International Journal of Community Medicine and Public Health
Kaoje AU et al. Int J Community Med Public Health. 2019 Apr;6(4):1385-1392
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20191364

Original Research Article

Predictors of job motivation among doctors and nurses in a tertiary hospital in Sokoto, Nigeria

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Received: 24 December 2018
Accepted: 31 January 2019

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ABSTRACT

Background: Doctors and nurses are the largest and very important human resources for health within health service organizations; therefore their performance will impact the overall organizational performance. The study was aimed to assess the predictors of job motivation among Doctors and nurses of a tertiary hospital.
Methods: A descriptive cross sectional study was conducted among 334 doctors and nurses. Multi-stage sampling method was used to select study respondents and self-administered questionnaires developed based on Maslow and Herzberg theories of motivation. Linear regression analysis was performed to determine the predictors of job motivation. The level of statistical significance was set at $p<0.05$.
Results: The motivators were ranked in order of importance from achievement factors, remuneration, job attributes and co-workers. Linear regression revealed only respondents' designation significantly predicted job attributes as a motivating factor. Doctors were less likely to be motivated by their job attributes compared with nurses (p=0.03). Sex (p=0.01) and holding managerial position (p=0.001) predicted remuneration as a motivating factor for doctors and nurses. Disaggregation by profession showed, only holding managerial position (p=0.02) predicted remuneration as a motivating factor for doctors while for nurses, predictors were sex (p=0.001) and holding managerial position (p=0.02). Co-workers as a motivating factor for all groups were predicted by holding managerial position (p=0.01) and designation (p=0.03).
Conclusions: Motivation was influenced by both financial (remuneration) and non-financial incentives (achievements). Healthcare professionals tend to be motivated more by non-financial factors, implying that this should be a cogent strategy for effective employee management.

Keywords: Predictors, Job motivation, Doctors, Nurses, Sokoto

INTRODUCTION

Motivation is a process that account for an individual's passion, direction and determination toward attaining a goal.[1] However, the level of motivation varies both between and within individuals at different times. There is no singular factor that motivates employees because people are different, act differently and are motivated by different things. Because high motivation can lead to better performance and high levels of satisfaction among workers, a better understanding of health worker motivation is essential to design effective health care delivery systems.[2]

Psychologists and behavioural scientists have postulated many theories to explain the factors that motivate the employees. The need-based theories are Maslow hierarchy theory, two factor theory (Herzberg), Alderfer's ERG theory, acquired need theory (McClellan) and those that focus on external factors (Skinner reinforcement theory). Others include theories based on intrinsic factors, which focus on internal thought processes and perceptions about motivation. These include Adam's equity theory, Vroom's expectancy theory and Locke's goal setting theory).[3] Motivation is also driven by some aspect of management such as productivity, human resource and other considerations. Notable among management theories of motivation are scientific management theory, McGregor theory X and theory Y and Ouchi's theory Z.[4] This study utilized the theoretical framework based on Maslow's hierarchy of needs and Hertzberg's two factors theory because of their high value and applicability for health care managers. Maslow's hierarchy gives a total description of human needs and developed a principle about the rank and pride of numerous human desires and how people pursue these needs. Maslow's hierarchy theory is based on the assumption that individuals have certain needs that influence their behavior, only unsatisfied needs can influence behavior, satisfied needs do not act as motivators; needs are arranged in an order of importance or hierarchy from the basic physiological to the complex self-actualization needs; and an individual's need at any level on the hierarchy emerges only when the lower needs are reasonably satisfied.[5] Herzberg two factors theory states two important things i.e. hygiene factor and motivational factors by which it gives more importance to employee status, responsibility and pay from the organization.[5] The quality of health services, their efficacy, efficiency, accessibility, and viability depend on the performance of health workers delivering these services, so it is important to consider personnel motivation and development a central issue in health policy.[6] Health worker motivation is reported to be the main determinant of health worker retention and health sector performance.[7]

Like any other industry, a healthcare manager is challenged to motivate employee to achieve organizational goals as well as achieve their personal development goals. Achieving these are often more difficult for health care organization because of its complex nature, different professional groups employed or the need for employee to work as a team collaboratively.[8] Motivation being the willingness to exert and maintain an effort towards organizational goals, motivated health workforce are more likely to apply their knowledge and skills to the real delivery of health care.[8]

Given the current challenges in many healthcare organizations, such as poor working conditions, personnel safety concerns and inadequate equipment, job motivation could play a key role in productivity and retention of human resources for health in developing countries. Therefore identifying factors that affecting employees' motivation is of paramount importance.[9] A study from Ethiopia reported that professional category, age, type of the hospital, non-financial motivators like performance evaluation and management, staffing and work schedule, staff development and promotion, availability of necessary resources, and ease of communication were found to be strong predictors of health worker motivation.[10]

