

## The Nigerian-Based Obstetrician and the Stress of Obstetric Emergencies

Hyacinth E. Onah and Peter O. Nkwo

Department of Obstetrics & Gynaecology, University of Nigeria Teaching Hospital, Enugu, Nigeria

### Abstract

**Background:** Obstetricians handling clinical emergencies in developing countries have to contend with poor infrastructure and other adverse conditions.

**Objective:** To assess the extent to which these adverse factors exert stress on Nigerian-based obstetricians.

**Method:** A self-administered structured questionnaire survey of obstetricians in training or practice in Enugu, Eastern Nigeria. Stress was defined and then graded from 1 to 10 with 1 representing minimal stress and 10 representing maximal stress.

**Main Outcome Measure:** Stress score.

**Results:** The questionnaire was administered to all 67 eligible obstetricians, 57 (85.1%) of whom completed it. Compared to a mean stress score of 2.7 at their Nigerian homes and  $5.5 \pm 2.5$  when faced with an obstetric emergency in developed countries, Nigerian-based obstetricians experience a mean stress score of  $7.1 \pm 1.9$  when faced with an obstetric emergency in their private practice and  $8.4 \pm 2.1$  when faced with an emergency in government practice. In private practice, the five leading stressors were: sourcing blood for transfusion, electricity supply, anaesthetists, sourcing materials for treating patients and telephone services, in that order. In government practice, the five leading stressors were the same but the ordering was different. Nine (15.8%) respondents felt that obstetric practice in Nigeria had no effect on their health while 48 (84.2%) felt that it had an ill effect.

**Conclusion:** Emergency obstetric practice is more stressful in Nigeria than in developed countries because of poor infrastructure and difficulty with sourcing the materials required to treat patients.

**Key Words:** Obstetrician, Stress, Stressor, Obstetric Emergencies [Trop J Obstet Gynaecol, 2003, 20: 44-48]

### Introduction

The high maternal mortality in developing countries has remained a source of concern to all involved in the care of pregnant and parturient women. Most maternal deaths in these countries result from obstetric emergencies<sup>1, 2</sup>. The recent emphasis on emergency obstetrics is to reduce the number of such maternal deaths from obstetric emergencies<sup>3</sup>. But obstetric emergencies are stressful not only to the patients and their relatives but also to obstetricians and, indeed, to all other workers who are mobilised to sort out the emergency.

Over the last decade, a number of studies have examined the subject of stress in health professionals<sup>4, 5</sup>. Although not restricted to workers in obstetric units, it has been shown that health workers generally do show high levels of stress, depression, and other stress-related disorders when compared to the community samples on which the measures are validated<sup>6</sup>. It has also been shown that the levels of stress in health care staff contribute to the quality of care they offer their patients, to the number of complaints and legal actions they have to face, to the absence of data in clinical records and to the turnover of staff<sup>7</sup>. Although a search of several

indexed databases did not reveal any published correlation between stress that obstetric emergencies exert on obstetricians and maternal mortality, the potential for such a correlation cannot be dismissed since maternal mortality is to some extent dependent on the quality of care provided by obstetricians.

The tropical obstetrician is likely to be stressed at the thought that a mother with an obstetric emergency may die because of constraints imposed on him by poor infrastructure and other adverse conditions. Such stress may impair his performance when face with a situation requiring clear thinking and quick decision-making. Therefore, recognising perceived stressors on obstetricians from obstetric emergencies becomes an important step in seeking ways to ameliorate them within the overall goal of reducing the high maternal mortality in developing countries. The present study assessed the extent to which poor infrastructure and other adverse factors exert stress on the Nigerian-based obstetrician.

**Correspondence:** Dr. H E Onah, P.O. Box 3709, General Post Office, Enugu, Nigeria  
**E-mail:** [hyacinon@infoweb.abs.net](mailto:hyacinon@infoweb.abs.net)

