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Impact of work place-based assessment in postgraduate medical education at a Medical University in Bhutan

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ABSTRACT

Introduction: The Postgraduate Medical Education has witnessed transition from traditional cognitive based to more competency-based learning globally. Khesar Gyalpo University of Medical sciences of Bhutan introduced Competency Based Medical Education (CBME) through implementation of work place-based assessment (WPBA) in June 2018. The primary objective of this initiative was to produce specialist of highest quality and cultivate competency and outcome based, yet learner centered curricula. **Methods:** The evaluation was conducted in June, 2019. The mixed methods of data collection techniques were utilized such as survey, interview, and review of the documents and focus group discussion. It was to provide understanding of local challenges and needs in implementation of WPBA. **Results:** A total of 90% of the faculty members and 40% of administrators evaluated were aware of the implementation of WPBA. Majority of the faculty felt that WPBA is beneficial to both faculty and the residents and all residents felt that it's beneficial in terms of learning. OBGYN residents have been exposed to maximum numbers of WPBA at 20. The maximum numbers of WPBA activities were performed by residents of general practice department which stood at 56. Lack of time as hindrance of practice of WPBA was implicated by 28% of the faculty and 61% residents. **Conclusions:** Despite WPBA being implemented for a short duration there is a high level of awareness and acceptability among both the residents and faculties as an effective teaching and learning tool.

Keywords: Competency; CBME; Outcome based; Work place-based assessment.

INTRODUCTION

Faculty of Postgraduate Medicine (FoPGM) was instituted in 2014 with the objective of producing Health Human resource, in particular Specialists doctor within Bhutan[1]. This was perceived to bring in multiple benefit in terms of financial, Strategic and human resource as the trainees serve the Bhutanese Population during his training period. The faculty of Postgraduate Medicine, KGUMSB offers 11 PG courses currently[2]. With the objective to provide quality postgraduate medical education, University has always emphasised on quality, competence and professionalism as a guiding principle[3]. The old curriculum was perceived as incomplete and lacked the clarity on mechanism of proper supervision and mentoring of the trainees as they learn and progress as professional learners[4].

The American Association of Medical Colleges (AAMC) reported that among 97 medical schools it visited between 1993 and 1998, the faculty members rarely observed student interactions with patients[5]. Despite tremendous advances in technology, basic clinical skills of "interviewing, physical examination, and counseling" remain essential to the successful care of patients. In addition, it has been estimated that trainees may learn as much as 40% to 50% from their peers[6].

Therefore, Faculty (FoPGM) initiated implementation of work place-based assessment (WPBA) which focuses on outcome and is a learner centered tool. Also, WPBA was introduced keeping in mind the evolving challenges in the delivery of health care[7]. WPBA involves direct observation of trainees' performances at their workplaces followed by providing appropriate and timely feedback based on the performance[8]. Currently WPBA forms an integral of trainee learning and assessment in many countries[9-10]. The FoPGM adopted the WPBA tools such as Mini-Clinical Examination (Mini-Cex), Directly Observed Procedural Skills (DOPS), 360-degree feedback / Multisource Feedback (MSF) and Case Based Discussion (CbD). These are continuously assessed during the biannual review of their portfolios[10-13].

This study was proposed to evaluate the short-term impact on learning in trainees and satisfaction of the all stakeholders. Therefore, the evaluation was conducted with objectives of identifying the gaps and challenges and also to

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provide recommendation to administrators, faculty members and trainees to explore better strategies for the implementation of WPBA.

METHODS

Study design

A mixed method approach was adopted, for Quantitative component a cross sectional survey was utilized and for Qualitative component, In-depth interview and Focus group Discussion were conducted. These two methods were preceded by review of the existing documents related to WPBA at FoPGM. All the relevant clearances were sort from leadership of both KGUMSB and JDWNRH management.

Timeline

The evaluation was conducted by an independent team with the support from 2 international faculty who were experts in program evaluation. The evaluation was conducted in June, 2019.

