Competence of the Health Workers in Diagnosing and Managing Complicated Pregnancies: A Clinical Vignette Based Assessment in District and Sub-District Hospitals in Bangladesh

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Abstract : Globally, pre-eclampsia (PE) and ante-partum haemorrhage (APH) are two major causes of maternal mortality. Prompt identification and management of these conditions depend on competency of the birth attendants. Since these conditions are infrequent to be observed, clinical vignette based assessment could identify the extent of health worker's competence in managing emergency obstetric care (EmOC). During June-August 2016, competence of 39 medical officers (MO) and 95 nurses working in obstetric ward of 15 government health facilities (3 district hospital, 12 sub-district hospital) was measured using clinical vignettes on PE and APH. The vignettes resulted in three outcome measures: total vignette scores, scores for diagnosis component, and scores for management component. T-test was conducted to compare mean vignette scores and linear regression was conducted to measure the strength and association of vignette scores with different cadres of health workers, facility's readiness for EmOC and average annual utilization of normal deliveries after adjusting for type of health facility, health workers' work experience, training status on managing maternal complication. For each of the seven component of EmOC items (administration of injectable antibiotics, oxytocic and anticonvulsant; manual removal of retained placenta, retained products of conception; blood transfusion and caesarean delivery), if any was practised in the facility within last 6 months, a point was added and cumulative EmOC readiness score (range: 0-7) was generated for each facility. The yearly utilization of delivery cases were identified by taking the average of all normal deliveries conducted during three years (2013-2015) preceding the survey. About 31% of MO and all nurses were female. Mean (± sd) age of the nurses were higher than the MO (40.0 ± 6.9 vs. 32.2 ± 6.1 years) and also longer mean(± sd) working experience (8.9 ± 7.9 vs. 1.9 ± 3.9 years). About 80% health workers received any training on managing maternal complication, however, only 7% received any refresher's training within last 12 months. The overall vignette score was 8.8 (range: 0-19), which was significantly higher among MO than nurses (10.7 vs. 8.1, $p < 0.001$) and the score was not associated with health facility types, training status and years of experience of the providers. Vignette score for management component (range: 0-9) increased with higher annual average number of deliveries in their respective working facility (adjusted β-coefficient 0.16, CI 0.03-0.28, p=0.01) and increased with each unit increase in EmOC readiness score (adjusted β-coefficient 0.44, CI 0.04-0.8, p=0.03). The diagnosis component of vignette score was not associated with any of the factors except it was higher among the MO than the nurses (adjusted β-coefficient 1.2, CI 0.13-2.18, p=0.03). Lack of competence in diagnosing and managing obstetric complication by the nurses than the MO is of concern especially when majority of normal deliveries are conducted by the nurses. Better EmOC preparedness of the facility and higher utilization of normal deliveries resulted in higher vignette score for the management component; implying the impact of experiential learning through higher case management. Focus should be given on improving the facility readiness for EmOC and providing the health workers periodic refresher's training to make them more competent in managing obstetric cases.
Keywords : Bangladesh, emergency obstetric care, clinical vignette, competence of health workers

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