed in the **Table 7.**

 Table 7: Components of Practical Term End Examination

Component		Marks per item	Total
Viva			40
Spotting Instruments	10 instruments	2	(4x5) = 20
Scenario	One each of Biology radiology chemical	8	(8x3)=24
Spotting/Picture Quiz	8 Spotter/Picture Quiz	2	(4x4)=16
		Total	100*

Stakeholders Feedback

Chapter 5 **Stakeholders Feedback** The feedback was obtained from Students, Cousnellors, Programme coordinator INMAS, Programme Coordinator IGNOU, Regional Directors, Course writers and editors. **Course Writers and Editors** There were 30 writers, 9 block editors and three course editors involved in the development of the course material for programme. Two block and one course editor had also been involved in the programme as writers. Seventeen writers /editors of the programme had responded to the feedback form. 11(64.7%) of the respondents have been associated in the capacity of Course Writers, 3 (17.6 %) as Editors and another 3 (17.6 %) as both a Writer and Editor. course writer editor Both a writer and an editor 64.7% Figure 1: Responses of Writers/editors : Capacity in which associated with the programme No of respondents: 17

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Six (54.5%) of the course writers contributed single unit (chapter), 3 (27.3%) wrote 2 units and the rest, 2 (18.2%) writers have authored more than two chapters for the programme Each of the three editors who were also involved in course writing, wrote one, two and three units respectively for the programme. Two editors edited one block each whereas one editor edited two blocks.

As per the feedback submitted

- A. All the writers and editors revised their units from one to even more than three times before finalizing the same. Plagiarism check was done by all writers and editors except one before submission of the final unit.
- B. Nine (53.9%) of the respondents strongly agreed and five (29.4%) agreed that they had been briefed about the pedagogy of curriculum design and development for programmes through an Open University where as only three (17.6%) disagreed.
- C. Eleven (64.7%) responded that they had received very good orientation to development of the course material and only 3 (17.6%) felt the orientation received was poor.
- D. All the respondents (100%) have received credit for their contributions in the course material. All of them except one had received a copy of the material containing their contributions and also received remuneration for their contributions.
- E. All the Course Writers and editors had read few units written by other course writers. While 3 (27.3%) out of the 11 course writers rated them as very good and 5 (45.5%) as good, all three editors rated it as good and very good.







- F. The editors further agreed that the learning objectives were clear, there was conceptual clarity in the content, language was comprehendible and the difficulty level as per the programme was appropriate.
- G. All the course writers and editors were willing to participate in the revision of the programme.

Students

54 students enrolled for the July 2020 session out of which 42 students provided their feedback. 25 of the students who had not completed the programme, responded that they would like to take the programme in the next session, while 3 students would not be taking the programme in the next session. The following responses were received

Objectives of the programme

All students except two responded that they were satisfied with the objectives being achieved.

Course Material

The students received the soft copy of the study material in the month of March and the hard printed copies in November. While 29 (69%) students preferred to study from both a hard and soft copy, 13 (31%) preferred only hard copy. None of the students were comfortable with using only a soft copy

The course material was rated very good by majority of the students with respect to readability (54.76%), sequencing (30.95%), organization (35.71%) and comprehension (47.62%) of the course material.



Figure 4: Response from Students : Feedback on theory course material

Assignments

34 (85%) of the students found the assignments up to the mark with respect to difficulty level and 33 (82.5%) up to mark with respect to the length. 31 (77.5%) students found the assignments useful for reinforcement and 8 (20%) found them useful for feedback.

Theory Counselling Sessions

Thirty four (81%) students attended the theory counselling sessions and 8 (19%) attended some of the sessions.

Recorded videos were an important resource for the students. Some videos were not uploaded due to the sensitive nature of the subject from security point of view.



Figure 5: Response from students: Attending theory counselling sessions

While 23 (54.8%) students preferred to have the theory counselling sessions online, 17 (40%) would prefer face to face. All the students felt that the theory counselling sessions should be an integral component of the programme, and 39 (88.1%) felt it should be compulsory while the rest felt it should be made optional.