Sample and study population

All the Residents and all teaching faculty based at National Referral Hospital were considered for the evaluation. The trainee comprised of first year residents of FoPGM. All the faculty members from Emergency Medicine, General Practice, Obstetrics & Gynaecology, Orthopaedics, Paediatric, Psychiatry and Surgery were invited for participation. All the faculty members and trainees available and willing were included by the evaluators meeting each one of them in person or over the phone.

Study tools and strategies

1. Review of documents

The existing relevant documents were reviewed as a measure to understand the context of work place-based assessment. The team reviewed PG curricula, TOR for implementation of WPBA and the resident's Portfolio which was maintained by the students themselves.

2. Structured Questionnaire (Survey)

A pre-structured questionnaire comprised of academic details of each individual; knowledge, attitude and practice of WPBA; use of different types of WPBA tools; limitations that inhibit their implementations of WPBA tools and satisfaction rate for implementation. In order to get unbiased findings from the survey, the participant's personnel information was omitted from the questionnaire.

3. Interview

The team interviewed the hospital and university administrators, faculty members of FoPGM and residents on implementation of WPBA. Some of the residents who could not be contacted personally were interviewed over the phone calls and data collected through short message service (SMS).

4. Focus group discussion (FGD)

In order to assess the impact of learning among PG trainees a focus group discussion was conducted with the first-year residents. Only 8 residents were able to attend the discussion.

RESULTS

Review of documents

A reviewed of PG residency curricula, Portfolios of the residents and Term of Reference (TOR) of WPBA was done. The curriculum mandates each resident to at least undergo 10 sessions of WPBA in a term under the scrutiny of assessors which is equally echoed by the TOR on WPBA. It was also observed that each resident has maintained their own portfolio which has WPBA forms like Mini Cex, CbD, DOPS and 360-degree feedback. It is interesting to note that a resident of general practice has attended maximum number of WPBA but their own department's faculty has not conducted any WPBA session.

Survey

a. Awareness

A total of 26/46 (56%) faculty members, at least 1 or 2 faculty members from each Dept were out of station, 13/13 (100%) first year PG residents and 5/5 (100%) administrators participated. Dean and Deputy Deans of FopGM were deliberately excluded as they were part of implementation institute, each resident was required by university mandate to be assessed with 3 Mini-Cex, 3 DOPS, 3 CbD and Multisource feedback(360 degree) of satisfactory level per term. The WPBA for every student started at the beginning of second term of the residency program and continued till the end of 6th term.

Of 26, 89% of the faculty members were aware of the implementation of WPBA for the residents in FoPGM. Only 40% of the administrators of University and hospital were aware of its implementation as shown in Table 1.

Implementation status:

Majority (23/26) of the faculty members agreed that WPBA was beneficial to both faculty and the residents. All 13 residents perceived that WPBA was beneficial for their learning.

As seen in Figure 1, OBGYN residents were exposed to maximum numbers of WPBA at 20 sessions. Not even a single WPBA session was conducted by the faculty of general practice. Paediatric department had conducted only 1 WPBA session in past 1 year. This was mainly due to the fact that a GP resident are scheduled for various rotation in many clinical Departments during their 4 years of residency. The maximum numbers of WPBA activities were performed by residents of general practice department which stands at 56 followed by orthopaedic and minimum in Paediatrics Department at 3.

c. Satisfaction level of faculty and residents

i. Among Faculty: As demonstrated in Figure 2, Highest level of satisfaction about WPBA was among the faculty of emergency

medicine followed by OBGYN and psychiatry. It is lowest among the faculty of Medicine. It correlates well with the practice of WPBA in each department.

ii. Among residents: The OBGYN residents had maximum satisfaction at 90% followed by paediatric at 80% and emergency medicine at 70%. There is definite correlation between satisfaction of the residents and the faculty and the practice WPBA except for the pediatric department as shown in Figure 2.

