BURNOUT AND PERCEIVED FAMILY AND SOCIAL SUPPORT OF A CROSS-SECTION OF FEMALE SENIOR REGISTRARS IN THE NIGERIAN RESIDENCY PROGRAMME.

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ABSTRACT

Background- Burnout has been noted to be increasing in prevalence among doctors undergoing residency training, and the female gender is especially vulnerable to burnout. Not many studies have isolated female doctors in residency as subjects for a study on burnout rates and related factors. This study was designed to measure the burnout rate and perceived family and social support among female doctors across residency training programmes in Nigeria.

Methodology- This was a cross-sectional study which used the Oldenburg Burnout Inventory (OLBI) Instrument to assess the burnout rate and the multidimensional scale of perceived social support to assess the perceived support received by the study respondents. Data for a total of 55 respondents was analysed using the 6.2.14, Microsoft Excel 2021 (v16.0)

Results- The study respondents were distributed across 11 residency specialty areas located across Nigeria with an age range of 29- 50 years, an average age of 35.1±3.55 years. Most (89.2%) of the study respondents were married and had been in the residency programme for an average of 3.9±1.41 years. The majority (63.6%) of the study respondents were found to have high burnout, with 32.7% having moderate burnout and 3.7% had low burnout. The exhaustion component was overwhelming (96.35% had high exhaustion) while 100% had low disengagement) in the burnout spectrum. The study respondents perceived that they received the most support from their spouses (94.6%), parents (93.9%), siblings (88.9%) and friends (86.5%) and at the time of the survey, they noted that their most significant source of stress was from coworkers (72%).

Conclusion- There is a need to explore the workplace of Female Doctors in residency to address the factors that increase their vulnerability to stress and subsequently burnout.

Key Words; Burn out, Female Senior Residents, Nigeria, Family and Social Support.

Introduction

Burnout is a psychological process resulting from chronic work stress which is expressed as physical, emotional, and attitudinal symptoms.[1] Burnout is a state of physical, emotional and mental exhaustion caused by prolonged involvement in

emotionally challenging situations.[2] Burnout typically results from working `on the front lines' which is very prominent in-service oriented occupations like Medicine.[2] The burnout syndrome is characterized by low energy, chronic fatigue, weakness, feelings of helplessness, hopelessness, entrapment, and negative attitudes towards one's self, work and life itself.[1]

Residency training has been noted as the peak time for burnout when compared with the other stages of a physician's career.[3] The high expectations of the Trainers of the Resident Doctors, long working hours, prolonged sleep deprivation, uncontrolled schedules, high job demands and inadequate personal time often experienced by Doctors in residency have been noted to be responsible for the high risk of burnout experienced at this stage of a Physician's career.[3]

Many authors have attempted to examine and categorize stressors experienced by residents, both within residency and in their lives.[3] Others have tried to predict levels of stress and one such study that was carried out in a Nigerian residency training programme showed that being a female Resident Doctor was a predictor of burnout among the study respondents.[4,5] The varying responses to stress by Doctors in residency include depression, burnout, anger/irritability, anxiety and substance abuse.[6] Other responses to stress experienced by Doctors in residency include reported changes in mood patterns from enthusiasm and depression to anger and fatigue.[7] Sleep deprivation alone which is a common occurrence among doctors in residency training, has been shown to predispose resident Doctors towards more medical errors, injuries, increased alcohol and drug use, as well as increased conflict with other healthcare staff.[8] In very severe cases, suicides have occurred among burnt-out Doctors and these have created a need for researchers to more closely examine residency training stresses and burnout among Doctors in residency training.[9,10]

Burnout among Doctors in residency training, as in other health professionals, is a process that begins with job stress. As Doctors in residency training expend increasing resources in their efforts to deal with these stressors, the process of burnout is initiated.[2]

Female Medical Doctors at the senior residency training level are often married and, in some instances, have had Children. The added responsibilities and associated stress of marriage, childbearing/caring in the context of residency training further stretch the emotional reserve of these female Doctors in training hence predisposing them to burnout.

The Authors did not come across any literature that specifically assessed the burn out levels of female senior Resident Doctors in Nigerian residency training programmes and explored their perceived social support and associated stressors.

This study was therefore designed to assess the levels of burnout and the level of perceived family and social support among senior female resident Doctors across specialities of medicine in Nigeria.

