



Assessment & impact of Biorisk Management Course in raising awareness amongst students enrolled for PhD & M.Phil. program at Basic Medical Sciences Institute, Jinnah Post Graduate Medical Center. Karachi. Pakistan

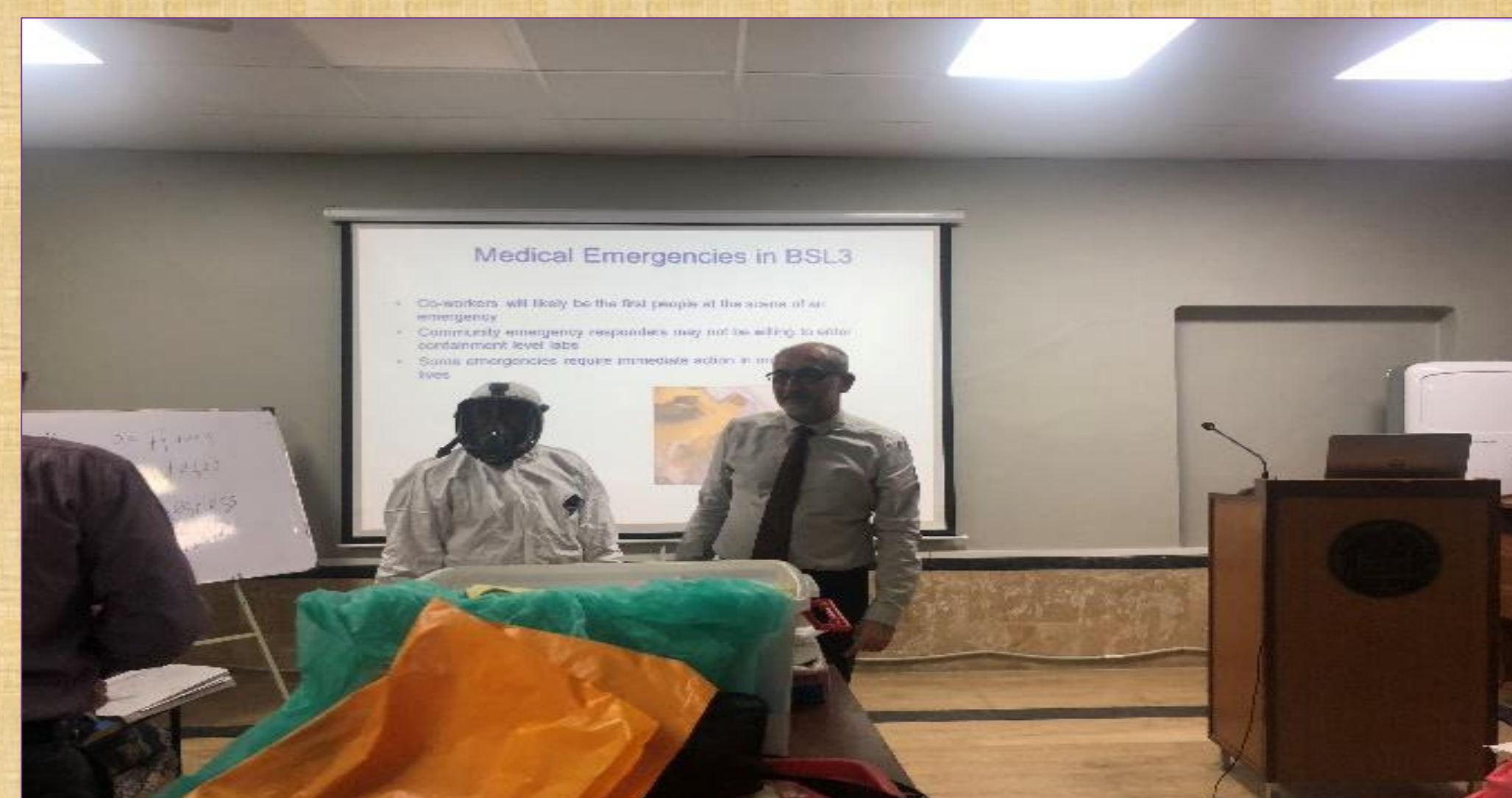


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Introduction: Pakistan Biological Safety Association (PBSA) is a non-profitable, non-governmental, professional organization established in 2008, striving to promote and implement Bio risk management in Pakistan. PBSA accelerated its program for strategic training of the national life scientists from 2013 and is still working on that mandate with the help of Fogarty International Center & National Institute of Health USA and other international organizations working on this Global Health Security Initiative and subsequently Agenda.

Aims & Objectives: This biosafety training program was developed for capacity building of M.Phil. and PhD graduates of Basic Medical Sciences Institute (BMSI), Jinnah Post Graduate Medical Center Karachi, Pakistan.

Materials & Methods: This study was carried at JPMC (BMSI), during the period of Oct 2018 to Jan 2019. A total of 24 (8 PhD. 16 M.Phil.) students participated in the study. The training program is administered through, custom made 4-month course having 16 contact hours also 4 hours of practical training. Training was evaluated using written assessment of participants & also feedback of trainer.



Distribution of biorisk management sessions with pre and post assessment of each session and final assessment

Sessions	Pre Assessment	Post Assessment
Session 1 Principals and protocols of biosafety	35%	85.2%
Session 2 Risk assessment	40%	86%
Session 3 Personal protective equipment	53%	81.5%
Session 4 Emergency preparedness	32%	83%
Session 5 Biosafety security	46.6%	87.1%
Session 6 Biosafety Cabinet	37%	90.2%
Session 7 Shipment of infectious substances /and importance of SOPs in biosafety	35.3%	91.3%
Session 8 Biological waste management and infection control	43%	86%
Final Assessment	83.3%	

Cronbachs Alpha reliability score

Cronbach's Alpha	No of Items
.961	12

Facilitator evaluation form filled by each student

Instructor/ Teacher	Strongly Agree 1	Agree 2	Uncertain 3	Disagree 4	Strongly Disagree 5
The instructor is prepared for each class	24	0	0	0	0
The instructor demonstrates knowledge of the subject	17	7	0	0	0
The instructor gives examples to explain the concept	20	3	1	0	0
The instructor shows respect towards students and encourages class participation	21	3	0	0	0
The instructor maintains an environment that is conducive to learning	20	4	0	0	0
The subject matter presented in the class has increased your knowledge of the subject	19	5	0	0	0
The sessions enhance your interest in the subject	17	6	1	0	0
The instructor encourages participation, discussion, and questions in class	21	3	0	0	0
The instructor shows interest and enthusiasm for the subject	22	1	1	0	0
The instructor presents material in a clear and well-organized manner during the class	18	6	0	0	0
The instructor effectively uses a variety of teaching methods and/or technology to facilitate the learning process	22	1	1	0	0
Overall, are you satisfied with the instructor's teaching	20	3	1	0	0

Results: There was vast difference observed in the post assessment results as compared to the pre assessment results. Final assessment at the end of the course gave an overall impression of vast change (83.3%) in awareness regarding bio risk management among the graduate students, which reflected the efficacy of this training.

To ensure the validity of results and the intention to improve the quality of course in future, feedback regarding the course and trainer was obtain through Likert scale. Reliability of Likert scale carried through Cronbach's alpha, showed all variables with a maximum score of 0.9, indicating high reliability of the generated feedback evaluation .

Conclusion: This study highlighted that through determined efforts of professional organizations, proper awareness of public and concerned personals, regarding Biosafety & Biosecurity can certainly reduce the chances of errors and will ensure potential safety and security.

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