Challenges in implementation of WPBA

At least 28% of faculty members attributed lack of time to participate in WPBA followed by lack of proactiveness from residents and lack of knowledge on use of WBPA tools. Residents attributed lack of time as hindrance of practice of WPBA, followed by lack of knowledge and not able to get assessors as shown in Figure 3.

Interview

i. Administrators

All of them felt that they could provide approval at the policy level for implementation of WPBA and help resource mobilization.

Three of them also pointed out that protected time may be required for the smooth WPBA and learning.

ii. Faculty

A total of 26 faculty members were interviewed. Following were the accounts of faculty interview:

1. Poor collaboration between University and hospital in implementation of WPBA.

"The University and JDWNRH needs to collaborate more closely for better implementation of WBPA and I don't see that currently"- Faculty member

Table 1. Awareness among the faculty/administrators on WPBA implementation

Position	Numbers of faculty/administrators	Aware of WPBA	Percentage awareness
Senior lecturer	4	4	100
Assistant professor	12	11	92
Associate professor	3	2	66
Professor	7	6	86
Administrators	5	2	40
Total	**31**	**25**	**81**

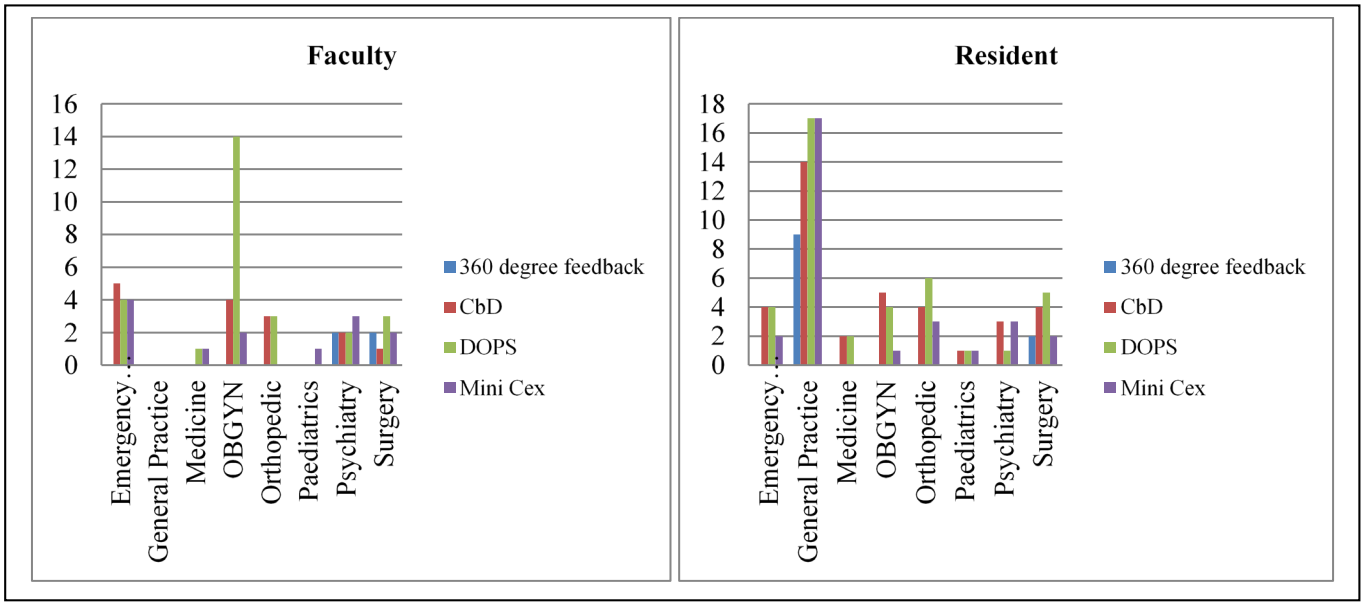

Figure 1. Different types of tools used by faculty and resident in each department