Materials and Methods

Study Design

The design of the study was cross-sectional.

Study Setting

The survey was administered during a mandatory course organized by the National Post graduate College for Senior Registrars across the various faculties of the College across Nigeria.

Sampling Method

A convenience sampling method was utilized targeted at all the female senior Registrars who were present for the course.

Data Collection

All A total of 100 questionnaires were distributed and a total of 55 questionnaires with varying completion status was received representing a survey response rate of 55% and a non-response rate of 45%. The study participants received a questionnaire that comprised four sections: the first section provided prospective participants with information about the study and obtained their consent for participation. The second section gathered socio-demographic information about the

participants: age, marital status, residency specialty area, the status of the workplace (Government, private, Mission), duration of residency in years, average number of hours of call monthly, and number of Children if any. The third section consisted of the Oldenburg Burnout Inventory (OLBI) scale for determining the respondents' burnout level. The Oldenburg Burnout Inventory (OLBI) scale is a questionnaire which has been validated for use and tested in several populations and found to have good internal reliability with a Cronbach alpha score range of 0.85 to 0.91, and a test-retest value of 0.72 to 0.85 indicating good validity.[11] OLBI has two dimensions (exhaustion and disengagement from work) evaluated by 16 items: 8 items measure exhaustion, and 8 items measure disengagement from work. Both dimensions were evaluated by four positively worded items and four negatively worded items. Items were scored by using a scale ranging from 1 to 4 (Strongly agree – Strongly disagree). The scores of the OLBI are summed across the exhaustion and disengagement sections as contained in the standard scoring scale that has been used in similar studies. Burn out levels are categorized based on the total scores in the different dimensions of burn out as low, moderate or high levels of burn out.[11] The last section of the data collection tool consisted of a 12-item multidimensional scale of perceived social support questionnaire which is a validated tool that has been used to assess the perceived social support of different groups of individuals in a variety of settings.[12]

The tool has been noted to have good psychometric properties with a Cronbach's alpha score of 0.84, and a reliability score of 0.7. [12] The tool is designed to sample the perceived support/stress from a variety of people (Spouse or significant other, Child(ren) or Grandchild(ren), Parent(s) or Grandparent(s), Brother(s) or Sister(s) Other relatives by blood, In-laws i.e. relative(s) by marriage, Neighbor(s), Co-worker(s), Members of spiritual/religious group and Friend(s) and the level of support/stress from the various groups represented on a scale from 1to 4(none, some, a lot, there is no such person). Data for a total of 55 respondents was analyzed using the Microsoft Excel 2021 (v16.0). and the analysis included a simple description, using measures that were specific to quantitative variables such as the mean and standard deviation, as well as in terms of frequency and percentages.

Ethical Considerations

Confidentiality and anonymity of respondents were prioritized; identifying labels were not included in the questionnaire. Each participant signed an informed consent form that contained a participant information sheet detailing what the survey was about, the information required and what it will be used for, as well as the measures in place to ensure that the information provided was confidential. Ethical approval was obtained from Bingham University Teaching Hospital Health Research Ethics Committee (NHREC/21/05/2005/01145).

Results

Table 1 (below) shows that most (59.3) of the Study respondents belonged to the 31-36 years age group, with the next majority (29.6%) belonging to the 37-42 age group. The study respondents were distributed across 11 residency with most (32.7%) from the Paediatrics faculty followed by 11.6% from the faculty of Obstetrics &Gynecology. Most (89.2%) of the study respondents were married and most (40%) had been in the residency programme for a period of 4 years closely followed by 36.3% who had been in the residency training programme for approximately 3 years. The number of call days reported by most of the study respondents was 6 hours in 20.4% of the study respondents and 7 hours in another 20.4%. Majority (89.2%) of the study respondents were from Government owned residency training institutions.

