

SAFETY ATTITUDES IN OBSTETRICS AND GYNAECOLOGY TRAINEES IN LABOUR ROOM PRACTICES: EXPERIENCE AT DOW UNIVERSITY OF HEALTH SCIENCES

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ABSTRACT

Objective: To assess the safety attitudes of labour room practices of FCPS residents.

Study Design: Mixed method sequential study.

Place and Duration of Study: Department of Obstetrics and Gynaecology unit I and unit II, Civil Hospital Karachi/Dow University of Health Sciences, from Oct 2017 to Feb 2018.

Methodology: The first phase of the study was collection of quantitative data using a Safety attitude questionnaire followed by second phase of two focus group discussions. Quantitative data was computed and analysed in SPSS-19, while qualitative data was transcribed involved verbatim followed by coding of the data with thematic analysis.

Results: A total of 79 residents were approached out of which 69 consented to participate in the study yielding a response rate of 87.3% (69/79). The total mean domain scores of SAQ were highest for stress recognition domain (63.7 ± 18.1), while the least domain scores were for job satisfaction (60.5 ± 15.9). Amongst, year one and year four residents the mean domain scores were highest for working condition domain (68.8 ± 20.2), (64.1 ± 10.9) respectively. It has been endorsed in FGD that there was good collaboration among doctors however supporting staff were not sufficient in number, in addition their behavior was unprofessional and irresponsible. There was compromised cleanliness and insufficient medical supplies to fulfill the needs of huge number of patients.

Conclusion: The safety attitudes of FCPS residents, showed positivity towards Job satisfaction, safety climate and team work, however excess work load, stress and communication gaps are negatively affecting the safety attitudes towards patients.

Keywords: Attitude, Environment, Job satisfaction, Work.

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INTRODUCTION

Health care services have improved considerably in the light of medical advances. However, these advancements were considered as major threats to health care industry¹. Patient safety is influenced by organizational culture. The occurrence of adverse events entails countless losses related to the patient, such as disabilities, physical and psychological trauma, increased length of hospital stays and distancing from society and work. These losses not only relate to the patient, but also to the professionals, who have ethical and moral damages, and losses in professional-patient interaction². There is a strong evidence that behaviour can be modified to make us better, able to work with others and thereby increase

safety and efficiency³.

The positive perceptions of the safety climate are associated with the implementation of safe behaviours, improved communication, conducting training programs. It will lead to good quality patient care and reduction in adverse events^{4,5}. Other factors for adoption of the safety climate are professional stress, teamwork, job satisfaction, the institution's management structure and work conditions⁶.

The implementation of a safety climate, based on the perception of nursing professionals showed organizational change, relationship with patients, professional training and development, research and strategic planning had positive effect. However, the factors which hinders were organization and infrastructure of the institution, lack of communication and inefficiency of professional training with a safety focus⁷. A quality

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assessment and improvement activity program has been initiated which consist of an initial independent assessment of the service, followed by a series of interventions⁸. Crew resource management (CRM) has suggested to improve communication through team based training among caregivers in order to improve patient safety⁹. However scarce data support that CRM concepts can be inculcated in clinical medicine to improve clinical outcomes⁹. Safety attitudes comprises of six components like team work, safety climate, job satisfaction, stress recognition, perception of management and working conditions¹⁰. A study conducted on safety perception of medical students in Pakistan found knowledge gap with regard to patient safety¹¹.

Hence this mixed methods study was planned to assess the safety attitudes towards patient care in FCPS OBGYN trainees in labour room practices at Dow University of Health Sciences Karachi.

METHODOLOGY

This two-phase sequential mixed methods research was conducted in Department of Obstetrics and Gynaecology unit I and unit II, Civil Hospital Karachi/Dow University of Health Sciences from October 2017 to February 2018, after approval from Institutional Review Board of Dow University of health sciences. All post graduate trainees were informed and invited, among them who consented were enrolled as participant. It comprises of two phases, In the quantitative phase safety attitudes questionnaire (SAQ) of The University of Texas was used after attaining permission. SAQ is a validated and widely used tool in research¹⁰. It has different versions we used its Labour and delivery version with some changes as per requirements of our setup. The study ID code had been assigned to all residents to make sure their anonymity. Arrangements were made so that all residents fill the questionnaire individually, in order to avoid duplication or diffusion of responses. In second phase of the study two Focal group discussions were conducted with eight participants each. The

members in FGD were, both homogeneous (FCPS trainees) and heterogeneous (Year 1-4). The group had two residents from each year of training included after written informed consent. The session was conducted by principal investigator in seminar room of OBGYN, Civil Hospital Karachi along with two other faculty members. They both scribe all discussion, in addition whole sessions were audio-taped. The transcription involved verbatim followed by coding of the data in the transcripts was done by primary investigator. For triangulation purpose the tape along with transcription were rechecked by both faculty members involved in FGD. Quantitative data were entered and analysed using the IBM SPSS Statistics for Windows, version 19.0. Descriptive statistics were reported in the form of frequencies and proportions for categorical variables and mean and standard deviation, for the six safety attitudes dimensions and other numerical variables. All negatively worded items on SAQ were first reverse scored. Then all the SAQ scores were converted to a 100-point scale: 1=0, 2=25, 3=50, 4=75, 5=100 from the original 5-point Likert scale. The percentages of respondents who gave a positive response (≥ 75 ; agree slightly and agree strongly) for each safety attitude domain were also calculated. The higher the score, the more is the residents' positive attitude towards that domain. The internal reliability as measured by Cronbach's alpha was acceptable at 0.87 (30 items).