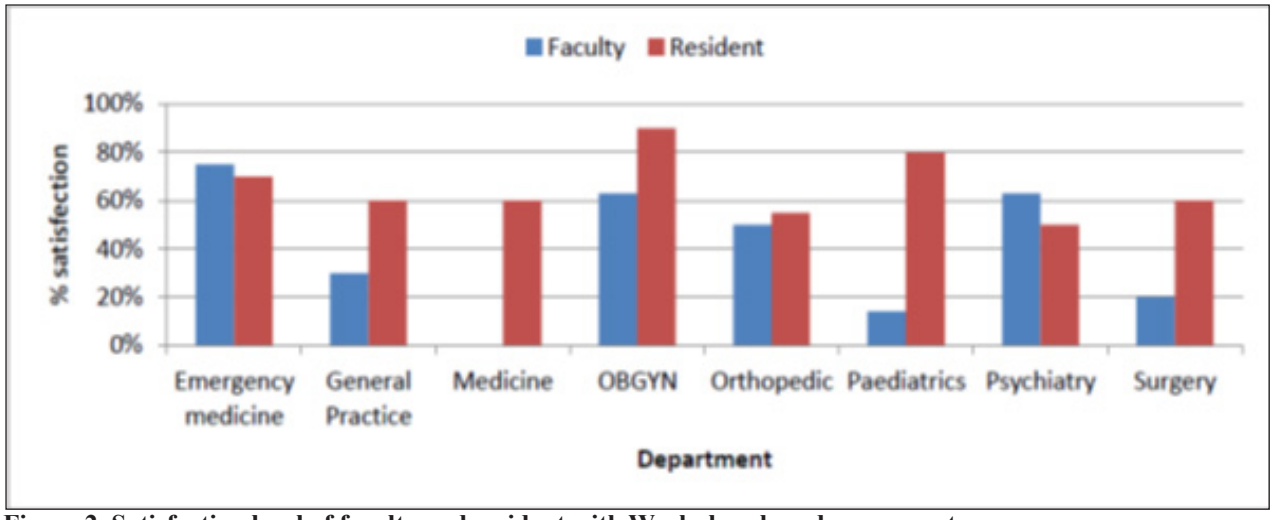

Figure 2. Satisfaction level of faculty and resident with Workplace based assessment

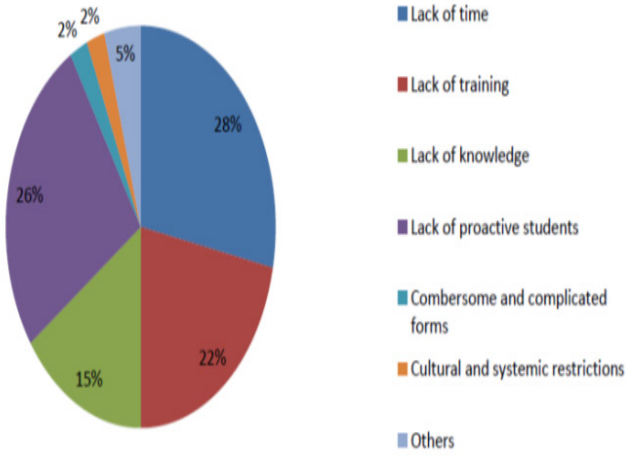

Figure 3. Factors affecting practices of WPBA among faculty members

2. Since the residents work in shift system like their consultants the residents are not available for WPBA activities as per the schedule or vise versa.
"In our days as students, we would run after our teachers but these days our residents do not come to us". – faculty member

3. Inappropriate to conduct of WPBA activities without interruption or disturbance.

4. Lack of co-ordination in the department.

5. 360-degree feedback needs to be strictly anonymous.
"As a small society, we must ensure that the identity of person who gives 360-degree feedback is protected" – faculty member