Table 1: Socio-demographic characteristics of the study Respondents

	Description	**Frequency**	**Percentage (%)**
Age group(years)	25-30	5	9.3
	31-36	32	59.3
	37-42	16	29.6
	49-54	1	1.8
Specialty	Pathology	2	3.8
	Ortorhinolaryngology	2	3.8
	Surgery	1	1.9
	Community Medicine	5	9.7
	Psychiatry	2	3.8
	Paediatrics	17	32.7
	Dentistry	1	1.9
	Ophthalmology	5	9.6
	Obstetric &Gynecology	6	11.6
	Internal medicine	3	5.8
	Family Medicine	8	15.4
Duration of residency in years	2	1	1.8
	3	20	36.3
	4	22	40.0
	5	7	12.7
	6	3	5.5
	7	2	3.7
Number of call days monthly	3	5	11.7
	4	8	18.1
	5	6	13.6
	6	9	20.4
	7	9	20.4
	8	4	9.0
	9	1	2.3
	10	4	9.0
	>10	3	6.8
Type of training Institution	Government	49	89.2
	Private	4	7.2
	Mission	2	3.6
Marital Status	Single	6	10.8
	Married	49	89.2

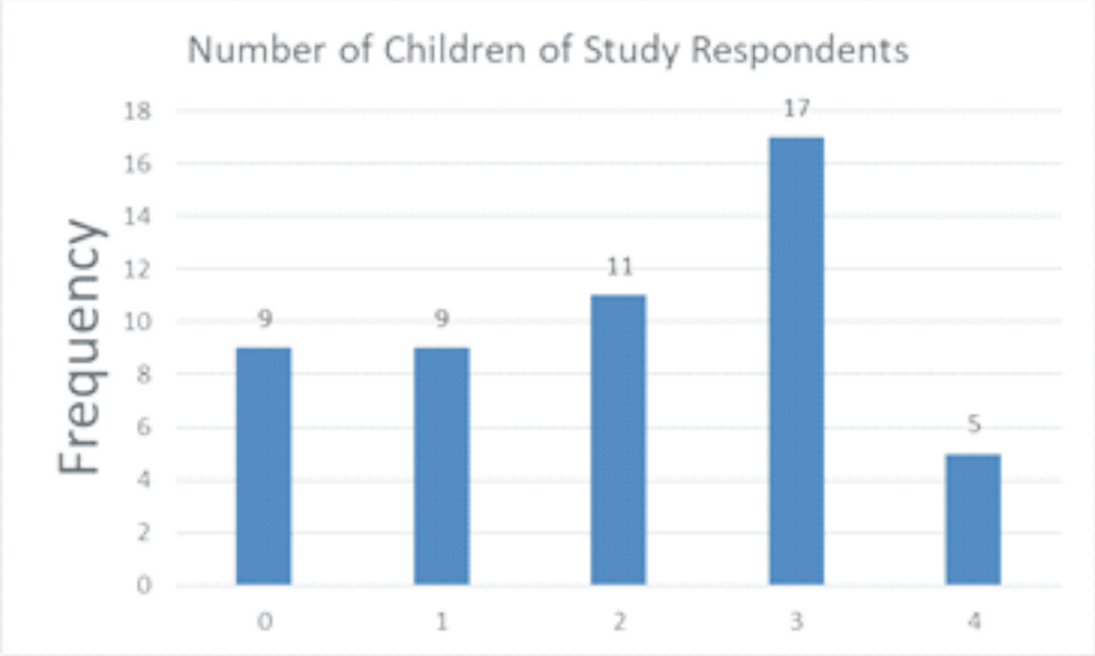

Figure 1: Number of Children of Study Respondents

The Figure 1 (above) shows that most 17(38.6%) of the study respondents had 3 Children, and 11(25%) had 2 Children, 9 (20%) had one Child, another 9 (20%) had no Children while 5 (11.4%) had 4 Children.

Table 2 (below) shows that most 35(63.6%) of the study respondents recorded high burnout levels corresponding to a burn out score of more than 59, 32.7% reported moderate burnout corresponding to burn out scores between 44-59 while 2(3.7%) reported low burn out with burn out scores that are less than 44.

Table 2: The Burnout Levels of Study Respondents

Level	Range scores	Frequency	Percentage
Low	<44	2	3.7
Moderate	44-59	18	32.7

Burnout component	Level	Range scores	Frequency	Percentage
High		>**59**	35	63.6

Table 3 (below) represents a breakdown of the burnout status of study respondents which show that the effect of burn out was more in terms of exhaustion rated as heigh by 96.3% of the study respondents and moderate by 3.7%.

All (100%) of the study respondents had low engagement levels as a consequence of their burn out.