Low motivation burdens the healthcare system further by encouraging the movement of health workers from rural areas to the city, and then out of the country.[11] There is increasing brain drain and attrition among health professionals in Nigeria. About 26% of Nigerian doctors are either working abroad or have changed professions and are in other jobs regarded as more financially rewarding.[12] Within the country, health professionals are moving away from the sector to other more attractive sectors. All these have been attributed to lack of adequate and appropriate motivation by those concerned leading to frustrations and low morale among health professionals and peripheral managers in Nigeria.[12] In sub-Saharan Africa, governments put much emphasis on building health infrastructures and on improving the supply chain of medical inputs but this will not yield much needed result if the health manpower is not motivated.[13] In order to inform policies and decisions related to human resource for health, and to avoid unforeseen barriers to staffing efforts of facilities, it is imperative for hospitals to study and understand the factors that motivate their workforce for optimal service delivery.[13] Because of the importance of employee motivation for organizations performance more attention is now focused on how motivational theories could be used to redesign human resource for health policies and management.[14] Despite the technological advancement, human resource still remains the basic factor of success of an organization's objectives and the most important element of production and distribution of health services.[15]

A poorly motivated employee is not only a liability but dangerous to the organization. Motivating the employee is a very important role therefore, each and every employee should be motivated by his supervisor or manager because of effects it has on workers retention and other behaviour inside the groups, in addition to propelling them to perform better to achieve the organization goals. It is within this context that this study is conducted to identify factors that influence doctors and nurses to want to do more willingly and maintain an effort towards achieving their hospital goals.

METHODS

The study was conducted in one of the three tertiary hospitals in Sokoto State, which has 812 beds capacity distributed across 26 wards. It has a total of 1705 staff, of which 285 are doctors and 599 nurses. A descriptive cross-sectional study was conducted among doctors and

nurses working in the tertiary hospital between month of August and November 2017. The respondents included in the study were full time employees of the hospital; who must have worked in the hospital for at least six months period and voluntarily consented to participate in the study.

The sample size for the study was determined by using the formula:[16] $n_f=n/[1+(n/N)]$, and $n=z^2pq/d^2$ where n_f=minimum required sample size in a population<10,000, n=the minimum required sample size from population>10,000, N=total number of the study population (doctors and nurses) in the study site=884; z=standard normal deviate at margin of random error of 0.05 corresponding to 95% confidence interval=1.96, p=estimated proportion of variable of interest (proportion of doctors and nurses that are motivated to perform their work) in a previous study. As there was no previous local data and pilot was not carried out neither, the assumption was that the proportion is likely to be 50%=0.05, d=margin of random error=0.05, q=complementary probability of p=1–p=1-0.05= 0.05. Thus, substituting value for $n=Z^2pq/d^2=(1.96)^2\times0.5\times0.5/(0.05)^2=384.16$ and $n_f=n/[1+(n/N)]=384.16/[1+(384.16/884)]=267$.

Allowance was made for non-responses which could arises due to non-responses to some questions, inability to retrieve back the self-administered questionnaires from the respondents and loss of some part or whole of some questionnaires so that this was added on to the required sample size. For this study, our calculations indicate that we need a minimum sample size of 267 and expected 80% response rate, and then we selected an initial sample size of 334=267/0.8 in order to allow for possible non-responses.

A multi-stage sampling technique was used to select study respondents from the hospital.

Stage 1 - Selection of a hospital: one out of the three tertiary hospitals was selected using simple random sampling method by balloting (writing and rolling of paper).

Then probability proportionate to size was used to allocate required sample size to doctors and nurses. By proportionate allocation (285/884×334=108) a total number of 108 questionnaires were distributed to doctors while (599/884×334=226) 226 were administered to nurses. List of all eligible nurses and doctors were generated and served as sampling frame. A sampling interval of 1 in 2 was obtained by dividing total number of study population by sample size.

Stage 2 - Selection of respondents: systematic sampling technique was used to select the respondents, using the calculated sampling interval. A simple random sampling technique by balloting (lucking dip approach) was used to select the first respondents between numbers one to two, and then subsequently, every second respondent was selected. And where the selected respondent was not reachable or declined to participate, the next available person that consented was selected. The process continued until the required number of respondents was obtained.

Questionnaire developed based on Maslow's and Herzberg's theories of motivation was adapted and used to collect data from the respondents.[4] The questionnaire was self-administered and consisted of 19 items, which were grouped under four distinct motivational factors: job attributes factor; remuneration factor; co-workers factor; and achievements factor.[2] Responses were provided on a five-point Likert scale, in which; 1=not at all important, 2=little bit important, 3=moderately important, 4=very important and 5=extremely important. The questionnaire included questions on respondents' satisfaction with different aspect of their jobs and also a single question relevant to job satisfaction which was measured on a 1-4 scale.