6. Time spent for WPBA needs to be incentivised.
"Not all faculty member participates in WPBA assessment, university needs to explore on incentivising the faculty who do WPBA seriously". – Faculty member

7. Lack of training on WPBA tools.
"WPBA is a new concept for me, I have never heard of about WPBA when I was a student. So university must conduct more training to ensure all faculty members are trained". – Faculty member

Focus Group Discussion (FGD) with Residents

The FGD reveal that the faculty members from parent departments are not involving themselves in WPBA activities. Also, some of the faculty members beside not well versed with the tools of WPBA are also not providing appropriate time and schedule for WPBA. Two of the residents also feel that 360-degree feedback is subjective. Figure 4 below shows the benefits of WPBA as perceived by the residents.

Table 2. Benefits of WPBA as stated by faculty

Benefits
Faculty prepares for case discussion/assessment
Student knows detail of the case/procedure
Student prepares for the case presentation/procedure
Learning is practical oriented
Process can be repeated until the student masters it
Involves more formative and less subjective
Help student develop good communication skills and attitude
Help produce a doctor with humane side
Foster faculty resident interaction

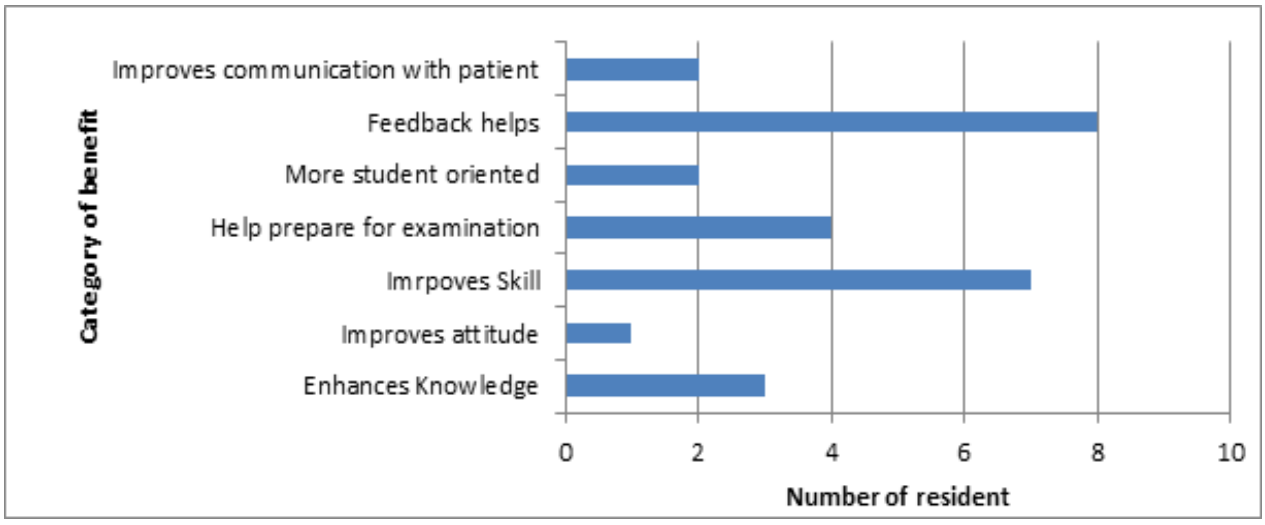

Figure 4. Benefits of WPBA as perceived by residents

Box 01. A summary of the major findings and way forward

Administrators

1. Help mobilization of resources in terms of additional human resource and budget.
2. Provide protected time for both residents and the faculty for the successful conduct of WPBA.
3. Reinforce WPBA to be conducted by parent department and not to be left as the responsibility of the departments where the residents are posted.