Normality of the data was assessed through Shapiro Wilk test. Kruskal Wallis test, Pearson chi square test and Mann Whitney U test were used to assess relations between variables and domain scores, where appropriate. A *p*-value of 0.05 was considered statistically significant throughout the analysis.

RESULTS

A total of 79 residents were approached out of which 69 consented to participate in the study yielding a response rate of 87.3% (69/79).

The total mean scores were highest for stress recognition domain (63.7 ± 18.1), (table-I) while the least domain scores were for job satisfaction

(60.5 ± 15.9). Amongst, year one and final year residents the mean domain scores were highest for working condition domain (68.8 ± 20.2) and (64.1 ± 10.9) respectively. While among the first year residents least mean scores were obtained for job satisfaction domain (58.6 ± 11.8). In second years, the highest score was for stress recognition domain (68.7 ± 16.2) and lowest was for working condition domain (59.5 ± 15.5).

condition (39.1%) and stress recognition (37.7%). While the perception of management had secured least percentage (17.4%) from the residents.

Table-III shows the emerged themes and subthemes. It has been endorsed in FGD that there is good collaboration among doctors but nursing staff, Ayas and ancillary staff has unprofessional behavior and no sense of responsibility. The security guards were less in number,

Table-I: Residents perception of the six safety attitudes domain (n=69).

Safety attitudes Domain	Total	R1	R2	R3	R4	p-value
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	
Teamwork Climate	61.5 (14.9)	60.3 (20.6)	65 (11.4)	61.9 (13.5)	57.3 (14.5)	0.42
Safety Climate	61.8 (12.4)	62.8 (11.8)	63.2 (12.2)	63.6 (13.3)	55.4 (11.3)	0.18
Job Satisfaction	60.5 (15.9)	58.6 (11.8)	63 (19.0)	61.9 (17.0)	56.9 (13.6)	0.85
Stress Recognition	63.7 (18.1)	60.8 (17.5)	68.7 (16.2)	62.7 (19.7)	61.0 (19.6)	0.48
Perception of Management	59.2 (13.8)	61.3 (13.8)	59.7 (12.0)	54.9 (16.9)	63.1 (10.1)	0.23
Working Condition	62.6 (17.5)	68.8 (20.2)	59.5 (15.5)	60.3 (20.3)	64.1 (10.9)	0.35
Overall Safety attitudes	51.1 (9.0)	51.7 (7.8)	52.3 (9.1)	50.5 (11.1)	49.6 (6.8)	0.95

Cronbach alpha=0.87(30 items, Kruskal Wallis test p-value significant at <0.05

Table-II: Positive and negative response of residents on the safety attitudes domain.

Safety Attitudes Domain		R1	R2	R3	R4	p-value
Teamwork Climate	+%	26.7%	15.0%	23.8%	15.4%	0.39
	-%	73.3%	85%	76.2%	84.6%	
Safety Climate	+%	26.7%	25.0%	19.0%	7.7%	0.35
	-%	73.3%	75%	81.0%	92.3%	
Job Satisfaction	+%	13.3%	30.0%	23.8%	15.4%	0.53
	-%	86.7%	70%	76.2%	84.6%	
Stress Recognition	+%	20.0%	50.0%	38.1%	38.5%	0.46
	-%	80%	50.0%	61.9%	61.5%	
Perception of Management	+%	26.7%	10.0%	19.0%	15.4%	0.48
	-%	73.3%	90.0%	89%	84.6%	
Working Condition	+%	66.7%	20.0%	38.1%	38.5%	0.08
	-%	33.3%	80.0%	61.9%	61.5%	

+% Positive agreement percentage, -% negative percentage, Each domain percentage is equal to 100%, Pearson chi square test p-value significant at <0.05

The positive response of residents on the six safety attitudes domains (Table-II). About two thirds (66.7%) of the first year residents had positive attitude towards working condition (p=0.08), whereas, both the second (50%), third (38.1%) and the final year (38.5%) residents had the maximum positive attitude towards stress recognition domain. The total percentages suggests that most residents had positive attitude towards working

those who were working are also under political pressure, therefore failed to perform their duties properly.

There was compromised cleanliness in the area along with long duty hours and excessive workload and medical supplies were also not sufficient to fulfill the needs of huge number of patients.

Table-III: Showing themes and sub-themes of qualitative data.

