

# Psychological health problems of resident doctors in a Nigerian teaching hospital

A D Yussuf, FMCPsych

P O Ajiboye, FWACP

O I N Buhari, MB BS

Department of Behavioural Sciences, College of Medicine, University of Ilorin, Nigeria

S A Kurunga, FWACS, FICS

Department of Surgery, College of Medicine, University of Ilorin, Nigeria

O R Bologun, FWACOG

Department of Obstetrics and Gynaecology, College of Medicine, University of Ilorin, Nigeria

**Objective.** To determine the level of psychological morbidity among doctors in a residency programme in order to reduce levels of distress, prevent professional dysfunction, and improve the overall quality of the programme for the benefit of both patients and the profession.

**Method.** A cross-sectional study was undertaken of all resident doctors at the University of Ilorin Teaching Hospital. All the residents were given a 30-item General Health Questionnaire (GHQ-30), and a questionnaire on sociodemographic/job-related factors.

**Result.** Of 100 respondents given questionnaires, 70 returned completed questionnaires, giving a response rate of 70%. Eighteen (25.7%) scored 4 or more on the 30-item GHQ, and were regarded as having psychological morbidity. There was significant association between psychological morbidity and reduced religious activities, negative effects on residents' family, spousal dissatisfaction with the residency programme, and call duty.

**Conclusion.** Strategies to improve this residency programme should be instituted and should include support mechanisms. Establishment and incorporation of stress management and emotional management training into medical school and residency curricula are also advocated. It is hoped that our finding of a high level of morbidity among residents and the associated risk and mitigating factors will stimulate additional research in this area.

The fact that the residency period is a stressful and overwhelming time during which residents work long hours is no longer questioned and has been well documented in the literature.<sup>1,2</sup> The identified sources of stress during residency include heavy workload, time demands, indebtedness, social problems, length of time spent in training, sleep deprivation, difficult patients, career problems, cultural issues, relocation issues, gender-related issues, and problems from significant others viz spouses and family members.<sup>1,2,3,4</sup>

These stressors could be grouped into three domains, with considerable overlap:<sup>2,4</sup> viz: (i) situational – starting a new job, moving to a new environment, and sleep deprivation; (ii) personal – family situations (marriage, parenting), financial situations (educational debts); and (iii) professional – complex medical situations, difficult patients, and career planning issues. These intense stressors may lead to serious psychological impairment<sup>5</sup> and may manifest as anxiety, depression, obsessive-compulsive disorder, suicide, alcohol/substance abuse, and posttraumatic stress disorder.<sup>2,3,5,7,9</sup> For instance, Archer *et al.*<sup>5</sup> reported a significant relationship between length of training and mood disturbances among residents. Similarly, Young<sup>7</sup> reported increased alcohol use among women residents.

Previous studies<sup>8,10</sup> have reported different psychological manifestations in different specialties and have found morbidity levels between 4% and 35%. In a study of emotional problems among psychiatric residents Russell *et al.*<sup>11</sup> found that residents who had problems that led to termination of residency were rarely free from emotional problems. Brunch *et al.*<sup>12</sup> reported that surgery residents showed no more emotional stress than other residents but were more likely to use alcohol, and were less likely to use marijuana, cocaine or other drugs and seemed to cope well with the extreme stresses of surgery training. While Campbell<sup>13</sup> reported a high incidence of suicide and substance abuse among psychiatric residents, Hughes *et al.*<sup>8</sup> reported a high rate of substance/alcohol abuse among emergency medicine and surgery residents. Litsky *et al.*<sup>14</sup> reported similar findings of alcohol and other psychoactive drug use among anaesthesiology residents, and in a study of surgery residents at University College Hospital (UCH), Ibadan, Nigeria, Adebamowo *et al.*<sup>15</sup> confirmed the stressful nature of residency training, and residents' abuse of psychoactive substances.

Despite the acknowledged stress of residency, however, its psychological impacts and morbidity and the causal factors have not been well researched in this environment. While most previous studies have focused on the nature of the residents' stress, very few of them have assessed the degree of psychological morbidity.