## Materials and Methods

This was a self-administered structured questionnaire survey of obstetricians and obstetric residents practicing or being trained in Enugu, Southeastern Nigeria. The study was carried out from 10th to 15th July 2001. For the purpose of the study, stress was defined as "frustrations, anxieties, insults, inconveniences, sacrifices, delays, sleepless nights etc which obstetricians encounter in the course of their care of women with obstetric emergencies". Before the commencement of the study, an open-ended questionnaire was served to a sample of 15 obstetricians who were simply requested to list the factors, which caused them stress when they were faced with obstetric emergencies. From their responses, a list of stress factors was compiled. These factors were then used in the construction of the structured questionnaire, used in this study. The questionnaire asked about age, length of obstetric practice, professional status, the type of obstetric practice and the number of hours worked per day. Stress was then graded from 1 to 10 with 1 representing minimal stress and 10 representing maximal stress. Several situations and stressors were then presented to the respondents who were requested to encircle the score that applied to them. The situations included the stress score in the respondent's home, in his private practice when there is no obstetric emergency and when there is an emergency, in a Nigerian government hospital when there is no obstetric emergency and when there is an emergency, and in a hospital in a developed country when there is no obstetric emergency and when there is an emergency. They were then presented with a list of twelve stress factors and requested to encircle the level of stress each factor caused them in their private and/or government practice (s) in obstetric emergency situations. The stress factors included anaesthetists, theatre nurses, nurses in the wards who prepare patients, pharmacists, orderlies, sourcing of required materials by patients' relatives, electricity supply, sourcing blood for transfusion, water supply, supply of sterile instruments and clothing, oxygen supply and telephone services. The respondents were also asked to state their average decision-intervention intervals (in hours) when they were faced with obstetric emergencies in private and government practices. They were further asked whether obstetric practice in Nigeria had any ill effect on their health. Finally, they were asked to suggest possible ways of reducing the stress of obstetric emergencies on Nigerian obstetricians.

The data were analysed with simple percentages, descriptive and inferential statistics using one-way analysis of variance (ANOVA), and by independent and paired t-tests at the 95% confidence level.

## Results

The questionnaire was administered to the 67 eligible obstetricians and residency trainees. Fifty-seven of these completed the questionnaire, giving a response rate of 85.1%. They consisted of 28 consultants, 9 senior registrars, 14 registrars and 6 senior house officers. Ten (17.5%) of the respondents practised only in private hospitals, 17 (29.8%) only in government hospitals while the remaining 30 (44.8%) combined private and public hospital practices. Their mean age  $\pm$  standard deviation was  $41.8 \pm 7.3$  (range: 30-57) years. They had practised obstetrics for a mean of  $9.8 \pm 7.9$  (range: 2-25) years. They worked for a mean of  $10.7 \pm 3.1$  hours per day (range: 6-18 hours). Twelve (21.1%) of the respondents had previously practised in Europe or North America.

**Table 1**

### A Comparison of Stress Levels in Various Paired Practice Situations

Paired Situation	Mean Stress Score	p-value
Home versus No Emergency in Private Practice	2.7 vs 2.5	NS
Home versus Emergency in Private Practice	2.7 vs 7.1	0.000
Home versus No Emergency in Government Practice	2.7 vs 3.6	NS
Home versus Emergency in Private Practice	2.7 vs 8.4	0.000
No Emergency versus Facing Emergency in Government Practice	3.1 vs 8.4	0.000
No Emergency versus Facing Emergency in Private Practice	2.5 vs 7.1	0.000
No Emergency in Private Practice versus No Emergency in Government Practice	2.5 vs 3.6	0.01
Emergency in Private versus Emergency in Government Practice	7.1 vs 8.4	0.01

The mean levels of stress, which they encountered under various situations were  $2.7 \pm 2.1$  at home,  $2.5 \pm 1.1$  in private practice when there was no emergency,  $7.1 \pm 1.9$  when faced with an obstetric emergency in private practice,  $3.6 \pm 2.0$  in a Nigerian government hospital when there was no emergency,  $8.4 \pm 2.1$  when faced with an emergency in government practice,  $3.3 \pm 1.6$  in a hospital in a developed country when there is no emergency and  $5.5 \pm 2.5$  when faced with an emergency in a hospital in a developed country. A comparison of their stress levels in various paired situations is shown in Table 1. The respondents had similar levels of stress at home and in both private and government practices when there was no emergency ( $p > 0.05$ ). However, their stress levels significantly increased when they were faced with obstetric emergencies either in private and/or government practices ( $p < 0.01$ ). It is noteworthy that in emergency situations, their stress levels were significantly higher in government than in private practice ( $8.4$  versus  $7.1$ ,  $p = 0.01$ ). For the 12 obstetricians who had practised in developed countries, their mean stress scores when faced with obstetric emergencies in developed countries was significantly less than when faced with similar situations in private and government practices in Nigeria ( $5.5$  versus  $7.1$  versus  $8.4$ ; One-Way ANOVA, F-ratio = 4.6,  $p = 0.02$ )