30 (71.4%) students were able to attend all the assessments for the theory counselling sessions. Those who could not submit cited work commitments, clash of timing with work, network issues and short time available to submit the assessments as the main reasons for not attempting the assessments

Practical counselling sessions

25 (59.5%) attended all the online practical counselling sessions while 15 (35.7%) attended only a few 33 (78.6%) found the skills taught in the online practical counselling sessions to be adequate.



Figure 6: Responses of students: Practical Counselling Sessions

Online practical counselling assessments

Two types of assessments were undertaken – pre assessments and post assessments.34 (81%) students found the pre lecture assessments as a Motivation for more in depth study of the topic from course material and 16 (38.1%) found them as important yardstick of their knowledge and skill in the field. 29 (69%) felt that the pre-lecture assessments should not be marked for internal assessment

Post Lecture assessments were also found to be useful by the students from aspects like help to study for the practical examination 20(47.6%), feedback of level of knowledge and understanding 28 (66.7%) and gaining more knowledge from interaction of the post lecture assessments 24 (57.1%) during online classes.36 (85.7%) of the students felt that the post lecture assessments should be marked for internal assessment.



Figure 7: Responses of students : Post Lecture assessments

Face-to-Face Counselling

39 (92.9%) students felt that the face-to-face counselling sessions should be an integral part of the programme and should be made compulsory while 3 felt that it should be an integral part but kept optional. 21 (50%) students felt that the face-to-face contact sessions were adequate while 17 (37.8%) felt that they were not adequate while four of the candidates did not attend the face-to-face sessions. 32 (76.2%) students expressed that they would have liked to attend contact session at INMAS.

Theory Term End Examination

27 (50%) of the respondents had appeared in the theory term end examination and these respondents provided feedback. Those who could not appear was because of the inadequate preparation for exam due to duty commitments, ill health and preparation for NEET examination, busy with COVID Vaccination and a couple of the students did not get leave from duty. Most of the students were satisfied with the different components of the examination like 26 (96.3%) for duration, 20 (74.1%) for preparation, 27 (100%) for syllabus covered and 21(77.8%), for provision



of the stationery for examination. Almost an equal number of students i.e 15 55.55%) found the examination difficult.



Practical Term End Examination

25 (59.5%) of the respondents had appeared in the practical term end examination and these respondents provided feedback. Those who could not appear was because of same reasons as given for the theory examination. Most of the students were also satisfied with the practical examination although almost an equal number of students found the examination easy (48%) and difficult (52%). Majority of the students (96%), found the time to complete all components as adequate, found their preparation for exam adequate (88%). 23 (92%) respondents found questions in Viva relevant.

Administrative aspects of the programme

Most of the students were satisfied with the different administrative support like receipt of course material in time (47.61%) ID card with enrollment of PSC received in time (83.33%), submission of assignment (97.61%), information regarding counselling (80.95%), information regarding induction meeting in time (92.85%), receiving hall ticket (85.71%).



Figure 9: Responses of students: Administrative aspects of the programme

Alumni

24 (57%) students expressed the desire to join the alumni association.

Building the capacity of the students

The following responses were obtained on feedback regarding how the programme has built the capacity of the students, from the 42 responses

- 1. Increased the knowledge in the area of CBRNE 14
- 2. Prepared/increased the confidence for handling a CBRNE disaster situation in the hospital/and field 12
- 3. Yes it build the capacity 5
- 4. Would like to have more refresher courses 3
- 5. Would help in the job profile and for promotions 2
- 6. Not very sure how it would help 3

Programme Incharge and Counsellors Feedback

All four programme incharges responded to the questionnaire. Out of the 31 Counsellors and programme incharges/coordinators who took the sessions and to whom the questionnaire was sent 25 counsellors responded.

Objectives of the programme

21 (91.3%) Counsellors felt that the programme objectives had been achieved, 3 (4.3%) felt that they had been achieved to some extent and only one felt that they had not been achieved.