We therefore set out to ascertain the risk factors for and the level of psychological morbidity among resident doctors in our environment in order to reduce levels of distress, prevent professional dysfunction and emotional disorders, and improve the overall quality of the programme for the benefit of both patients and the profession.

## Materials and methods

### Subjects

All the residents in both the maternity and general wings of the University of Ilorin Teaching Hospital (UI TH) were recruited into the study. They were all contacted through their consultants, and the chief residents informed them of the reasons for the research work, namely to determine their level of psychological distress with a view to improving the residency training programme. They were told to respond to the questionnaires anonymously and were assured of absolute confidentiality. The psychiatric chief-resident (CINB) was responsible for the distribution and collection of the questionnaires.

### Questionnaires

Each resident completed a questionnaire booklet consisting of: a sociodemographic/job-related questionnaire, and the 30-item General Health Questionnaire (GHQ-30) that measures psychiatric morbidity, reported to be suitable for community and occupational settings.<sup>19</sup> The cut-off point of 4 was used to determine psychiatric morbidity in line with previous studies in this environment.<sup>12,21</sup>

All data were entered into the computer and analysed using the statistical package for social sciences (SPSS), version 11.0.<sup>22</sup> Frequency distribution, cross-tabulation, and chi-square values were calculated, and the level of statistical significance was set at 5%.

## Results

Of 100 resident doctors given questionnaires, 73 returned them. Seventy questionnaires were completed, while 3 were not and therefore were not analysed, giving a response rate of 70%.

Of the 70 respondents who returned completed questionnaires, 18 (25.7%) were classed as 'GHQ-positive' (having scored 4 or more on the GHQ-30) and 52 (74.3%) as 'GHQ-negative' (having scored less than 4). Some sociodemographic and job-related data for both subgroups are presented in Table I.

### Sociodemographic and work-related characteristics (Table I)

As shown in Table I, the majority of the residents (52.9%) were below 35 years of age, 87.1% were male, 88.6% were married, 75.7% had less than 3 children, and 60.0% were Christians. Most (74.3%) were not socially active while 25.7% were not actively religious. Seven per cent of the residents' relatives had a history of emotional problems.

Ninety-six per cent had an MB BS degree as their basic academic qualification, 45.7% were currently at the senior registrar level, and the majority (20%) were in the surgery department (comprising anaesthesia, orthopaedic surgery, otorhinolaryngology, plastic and neurosurgery, and 4 in general surgery), and 48.6% of the residents had spent between 3 and 5 years in residency training.

Ninetyone per cent of the residents reported the workload to be either heavy or very heavy, 72.9% believed that their work was affecting their families, 67.1% of their spouses perceived their workload to be satisfactory, and 60.0% of residents preferred relaxation with family during leisure time.

Most of the residents (68.6%) preferred doing call duty because of the financial benefit, the majority (42.9%) had no difficulty with the academic component, and most (58.6%) had very cordial relationships with their colleagues. Seventy-three per cent of the residents perceived their remuneration to be unsatisfactory, 47.1% perceived government support to be inadequate, and the majority (54.3%) said they would want government to increase the funding of tertiary health institutions.

### Sociodemographic and job-related risk factors for morbidity (Table II)

Although not statistically significant, residents with morbidity were likely to be young (below 35 years of age), male, married, Christian, and to have 2 or less children. There were also no significant differences in the pattern of leisure activities, familial predisposition to psychiatric disorder, and social activities between residents with psychiatric morbidity and those without morbidity. However, residents who were not actively religious were significantly more likely to have morbidity.

Table 1. Sociodemographic and job-related characteristics of resident doctors in a Nigerian teaching hospital