Themes	Sub-Themes	Suggestion
Teamwork climate	Poor Communication between doctors and nursing staff Good collaboration among PGs and House officers Inadequate staff, Unavailability of staff Poor facilities Un professional behaviour of Nursing staff & para medics Non-co-operative nurses and staff No sense of responsibility Logistic shortage	Improve communication Ensure the nurses and paramedic/ancillary staff to work Increases the number of staff Awareness of their roles
Safety climate	Shortage of security guards Improper security Politicizing by guards No male porters Physical threats Aggressive attendants Abusive language by attendants Burden on doctors Bad working environment	Improve security system at OBGYN vicinity
Job satisfaction	Huge patient flow Increased workload Compromise in patient care due to lack of medicines, Operating instruments Unavailability of midwives during emergency Dirty delivery room couches Shortage of staff	Check and balance
Working condition	Limited logistics Unavailability of nurses and lower staff during emergency Lack of interest by nurses and lower staff Mismanagement Lack of communication Lack of cooperation by Nurses and ancillary staff Non-working attitude of anaesthesia staff Inadequate nursing services	Proper medical supplies Increase the number of nurses and ancillary staff Training of nurses
Stress recognition	Poor system Work load Prolong working hours Inadequate supplies Irresponsible Nurses and paramedics	Increase the number of OBGYN wards Regular drills to more confident Everybody follows job description
Management perception	Poor leadership Huge flow of patients Workload Lack of facilities Lack of medicine Less resources for evidence-based practices Poor support by hospital administration Dirty couches Shortage of nurses Shortage of doctors Unavailability of Nurses & ancillary staff during emergency	Regular meetings between LR administration and staff

DISCUSSION

The mean score in our study was 51.1 ± 9 , this is far lower than the study conducted in Brazil mean score 61.8 ± 13.7 . However the wide range of standard deviation explain that their data was dispersed². when compare the individual domains of safety attitudes, job satisfaction in our data set was 60.5 ± 15.9 , this is similar to another study done on midwives¹² and higher than 32.07 (8.040)¹³. Contrarily Brazilian study exhibit mean score of 80.5 ± 17.7 on job satisfaction². In contrast Chinese and Irish studies exhibit mean scores of 74.16 (11.29) and 74.4 respectively^{14,15}. While comparing the data from R1 to R4, the scores showing a downward drift, this was conflicted with other study exhibit increasing trend with years of experience¹².

With regard to positive responses, there was lowest positive responses in perception in management perception however the working condition showed the highest positive response rate of 39.1%, in comparison to other study that yield perception working condition positive response at 15.4%¹⁶ while another study further endorsed our findings¹³.

Our qualitative component of the study showed high levels of work load, lack of staff and inadequate input by nurses affect the safety attitudes. The trainees agree that staffing is insufficient to handle the patients. These findings are similar to the study on pharmacists in Malaysia¹⁶. The overall team work climate and stress recognition has more positive response that was similar to the study of Samsuri *et al*^{16,17}. Similar to the survey majority of residents felt safe to be treated as a patient in their hospital¹⁸. Structured program and organizational change showed positive team work climate^{1,17}. FGD also endorsed minimum input by nurses and increased work load. In our study stress recognition didn't change with across years of residency, this is in contradictory to NICU study that showed highest score for stress recognition¹⁹. However, the level of stress declined between first year and fourth year resident. Our FGD further reinforces the similar

finding. Contrary to the study majority of residents strongly agreed that fatigue impairs their performance¹. But in depth interview showed that residents performance was not compromised by fatigue. However, fatigue is the strong factor for affecting Team work climate, Safety climate and working conditions¹². Our both quantitative and qualitative data showed better positive attitudes towards job satisfaction which was identical to other studies^{16,18}. With regard to working conditions our participants had shown mixed response predominantly negative towards working conditions. The similar mixed response was seen in other studies^{8,20}. Literature showed that gender was an important predictor of safety climate². Males attained more positive attitude for perception of management as compared to females²¹. This study showed negative attitude towards perception of management. These findings are comparable to the study published in Annals of internal medicine^{22,23}. Accredited hospitals showed positive perception of safety climate than non-accredited ones⁶. Our hospital is accredited for Fellowship training from local health bodies but it is not accredited from international bodies therefore international patient safety measures are not properly implemented. This study showed good communication among consultants, residents and house officers however, there was poor communication with nurses and other staff that is contrary to the highest level of communication between obstetricians and midwives¹⁸. Constructing a structured program, with simulation and rehearsals improved the communication among different professionals¹⁸. Making safety guidelines, implementing them by using high non-technical skills are fundamental aspect to implement safety, quality improvement and attitudes. However, the effect of organizational culture on safety attitudes cannot be ruled out and further study is required.

The limitations of our study were, all participants were female and it was conducted in two OBGYN units of a single hospital although the results could be generalised by conducting simi-

lar study in both public and private sector, with FGD of nurses and ancillary staff.

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RECOMMENDATION

Making a structured safety program, increase number, and quality of nursing and ancillary staff along with better communication and transparent organisational culture would improve the safety attitudes perception.

CONCLUSION

The safety attitudes of FCPS residents, showed positivity towards Job satisfaction, safety climate and team work, however excess work load, stress and communication gaps are negatively affecting the safety attitudes towards patients.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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