In private practice, the stressors and their mean level of stress on obstetricians were: sourcing blood for transfusion:  $6.4 \pm 3.1$ ; electricity supply:  $6.0 \pm 2.6$ ; anaesthetists:  $4.9 \pm 3.2$ ; sourcing of required materials by patients relatives:  $4.1 \pm 2.8$ ; telephone services:  $3.9 \pm 3.0$ ; nurses in the ward who prepare patients for surgery:  $3.5 \pm 2.0$ ; theatre nurses:  $3.5 \pm 2.5$ ; water supply:  $3.2 \pm 2.3$ ; oxygen:  $3.0 \pm 2.2$ ; supply of sterile instruments and clothing:  $2.8 \pm 1.7$ ; orderlies:  $2.7 \pm 2.5$ ; pharmacists:  $2.3 \pm 1.5$ .

In government practice, the stressors and their mean level of stress on obstetricians were: anaesthetists:  $8.7 \pm 1.6$ ; sourcing blood for transfusion:  $7.6 \pm 2.1$ ; sourcing of required materials by patients' relatives:  $6.5 \pm 2.4$ ; electricity supply:  $5.8 \pm 2.9$ ; telephone services:  $5.7 \pm 3.0$ ; theatre nurses:  $5.4 \pm 2.0$ ; nurses in the ward who prepare patients for operation:  $5.4 \pm 1.9$ ; pharmacists:  $5.1 \pm 2.5$ ; orderlies:  $5.0 \pm 2.5$ ; supply of sterile instruments and clothing:  $4.7 \pm 2.6$ ; water supply:  $4.3 \pm 2.4$  and oxygen supply:  $4.0 \pm 2.4$ .

The paired t-test was used to compare the stressors and their levels of stress on the 30 respondents who had combined private and government practices as shown in Table 2. It is seen that anaesthetists,

pharmacists, nurses in the ward who prepare patients for surgery, supply of sterile equipment and theatre nurses are statistically more significant stressors to the obstetrician in government practice than in private practice ( $p < 0.05$ ). Sourcing of blood for transfusion, electricity supply, sourcing of required materials by patients' relatives and telephone services cause statistically similar levels of stress to the obstetrician in both the private and government practice ( $p > 0.05$ ).

**Table 2**  
**A Comparison of the Stressors and Levels of Stress on the 30 Obstetricians who Combined Private and Government Practices**

Stressor	Mean Stress Score		p-value
	Private Practice	Government Practice	
Anaesthetists	5.3	9.6	0.001
Sourcing Blood For Transfusion	7.1	8.0	NS
Electricity Supply	6.2	6.8	NS
Orderlies	2.8	5.5	0.04
Oxygen Supply	3.1	4.3	NS
Pharmacists	2.2	5.8	0.001
Nurses Preparing Patients on the Ward	3.4	6.0	0.005
Sourcing Materials by the Patients' Relatives	4.4	6.8	NS
Supply of Sterile Instruments and Linen	2.8	5.3	0.03
Telephoning Required Personnel	4.3	6.4	NS
Theatre Nurses	3.3	6.2	0.01

The respondents' estimated mean decision-intervention interval for obstetric emergencies was significantly less in their private practices than in government hospitals ( $1.5 \pm 1.7$  versus  $4.7 \pm 2.1$  hours,  $p = 0.000$ ). Nine (15.8%) of the respondents felt that obstetric practice in Nigeria had no effect on their health while 48 (84.2%) felt that it had an ill effect.

The respondents offered the following suggestions on how Nigerian obstetricians can minimise the stress of obstetric emergencies: they should develop a coping mechanism if the situation cannot be changed (30 respondents); they should advocate to policy makers to improve infrastructures and conditions of service for health workers (18 respondents); they should take holidays (9 respondents); they should engage in group practice (6 respondents); they should ensure adequate rest (3 respondents); they should undergo regular medical checkups (3 respondents). Some of the respondents offered more than one suggestion, while eighteen respondents had no suggestion.

## Discussion

This study has shown that Nigerian obstetricians experience high levels of stress in emergency obstetric situations. Although such high levels of stress are not unusual in similar situations even in developed countries<sup>8</sup>, the responses of those who have practised both in Nigeria and the developed countries show that the stress levels are significantly higher in the former. Moreover, the reasons for the increased stress differ between the developed and the developing countries. In the case of the developed countries, the major reason is the increased rate of negligence claims for brain-damaged babies<sup>8</sup>. In the United Kingdom, this has resulted in a decline in the number of medical graduates specialising in obstetrics and in early retirement of obstetricians, the average retirement age having fallen from 65 to 58 years<sup>8</sup>. In the case of a developing country such as Nigeria, the present study has shown that the major stressors have to do with poor attitude of health care personnel and the paucity of basic infrastructures such as electricity, telephones, water etc. When obstetric emergencies present, the overall consequence of poor attitude of staff is institutional delay<sup>9</sup>, which in turn increases the stress experienced by obstetricians.