Table 3 The Burnout levels on components of Study Respondents

Burnout component	Level	Range scores	Frequency	Percentage
Exhaustion	Low	<21	0	0%
	Moderate	21-29	2	3.7%
	High	>29	53	96.3%
Disengagement	Low	<24	55	100%
	Moderate	24-31	0	0%
	High	>31	0	0%

Table 4 (below) presents the sources and level of perceived support available to study respondents. The study respondents perceived that they received the most support captured as some support and a lot of support in the table from their spouses (94.6%), parents (93.9%), siblings (88.9%) and friends (86.5

Table 4: Sources and level of perceived support available to study respondents

Source of Support	Level of support N(%)				Total respondents
	None	Some	A lot	There is no such person	
Spouse or significant other	1(1.8)	12(22.7)	38(71.9)	2(3.6)	53(100)
Child(ren) or Grandchild(ren)	6(12.5)	17(35.5)	18(37.5)	7(14.5)	48(100)
Parent(s) or Grandparent(s)	1(1.85)	16(29.5)	35(64.8)	2(3.7)	54(100)
Brother(s) or Sister(s)	4(7.4)	21(38.9)	27(50.0)	2(3.7)	54(100)
Other relatives by blood	10(22.2)	19(42.2)	12(26.6)	4(9)	45(100)
In-laws i.e. relative(s) by marriage	14(28)	20(40)	13(26)	3(6)	50(100)
Neighbor(s)	19(37.3)	25(49)	1(1.9)	6(11.8)	51(100)
Co-worker(s)	3(5.8)	39(75)	10(19.2)	0(0)	52(100)
Members of spiritual/religious group	12(23.1)	32(61.5)	4(7.7)	4(7.7)	52(100)
Friend(s)	4(7.7)	34(65.4)	11(21.1)	3(5.8)	52(100)

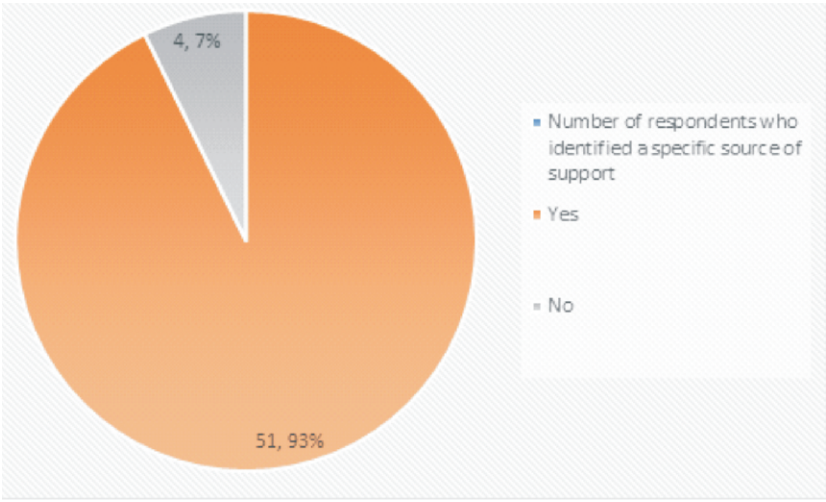

Figure 2: Specific Source of Perceived Support by Study Respondents

Figure 2 (above) shows that the majority (93%) of study respondents had a particular person that they trusted and could go to with personal difficulties

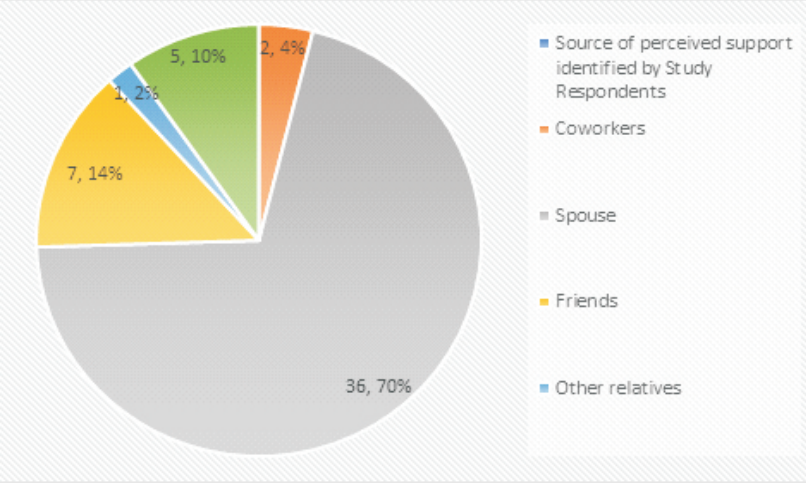

Figure 3: Categories of Persons identified by study respondents as specific source of support

Figure 3 (above) presents the categories of person's that study respondents identified as people that they trust and can go to when they require support. Most 36 (70%) study respondents mentioned their spouses, 7(14%) their friends, 5(10 %) mentioned their siblings, 2(4%) coworkers and 1(2%) to their other relatives.