| Variable                                | N (%)     |
|-----------------------------------------|-----------|
| Age (years)                             |           |
| < 35                                    | 37 (52.9) |
| 35 - 44                                 | 30 (42.9) |
| 45 - 54                                 | 3 (4.3)   |
| Gender                                  |           |
| Male                                    | 61 (87.1) |
| Female                                  | 9 (12.9)  |
| Marital status                          |           |
| Single                                  | 8 (11.4)  |
| Married                                 | 62 (88.6) |
| Number of children                      |           |
| ≤ 2                                     | 53 (75.7) |
| 3 - 5                                   | 17 (24.3) |
| Religion                                |           |
| Christian                               | 42 (60)   |
| Islam                                   | 28 (40)   |
| Type of leisure                         |           |
| Relaxation with family                  | 42 (60)   |
| Travelling/picnicking                   | 6 (8.6)   |
| Outdoor games                           | 2 (2.9)   |
| Relaxation/travelling                   | 8 (11.4)  |
| Relaxation/outdoor games                | 2 (2.9)   |
| Religious activities                    |           |
| Very active                             | 28 (40)   |
| Active                                  | 24 (34.3) |
| Not active                              | 18 (25.7) |
| Social activities                       |           |
| Very active                             | 6 (8.6)   |
| Active                                  | 12 (17.1) |
| Not active                              | 52 (74.3) |
| Relatives with emotional problems       |           |
| Yes                                     | 5 (7)     |
| No                                      | 65 (93)   |
| Work effects on family                  |           |
| Yes                                     | 51 (72.9) |
| No                                      | 19 (27.1) |
| Difficulty with examinations            |           |
| With Primary fellowship                 | 21 (30)   |
| With Part I fellowship                  | 19 (27.1) |
| No difficulty                           | 30 (42.9) |
| Assessment of remuneration              |           |
| Satisfactory                            | 19 (27.1) |
| Unsatisfactory                          | 51 (72.9) |
| Basic academic qualifications (Degrees) |           |
| MB BS only                              | 67 (95.7) |
| MB BS + bachelor                        | 1 (1.4)   |
| MB BS + master                          | 1 (1.4)   |
| MB BS + bachelor + master               | 1 (1.4)   |

Table 1 continued

|                                   |           |
|-----------------------------------|-----------|
| Residency status                  | 1 (1.4)   |
| Senior house officer              | 30 (42.9) |
| Registrar                         | 32 (45.7) |
| Senior registrar                  | 7 (10.0)  |
| Post part II senior registrar     |           |
| Department                        | 6 (8.6)   |
| Psychiatry                        | 9 (12.9)  |
| Internal medicine                 | 9 (12.9)  |
| Laboratory medicine               | 12 (17.1) |
| Obstetrics                        | 7 (10)    |
| Paediatrics                       | 4 (5.7)   |
| Radiology                         | 14 (20)   |
| Surgery                           | 5 (7.1)   |
| Community health                  | 4 (5.7)   |
| General medical practice          |           |
| Length of training (years)        | 12 (17.1) |
| < 2                               | 34 (48.6) |
| 3 - 5                             | 24 (34.3) |
| > 5                               |           |
| Perception of government support  | 5 (7.1)   |
| Very adequate support             | 32 (45.7) |
| Bare support                      | 33 (47.1) |
| Inadequate support                |           |
| Perception of workload            | 28 (40)   |
| Very heavy                        | 36 (51.4) |
| Heavy                             | 6 (8.6)   |
| Appropriate                       |           |
| Expectations from government      | 1 (1.4)   |
| Increase remuneration             | 38 (54.3) |
| Increase funding                  | 25 (35.7) |
| Funding/remuneration              | 5 (7.1)   |
| Funding/remuneration/interference |           |
| Work effects on family            | 51 (72.9) |
| Yes                               | 19 (27.1) |
| No                                |           |
| Spouse perception of job          | 6 (8.6)   |
| Very satisfactory                 | 47 (67.1) |
| Satisfactory                      | 17 (24.3) |
| Unsatisfactory                    |           |
| Desirability of call duty         | 48 (68.6) |
| Very desirable (increased pay)    | 14 (20.0) |
| Not desirable (physical stress)   | 8 (11.4)  |
| Not desirable (emotional stress)  |           |

Although not statistically significant, most residents with the likelihood of morbidity had only a basic medical degree (MB BS), most were registrars, and the majority were in the department of internal medicine followed by surgery, while none of the residents in the obstetrics/gynaecology department had morbidity. Most of them had spent between 3 and 5 years in residency training, about half found the workload heavy, most of them perceived their