The poor attitude of staff may be a result of poor working conditions as documented previously<sup>9</sup>. It may also result from lack of standard protocols about what to do when obstetric emergencies

present. The Confidential Enquiries into Maternal Deaths in the United Kingdom have repeatedly encouraged obstetric units to organise "fire drills" so that when emergencies occur, all members of staff know exactly what to do<sup>10</sup>. The usefulness of such life saving courses has been reported from the United Kingdom and Ethiopia<sup>3,11</sup>. They have been shown to be very useful in reducing maternal deaths from obstetric emergencies. We recommend that they be organised regularly for obstetric units in Nigeria.

Since telephone services and supply of electricity, water, and oxygen are never really reliable in Nigeria, hospital administrators can reduce stresses from these by providing at least two or more alternatives sources. If these basic issues are tackled, they will help in reducing the high maternal mortality in Nigeria and other developing countries by reducing institutional delays. They will also minimise the stress on Nigerian obstetricians, protect them from stress related disorders, prevent professional burnout among them<sup>12</sup> and thereby encourage younger medical graduates to specialise in obstetrics.

To minimise the stress of obstetric emergencies, the majority of the respondents suggested that Nigerian obstetricians should develop coping mechanisms if they cannot change the work situation. There is no doubt that individuals vary in their coping abilities and those who cannot cope well will need to explore other suggestions such as holidays and group practice.

We conclude that emergency obstetric practice is more stressful in Nigeria, a developing country, than in developed countries because of poor infrastructure and worker attitude. The overall goal of reducing the high maternal mortality in Nigeria and other developing countries can be achieved by organising courses in management of obstetric emergencies for staff of obstetric units as well as the provision of basic infrastructures. These will, hopefully, minimise the stress which Nigerian obstetricians experience when handling such emergencies.

## References

1. Chukudebelu WO, Ozumba BC. Maternal mortality at the University of Nigeria Teaching Hospital, Enugu: a 10-year survey. *Trop J Obstet Gynaecol* 1988; 1(Sp ed): 23-26.
2. Briggs ND. Maternal death in booked and unbooked patients at the University of Port Harcourt Teaching Hospital. Experience. *Trop J Obstet Gynaecol* 1988; 1(Sp ed): 26-29.
3. Johanson R, Cox C, O'Donnell E, Grady K, Howell C, Jones P. Managing obstetric emergencies and trauma (MOET): Structured skills training using models and reality-based scenarios. *The Obstetrician & Gynaecologist* 1999; 1:46-52.

4. Payne RI, Firth-Cozens J (Eds) *Stress in health professionals*. Chichester: John Wiley 1987.
5. Seccombe I, Buchan J. High anxiety. *Health Service J*, 1993; 103: 22-24.
6. Firth-Cozens J. Emotional distress in junior house officers. *Br Med J*. 1987; 205:533-536.
7. Firth-Cozens J. Stress in health professionals. In: Baum A, Newman S, Weinman J, West R, McManus C (Eds). *Cambridge Handbook of Psychology, Health and Medicine*. Cambridge: Cambridge University Press 1997; 319-322.
8. Brahams D. Worried obstetricians. *Lancet* 1991; 337: 1597.
9. Okaro JM, Umezulike AC, Onah HE, Chukwuali LI, Ezugwu FO, Nweke PC. Maternal mortality at the University of Nigeria Teaching Hospital, Enugu before and after Kenya. *Afr J Reprod Health*, 2001; 5: 90-97.
10. Lewis G, Drife J, Botting B. Why mothers die. *Report on Confidential Enquiries into Maternal Deaths in the United Kingdom 1994-96*. London: The Stationery Office, 1998.
11. Parry E, Parry V. Training for health care in developing countries: the work of the Tropical Health and Education Trust. *Med Educ*. 1998; 32: 630-635.
12. Maslach C. Burnout in health professionals. In: Baum A, Newman S, Weinman J, West R, McManus C (Eds). *Cambridge Handbook of Psychology, Health and Medicine*; Cambridge: Cambridge University Press 1997; 276-278.