Table 5 (below) represents the perceived sources of stress experienced by study respondents who reported that their coworkers contributed to the stress in 63.4% of cases, followed by their spouses 40.4%, in-laws in 25%, neighbours in 17.9 %, spiritual groups in 17.1% , other relatives in 15.3 % , friends in 10.5 % and 10% from their siblings.

Table 5: Sources and level of stress experienced by study respondents.

Source of Stress	Level of Stress N (%)				Total respondents
	None	Some	A lot	There is no such person	
Spouse or significant other	24(57.1)	14(33.3)	1(2.5)	3(7.1)	42(100)
Child(ren) or Grandchild(ren)	38(100)	0(0)	-	-	38(100)
Parent(s) or Grandparent(s)	32(82.1)	5(12.8)	0(0)	2(5.1)	39(100)
Brother(s) or sister(s)	34(85.0)	4(10.0)	0(0)	2(5.0)	40(100)
Other relatives by blood	31(79.5)	6(15.3)	0(0)	2(5.2)	39(100)
In-laws i.e. relative(s) by marriage	27(67.5)	10(25)	1(2.5)	2(5)	40(100)
Neighbor(s)	29(74.4)	7(17.9)	0(0)	3(7.7)	39(100)
Co-worker(s)	14(34.1)	19(46.3)	7(17.1)	1(2.5)	41(100)
Members of your spiritual/religious group	31(75.6)	7(17.1)	0(0)	3(7.3)	41(100)
Friend(s)	32(84.2)	4(10.5)	0(0)	2(5.3)	38(100)

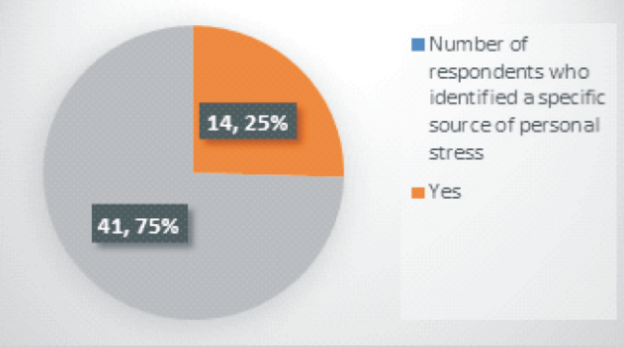

Fig 4: Specific Source of Perceived Stress by Respondents

Figure 4 (above) shows that the majority (75%) of the respondents did not identify any specific person causing them personal stress at the time of the survey.

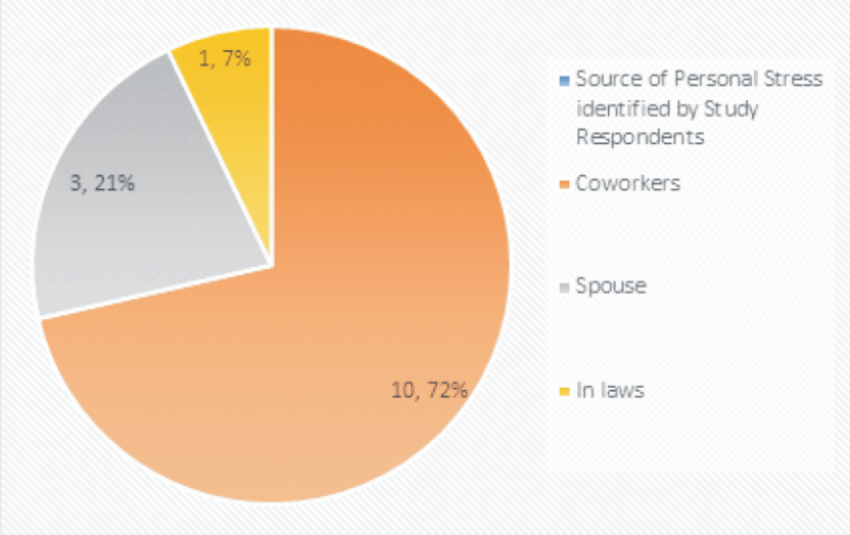

Fig 5: Categories of Persons identified by study respondents as causing personal stress

Figure 5 (above) shows that among the 25 % of study respondents who admitted that there were persons who caused them personal stress, they mentioned their coworkers in 72% of instances, their spouses in 21% of instances and their in-laws in 7% of instances.