FoPGM

1. Sensitization of top level administrators of JDWNRH and KGUSMB on WPBA.
2. Appraisal and Collaborate with JDWNRH hospital management for implementation of WPBA.
3. Provide structured training to the entire faculty on WPBA tools.
4. Make application of 360 degree feedback strictly anonymous.
5. The custodian of portfolios needs to be clearly mentioned in TOR of WPBA.
6. Develop a mechanism of conducting WPBA activities by senior residents to address the issues of time shortages among the faculties.
7. Revision of TOR on WPBA.

Faculty

1. Faculties to attend trainings on WPBA being conducted by the university.
2. Conduct WPBA for residents as per the schedule prepared by FoPGM and as prescribed by the university
3. Course coordinator to bridge the gap between the HODs and university, students and faculty for successful implementation of WPBA.

Residents

1. Be proactive residents.
2. Prepare for the conduct of WPBA by assessor as per the mandates of the curriculum as per the schedule drawn at the beginning of a term.

DISCUSSION

Both the faculty and students appreciated institution of workplace-based assessment (WPBA) as a set of tools with meaningful contribution towards learning as well as assessment of trainees. WPBA is an effective tool for learning as well as assessment of postgraduate students. This was mainly due to the fact that a faculty member is involved in direct observation of a student at workplace and immediate and contextual feedback[14]. Teaching-Learning process in postgraduate medical education compresses not only traditional known 3 domains related skills (Cognitive, Psychomotor and Affective) but also the other adult learning principles such as ability of learner to be reactive and plan appropriate actions in real life situations[8]. Numerous literatures support the fact that these outcomes are not measured in a robust fashion in the traditional system of assessment. Hence it is always appropriate to evaluate the postgraduate students in real life situations and in work place. WPBA is one such tool that is being increasingly used for assessment in many of the regional and international institutes[12,15].

Awareness and perception

Majority of faculty members believed that WPBA was effective in facilitating learning. Nearly all faculty members and postgraduate students expressed that appropriate use of WPBA can have a great influence on students 'progress as a learner[15].

Student's reflection

The analysis of reflections showed that WPBA was appreciated as a useful learning as well as an assessment tool. Of the many benefits, students valued receiving feedback as useful in their growth and learning. A student mentioned "My teacher's feedback was positive and yet it was such that I became cognizant of my inadequacies". Though, evidences on impact of WPBA is limited in our setting, many studies from our own region suggest that students appreciate getting positive feedback.4-8 Student's also agreed on WPBA in particular DOPS help them in skills development, as reported by other studies[4].

Challenges in implementation of WPBA

Many of the faculty members and students have faced many challenges such as lack of time, interruption due to patient or emergencies. Other such as not being clearly informed about the objective of such activities. Of course, one of the major challenges being not trained to conduct such newer tools[7-9].

Strengths of the study

This is a first program evaluation in PG medical education in the country; a sequential mixed method study that evaluated the impact of implementation of WPBA in PG medical education for learning as well as for assessment. The researcher's team, not only evaluated the perception of teachers and learners, team also got insight of policy makers.

Limitations of the study

Nearly 30% of faculty couldn't be involved due to their busy schedule and also only 5 policy makers were involved though we wished for more involvement. In addition, the actual implementation of WPBA was just over 6 months which is too short a duration to assess the real benefits, this could again give rise to lot of subjectivity as many are still getting used to the new system.

CONCLUSIONS

Despite WPBA being implemented for a short duration there was a high level of awareness and acceptability among our residents and faculty members. While perception of awareness and acceptability may not give absolute evidence, however clear evidences of acceptance of these tools into our day-to-day teaching and learning activities was in place. Lastly, it can be stated the WPBA is a pragmatic strategy for learning as well for assessment in postgraduate students at KGUMSB.

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AUTHORS CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

PW: Concept, design, data collection and analysis, manuscript writing and review.

KT: Design, data collection and analysis, manuscript writing and review

ST: Design, data collection and analysis, manuscript writing and review

SZ: Design, data collection and analysis, manuscript writing and review

Author agree to be accountable for all respects of the work in ensuring that questions related to the accuracy and integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

None

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