Table II. Sociodemographic and job-related risk factors for morbidity

|                                  | GHQ-positive (N = 18) | GHQ-negative (N = 52) | $\chi^2$ | p-value |
|----------------------------------|-----------------------|-----------------------|----------|---------|
|                                  | N (%)                 | N (%)                 |          |         |
| Age (years)                      |                       |                       |          |         |
| < 35                             | 11 (61.1)             | 26 (50)               | 0.34     | 0.56    |
| 35 - 44                          | 7 (38.9)              | 23 (44.2)             |          |         |
| 45 - 54                          | -                     | 3 (5.8)               |          |         |
| Number of children               |                       |                       |          |         |
| ≤ 2                              | 12 (66.7)             | 41 (78.8)             | 0.52     | 0.47    |
| 3 - 5                            | 6 (33.3)              | 11 (21.2)             |          |         |
| Professional status              |                       |                       |          |         |
| Senior house officer             | -                     | 1 (1.9)               |          |         |
| Registrar                        | 11 (61.1)             | 19 (36.5)             |          |         |
| Senior registrar                 | 7 (38.9)              | 25 (48.1)             |          |         |
| Super senior registrar           | -                     | 7 (13.5)              |          |         |
| Religious activities             |                       |                       |          |         |
| Very active                      | 5 (27.8)              | 23 (44.2)             | 22.45    | 0.0032  |
| Active                           | 3 (16.7)              | 21 (40.4)             |          |         |
| Not active                       | 10 (55.6)             | 8 (15.4)              |          |         |
| Length of training (years)       |                       |                       |          |         |
| < 2                              | 2 (11.1)              | 10 (19.2)             | 0.76     | 0.68    |
| 3 - 5                            | 10 (55.6)             | 24 (46.2)             |          |         |
| > 5                              | 6 (33.3)              | 18 (34.6)             |          |         |
| Perception of workload           |                       |                       |          |         |
| Very heavy                       | 9 (50)                | 19 (36.5)             | 0.4      | 0.52    |
| Heavy                            | 9 (50)                | 27 (51.9)             |          |         |
| Appropriate                      | -                     | 6 (11.5)              |          |         |
| Assessment of remuneration       |                       |                       |          |         |
| Satisfactory                     | 2 (11.1)              | 17 (32.7)             | 2.15     | 0.14    |
| Unsatisfactory                   | 16 (88.9)             | 35 (67.3)             |          |         |
| Work effects on family           |                       |                       |          |         |
| Yes                              | 17 (94.4)             | 34 (65.4)             | 4.34     | 0.04    |
| No                               | 1 (5.6)               | 18 (34.6)             |          |         |
| Spouse perception of job         |                       |                       |          |         |
| Very satisfactory                | 1 (5.6)               | 5 (9.6)               | 8.71     | 0.01    |
| Satisfactory                     | 8 (44.4)              | 39 (75)               |          |         |
| Unsatisfactory                   | 9 (50)                | 8 (15.4)              |          |         |
| Social activities                |                       |                       |          |         |
| Very active                      | 3 (16.7)              | 3 (5.8)               | 2.03     | 0.36    |
| Active                           | 2 (11.1)              | 10 (19.2)             |          |         |
| Not active                       | 13 (72.2)             | 39 (75)               |          |         |
| Difficulty with examinations     |                       |                       |          |         |
| With primary                     | 2 (11.1)              | 19 (36.5)             | 23.45    | 0.00003 |
| With part I                      | 7 (38.9)              | 12 (23.1)             |          |         |
| Nil difficulty                   | 9 (50)                | 21 (40.4)             |          |         |
| Desirability of call duty        |                       |                       |          |         |
| Very desirable (pay)             | 9 (50)                | 39 (75)               | 11.53    | 0.003   |
| Not desirable (physical stress)  | 3 (16.7)              | 11 (21.2)             |          |         |
| Not desirable (emotional stress) | 6 (33.3)              | 2 (3.8)               |          |         |
| Relationship with colleagues     |                       |                       |          |         |
| Very cordial                     | 5 (27.8)              | 36 (69.2)             | 9.53     | 0.008   |
| Cordial                          | 11 (61.1)             | 14 (26.9)             |          |         |
| Not cordial                      | 2 (11.1)              | 2 (3.9)               |          |         |

remuneration to be unsatisfactory, and about half of them expected government to improve the funding of health institutions.