DISCUSSION

This study was designed to measure the burnout rate and perceived family and social support among female Doctors across residency training programmes in Nigeria. While it is established that burnout rates are significantly higher among female Resident Doctors, perceived social support has been noted to play a moderating role between job burnout and subjective wellbeing.[13]

This study found that the majority (63.6%) of the study respondents were found to have high burnout, 32.7% had moderate burnout and 3.7% had low burnout with the exhaustion component overwhelming (96.35% with high exhaustion). Regarding the disengagement component,100% had low disengagement in the burnout spectrum. This finding is similar to those of a study conducted in the United States where 84% of

female emergency medicine physicians suffered from moderate to high levels of emotional exhaustion, 48.1% had moderate to high levels of depersonalisation and 80.5% had moderate to high levels of burnout in the low personal achievement subscale.[14] Another study indicates that a high percentage of female neurologists experience symptoms of burnout, and in a study among primary care physicians, women were almost twice as likely as men to report burnout.[14,16]

Female Doctors have been noted to show more empathy towards Patients and spend more time counselling patients, in addition to providing care for their immediate and extended families.[16,17] These are the possible explanations why burnout rates, especially of the emotional exhaustion type are more common among female Physicians and especially senior registrars in our context who typically combine the dual role of residency and family caregiving.

Social support has been found to reduce emotional burnout.[18] This study also considered the source of support available for the female Senior registrars as well as their source of stress. The study respondents perceived that they received the most support from their spouses, parents, siblings and friends at the time of the survey.

The workplace and home are commonly implied as separate domains, but research has shown that the roles at the workplace and home are complementary.[19] Working full time in an organization as is the custom for female medical doctors in residency training and keeping the household at the same time requires a lot of coordination, support and attention. The challenges faced in trying to balance the overlapping borders of work and family domain require a very good understanding of both spheres.[1] Attempts at finding the required work-life balance often, lead to a clash in the two domains of life with burnout resulting as a consequence.

The family is considered the source of human emotion, hence the support from family and significant other is especially important. The family can influence one's health, psychologically and physically, and family support is a positive predictor of well-being.[18]

Work-related burnout negatively impacts an individual's family, work, as well as their physical and mental health.[11] This is especially true for doctors, who not only experience a negative impact on their job performance and increased susceptibility to physical, emotional and psychological illnesses but inability to concentrate on patient care. This makes burnt-out doctors prone to medical errors which negatively impact patient care and, in some instances, have serious consequences on the health of the patients that such doctors are responsible for. The majority of the respondents in this study noted that a significant cause of their stress at the time of the survey was related to their workplace, it is therefore important for residency training institutions to explore ways of introducing interventions that will improve the work conditions especially of female doctors in residency. This will hopefully increase work efficiency, reduce medical errors, and improve patient compliance and patient satisfaction with health care services.

This study is limited in terms of the generalization of its findings by the sample size, but it offers an opportunity for more research, especially of the mixed method type to explore the coping mechanism of female doctors in residency. It will also be interesting to further explore why emotionally exhausted doctors surveyed in this study had low disengagement scores.

Conclusion

The generalization of the findings of this study are limited by the small sample size however this should serve as a basis for further research which should target a larger sample size and include a qualitative component that will further explore the factors responsible for burn out among this at risk group of resident Doctors with a view to proposing interventions that will reduce burn out among this group as well as improve their social support system and general wellbeing.

Acknowledgement

The Authors of this Manuscript acknowledge the National Postgraduate College who provided an

opportunity for conducting this survey and to all the study respondents who have contributed to the body of knowledge in this area.

Financial support and sponsorship

This study was funded solely by the Authors and declare no sponsorship or funding from any external source.

Conflict of interest

The Authors of this Manuscript declare that we have no financial or personal relationship(s) which may have inappropriately influenced us in writing this paper.

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