Course Material

Majority agreed for the adequacy of the content coverage (59.52%), Illustrations (54.76%), Content clarity (50%), comprehension (59.52%), difficultly level is as per the programme (50%) and check your progress questions facilitating learning (52.38%) for MME 011. Similarly, majority also agreed for adequacy of the content coverage (59.52%), Illustrations (52.38%), Content clarity (50%), comprehension (59.52%), difficultly level is as per the programme (47.61%) and check your progress questions facilitating learning (52.38%) for MME 012.



Figure 10: Responses of Counsellors: Difficulty Level of the Programme



Figure 11: Responses of Counsellors: Feedback on Course Material

Assignments

Eleven (44%) counsellors did not evaluate any assignments and 14 (56%) evaluated different components i.e radiology, chemical and biology as given in the figure.



Figure 12: Responses of Counsellors: regarding Component of assignment evaluated

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Twelve (85.7%) of the 14 counsellors found the prepared assignments up to the mark with respect to difficulty level and 13 (92.9%) up to mark with respect to the length. 13 (92.9%) counsellors found the assignments useful for reinforcement and only 1 found them useful for feedback Ten (71.4%) Of the 14 counsellors who had evaluated the assignments, felt that all students answered the questions satisfactorily, 2 (14.3%) felt that except few, most of the students had attempted the assignments to a satisfactory level and 2 (14.3%) felt that only few could attempt the assignments to satisfactory level.

Theory counselling sessions

Twelve (48%) of the 25 counsellors who responded had not taken any theory counselling sessions. 8 (32%) took one session and 5 (20%) took more than one counselling sessions. However, all the counsellors felt that the theory counselling should be an integral part of the programme.

Of the 13 counsellors who had taken the sessions, 6 (46.2%) counsellors felt that the theory counselling sessions should be held online while 5 (38.5%) felt that it should be conducted face to face. Only two counsellors felt that the sessions should be conducted using both modes. However, all the counsellors felt that theory counselling should be an integral part of the programme.

Feedback on response to the counselling session revealed that all the counsellors found that the topic was in line with the objectives of the programme, the time provided for the class was adequate and the number of theory Counselling sessions are adequate. Demonstration was conducted in the class by 9 (69.2%) counsellors. There was interaction by the students all the counselling sessions. All the counsellors were of the opinion that most of the students had an average knowledge about the subject before the class and gained knowledge after the class as assessed by post lecture assessment. 12 (92.3%) of the 13 counsellors felt that the post lecture assessments for the theory counselling acted as a motivation for more indepth study of the topic from course material and 8 (61.5%) found them as important yardstick of knowledge and skill in the field.

Ten (76.9%) of the 13 counsellors who corrected the assessments felt that the post lecture assessments should be part of the internal assessment for the theory counselling.

Practical counselling sessions

Out of the 25 counsellors who responded to the feedback, 7(28%) counsellors did not take any session, 4 (8%)took one session, and 14 (56%) took more than one session.

Out of the 18 (72%) counsellors who took the practical counselling sessions, 15 (83.3%) felt that the number of skills of practicals taken through online mode were adequate, while others felt that they were not adequate.

Feedback on response to the practical counselling session revealed that all the counsellors found that the topic was in line with the objectives of the programme and majority (94.4%) felt Time provided for the class was adequate Demonstration was conducted by 12 (66.7%) of the counsellors in the class All the counsellors gave feedback that there was interaction by the students and most students were able to carry out the activity satisfactory. Students also did some hands on training as reported by 12 (66.66%), counsellors.



Figure 13: Responses of Counsellors: Practical counselling sessions

Ten(55.6%) of the 18 counsellors who responded to this question, felt that the pre lecture assessments for the theory counselling act as a motivation for more indepth study of the topic from course material and 10 (55.6%) found them as important yardstick of knowledge and skill in the field. 2 found them easy and another 2 did not feel they were useful.

Eleven (61.1%) of the 18 counsellors felt that pre lecture assessments should be a part of internal assessment.