Most residents who had significant morbidity felt that their work affected their family and reported that their spouses perceived their job to be unsatisfactory. Most of them wanted to do call duty because of the financial benefit, and most of them had no difficulty academically. As regards relationships with other health teams, most residents with significant morbidity had cordial relationship with their colleagues.

## Discussion

### Prevalence of morbidity

The psychiatric morbidity level of 25.7% among the residents was higher than the reported morbidity among other occupational groups<sup>17,18,21</sup> and among consultants in Nigeria,<sup>19,20</sup> but lower than the reported morbidity among consultants elsewhere<sup>22,26</sup> and among residents.<sup>10,27</sup> The myriad academic, situational and professional<sup>3,27</sup> difficulties inherent in residency training coupled with the unstable institutional and government policies concerning the residency programme as well as poor facilities might be responsible for this high morbidity. The residents' additional responsibilities for patient care might also be contributory. This could suggest that doctors generally may be comparatively more prone to occupationally related psychological problems.

Perhaps the residents' adaptation and adjustment to the stressful environment might have buffered some impacts of the stress, thereby lowering their morbidity level compared with other studies among residents<sup>10,22,27</sup> reporting higher morbidity.

### Sociodemographic and job-related risk factors

The finding of significantly cordial relationships among the residents could translate to good support from colleagues. Support groups and various supportive efforts were reported to have a buffering effect on work stress<sup>27,29</sup> and could perhaps explain this study's comparatively low morbidity among residents.

Level of religious belief has been implicated in the development of psychiatric problems.<sup>20</sup> This study's finding of increased likelihood of morbidity among residents who were not actively religious was contrary to previous studies that associated increased religious belief with morbidity,<sup>30</sup> or that found lack of association between morbidity and religious belief.<sup>17,18</sup> The present finding could be one of the manifestations of psychological problems in the residents. This could have made these residents withdraw

from religious activities and possibly other activities. It could also explain their social inactivity.

Contrary to documented reports of increased use of various substances and alcohol among residents,<sup>8,17,18</sup> and the reported comparatively lower use among surgery residents,<sup>2</sup> this study did not show any significant association between morbidity and substance use. While one might have ascribed this to the influence of religion on the individual resident, the participants were significantly not active religiously. The location of the study in probably one of the most religious towns in the country could possibly have influenced the residents' non-engagement in substance use.

Contrary to previous work reporting significant association between age, gender<sup>22,34</sup> and morbidity, the present study did not show such association. Perhaps the support from spouses of these residents buffered the possible psychological impact of these factors. Further research may be needed to ascertain the contribution of age and gender in this regard.

The residents' academic difficulties appeared to have contributed minimally to the development of morbidity in the residents, contrary to the finding of Adebomawo *et al.*<sup>15</sup> who reported examination to be the most stressful factor among surgery residents. Perhaps other issues played a more overwhelming role than academic problems in the development of morbidity.

Similarly, residents who were undesirous of doing call duty because of its untoward psychological effects were significantly more likely to have psychiatric morbidity. These residents could have perceived call duty to be an extra burden, especially when they were not psychologically disposed to it. Such call duty (or burden) could translate to work overload, job stress and psychological morbidity for the residents. This finding was similar to that of previous studies<sup>15</sup> which associated increased levels of stress with doing call duty among residents. Yao and Wright<sup>3</sup> also reported psychological ill health consequent on work overload among residents.

The significant association between morbidity and work effect on residents' families was in agreement with the findings of previous studies.<sup>3,27</sup> For instance, Yao and Wright<sup>3</sup> found that over 40% of residents experienced problems with their families, with 72% of them believing that the stress of residency was a contributing factor. This was also in agreement with the study of Ekelin<sup>20</sup> in which residents identified spending little time with their spouses/partners as a major source of stress. The ongoing responsibilities of the residents could have ostracised them from their families.

remuneration to be unsatisfactory, and about half of them expected government to improve the funding of health institutions.

Most residents who had significant morbidity felt that their work affected their family and reported that their spouses perceived their job to be unsatisfactory. Most of them wanted to do call duty because of the financial benefit, and most of them had no difficulty academically. As regards relationships with other health teams, most residents with significant morbidity had cordial relationship with their colleagues.

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