Thirteen(72.2%) of the counsellors felt that the post lecture assessments helped the students to study for the practical examination, 11(11.1%) felt that it was good for feedback of the level of knowledge and understanding and another 11 (11.1%) felt that students gained knowledge from interaction of the post lecture assessments after the class. The counsellors had marked more than one response for this question.

Sixteen (88.9%) counsellors commented that the post lecture assessment should be marked for internal assessment.

Face to face counselling sessions



Figure 14: Responses of Counsellors: Number of Face to Face practical counselling sessions

Twelve out of the 25 counsellors who responded did not take any face to face counselling sessions, two took only one and 10 took some of the sessions.

In response to the feedback on the face to face counselling sessions 11 (91.7%) of the 12 counsellors responded that the topics were in line with the objectives of the programme, Time provided for the class was adequate by 9 (75%), Demonstration was conducted in the class by 10 (83.3%) counsellors, students also did some hands on training as reported by 7(58.3%), counsellors most students were able to carry out the activity satisfactory (8, 66.66%).



Figure 15: Responses of Counsellors: regarding feedback for face to face counselling sessions All the counsellors agreed that face to face counselling should be an integral part of the programme.

Feedback on Practical Term end examination

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Twelve out of the 25 counsellors who responded had participated in the practical term end examination as exam superintendent, internal and external examiners. Eight of the examiners (66.7%), agreed that the examination was easy adequate time was available to the students to complete the components as per all the counsellors. most of the student's preparation for the examination was adequate and the questions in viva were relevant as reported by 11 out of the 12 counsellors.

Visit to INMAS for counselling session

Twenty two (88%) of the 25 counsellors felt that INMAS should be part of the contact session plan. One counsellor felt DRDE should also be included. One of the counsellor felt it should be kept optional and one felt not required



All the counsellors mentioned that they would like to recommend the programme to others.

Figure 6: Responses from Counsellors: Term end examination

Drop outs

Twelve out of the 54 enrolled candidates of the PGCMDM pilot batch did not complete the course and also did not respond in the feedback questionnaires sent to all students.

A feedback analysis was done to understand the reasons for dropout from those who did not attend or complete the online and face to face counselling sessions. Out of the 12 dropouts only 8 responded to the online feedback from provided and results of the same is analysed and the inferences are given below.

All eight dropouts have joined the course out of their interest in the subject. One of the drop out student had already done basic an advanced course on CBRNE at CME Pune and another had successfully completed IGNOU's disaster management programme and had been trained at

Kyoto, Japan on Prime Minister exchange program on Kashi Kyoto project on Disaster Risk Reduction

Six (75%) of them have received the hard copy of the study material. None of them have accessed the web portal for learning. Only one (12.5%) accessed the videos provided and one (12.5%) has received the ID card of the programme.

Four of the respondents (50%) have completed the theory assignments of both courses i.e. MME011 and MME 012. Only one person (12.5%) attended the Practical counselling sessions and 37.5% have not attended any of the sessions. None of them attended the face to face practical classes at LSC and none gave the final theory /Practical exam.



Reason for drop out

Six (75%) out of the 8 respondents attributed their unavailability to time constrains due to work commitments and ongoing Covid pandemic. Remaining 2 (25%) had connectivity issues due to remote areas posting and were not able to maintain continuity due to the same. Five (62.5%) of them were confident to complete the course within the flexible time period of 24 months as allowed in the course and the remaining 37.5% were not sure whether they will be able to complete the course or not. All of the respondents of them said they would recommend the programme for peers and friends.

Regional Directors

The programme was activated from four Regional Centres in July 2020 session – Hyderabad, Jodhpur, Dehradun and Bhopal. Two of the centres found the response from the head of institution of the PSC/LSC as very good, while one found it average (3 point) and another below average (4 point). Two regional Centres found the functioning of the LSC fully satisfactory while the other two found it somewhat satisfactory.

The reasons for which the PSC/LSC contacted the Regional Centre were

- 1. submission of practical term end examination marks 3 (75 %) of centres
- 2. payment to counsellors and staff 2 (50 %) of the centres
- 3. Induction meeting, Approval of the academic counsellors, Submission of assignments and Advance for the practical and examination in one (25%) of centres for each of these

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The reasons for which the students contacted the Regional Centre were

- 1. ID Card in 3 (75%) of centres
- 2. Course material, transfer to another centre and uploading of marks of Practical Term end examination in 2 (50 %) of centres
- 3. Uploading of marks of the assignments and getting the provisional certificate of degree certificate in 4 one(25 %) of centres

The overall feedback for the practical termed end examination conduction was good. The examination was conducted smoothly, however due to the COVID Pandemic, no academic was deputed as an observer for face to face activity and monitoring was done online.

The response was good from almost all the Regional Centres for information regarding Assignment submission (75%), submission of the practical term end examination marks (75%) and practical term end examination was good (50%) and fair (50%) for one centre.



Two (50%) of the Regional Centres felt that the communication from the programme coordinator was very good while 2 (50%) felt it was average.

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Conclusion and Recommendations

A very good response was received form all stakeholders in filling up of the feedback form and very constructive suggestions were provided for improving the progrmame. Across all categories of the stake holders. All were of the opinion that the practical skills needed to be increased and also orientation of the practical training should be more in medical management aspects. There was a request for an annual calendar to be prepared and shared with both students and counsellors so that the activities could be better planned and have better attendance and interaction. Visit to institutions like INMAS, DRDE must be included as part of the practical component of the programme and videos prepared in these institutions made a part of the course.

Recommendations for the programme

Following are the recommendations on the analysis of the feedback forms:

- a. Students must be provided both soft and hard copies of the course material.
- b. Course material could be segregated as radiological, chemical and biological units and compiled together as three separate books during revision. This will also ensure separate area based assignments and can be evaluated by the subject experts
- c. Although, face to face theory and practical counselling sessions are most helpful, yet, considering the constrains posed by the pandemic, virtual counselling sessions can be used as a viable alternative. The pandemic has contributed to the likeness of training programmes /sessions held virtually to be as useful as those following conventional modes.
- d. Although synchronous attendance of the online counselling sessions is recommended, constraints of time, work commitments and connectivity issues may cause interrupted and lower attendance. This can be made up by ensuring the availability of the recordings of the sessions in web supported portals or similar platforms.

A pre-planned calendar in the beginning of the year would also increase participation in the online sessions.

Chapter 6 ••• Conclusion

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- e. Selected Practical skills cannot be taught proficiently by online mode and would require to be conducted face to face.
- f. The course content and the methodology of the practical conduction needs to be revised and revised especially for skills related to chemical disasters since the instruments and consumables for the same were not available in the learner support centres. A separate working group for the practicals is required to be created for revising the practical material.
- g. Pre lecture assessments for the online counselling sessions are a useful tool for motivation to learn but should not be marked for internal assessment due to the diverse nature of the adult learners. They should be given with the flexibility of submission within a few days but to be attempted in a fixed time period. They must also include only multiple choice questions with a fixed pattern for all lectures and correct answers released to the students.
- h. Post Lecture assessments need to be marked and made a compulsory part of internal assessment.
- i. As per the requirements of the university, programme of PGCMDM can be activated in Learner Support Centre (LSC) having other programmes of School of Health Sciences or function as a work centre attached to another LSC or the Regional Centre
- j. Annual or biannual meet/conference/CME can be conducted so that all alumni can remain in touch with each other and with the subject matter and any advancements as well.
- k. Visit to INMAS and DRDE laboratories need to be included as an optional component of the programme. Additionally, videos showing important instruments, their use and working, kits and experiments specific to these organisations can be prepared and shared with the students
- I. Building up infrastructure, knowledge exchange and collaboration with government agencies will surely put this program into limelight
- m. Agencies sponsoring doctors for the programme will help built a national Resource to handle medical emergencies arising out of CBRNE disasters. Hence sponsoring organisations should be identified and pursued.