Questionnaires were pre-tested among doctors and nurses in the State Specialist hospital. Filled questionnaires were manually sorted out and checked for completeness and appropriateness for analysis. Data was entered into and analyzed using Statistical Package for Social Science (SPSS) version 23.0. The continuous variables were summarized using mean and standard deviation while categorical variable using frequencies and percentages. Linear regression analysis was performed to determine the joint effect of respondents socio-demographic and job related characteristics on each of the outcome variable (job attributes factor; remuneration factor; co-workers factor; and the achievements factor) for the study groups combined and by the professional group. It was assumed that there exist linear relationships between the outcome and predictor variables. The level of statistical significance was set at $p<0.05$. Ethical approval for the conduct of the study was sought and obtained from the research ethics committee of Usmanu Danfodiyo University Teaching Hospital (UDUTH), Sokoto. The consent information and form were attached to the front page of each questionnaire as part of questionnaire information to guide the respondents in making an informed decision to either participate or not.

RESULTS

A total of three hundred and thirty four questionnaires were distributed to the study respondents, however 328 (107 from doctors and 221 from nurses) were retrieved giving a response rate of 98.2%. Of the total number of respondents, 221 (67.4%) were nurses and 107 (32.6%) were doctors. Overall mean age was 34.9±8.3 years, (doctors, 35.0±7.7 and nurses, 34.9±8.7 years). Majority 223 (68.0%) of the respondents ages ranged between 25-35 years, and the least 18 (5.5%) were between 20 to 24 years. More than half 177 (54.0%) were males and nearly three-quarters 238 (72.6%) were married. One hundred and thirty-four (41.0%) of the respondents have worked

for between 1-4 years, followed by 82 (25.1%) that worked for 5-9 years while 34 (10.4%) served for less than a year. One hundred and seventy six (53.8%) work in medical section, followed by 119 (346.4%) that work in surgical section while pathology department had the least number of respondents 11 (3.4%). One-third 108 (33.0%) of respondents have held a managerial position in the hospital (Table 1).

Table 1: Socio-demographic and work related characteristics of all respondents and by their professional subgroup.

Variables	Nurses (n=221) N (%)	Doctors (n=107) N (%)	Total (n=328) N (%)
Age group (in years)			
20-24	14 (6.3)	4 (3.7)	18 (5.5)
25-39	147(66.5)	76(71.0)	223(68.0)
40-55	60 (27.2)	27(25.3)	87(26.5)
Sex			
Male	91 (41.2)	86 (80.4)	177 (54)
Female	130 (58.8)	21 (19.6)	151 (46)
Marital status			
Married	162 (73.3)	76 (71.0)	238 (72.6)
Single never married	49 (22.2)	28 (26.2)	77 (23.4)
Single ever married	10 (4.5)	3 (2.8)	13 (4.0)
Years of service			
<1	20 (9.0)	14 (13.2)	34 (10.4)
1-4	86 (38.9)	48 (45.3)	134 (41.0)
5-9	56 (25.3)	26 (24.5)	82 (25.1)
10-15	31 (14.0)	13 (12.3)	44 (13.5)
16-33	28 (1.27)	5 (4.7)	33 (10.1)
Department			
Medical	116 (52.7)	60 (56.1)	176 (53.8)
Surgical	82 (37.3)	37 (34.6)	119 (36.4)
Pathology	6 (2.7)	5 (4.7)	11 (3.4)
Radiation	16 (7.3)	5 (4.7)	21 (6.4)
Managerial position			
Yes	79 (35.7)	29 (27.1)	108 (32.9)
No	142 (64.3)	78 (72.9)	220 (67.1)

n= number; % =percentage

Table 2: Respondents' mean scores (SD) for motivating factors.

Motivational factors	Nurses (n=221)	Doctors (n=107)	Overall (n=328)
Achievements	4.25 (0.69)	4.18 (0.63)	4.08 (0.77)
Remuneration	4.16 (0.92)	4.00 (0.87)	4.01 (0.97)
Job attributes	3.97 (0.73)	4.07 (0.66)	3.92 (0.76)
Co-workers	3.8 (0.75)	3.91 (0.69)	3.76 (0.76)

Reported on a 1-5 scale with higher values corresponding to higher motivation

Workers' achievement, followed by remuneration had the highest mean scores for the doctors and nurses combined. Disaggregation by professional group showed that achievement factor has the highest mean score while co-worker factors has lowest mean score for doctors and nurses respectively (Table 2).

One hundred and thirty one 131 (40.1%) respondents felt opportunities for skill development was an extremely important motivating factor. Some other job attributes reported to be extremely important by more than one third of respondents are goal setting, decision making and availability of job schedule/clear duties. Less than a third of respondents felt presence of job control, delegation of authority and opportunity to display creativity were extremely important motivating job attributes. Almost half of the respondents (49.7 and 46.8%) felt salary increment and prompt payment of retirement benefits respectively were extremely important motivating attributes of workers remuneration. Other attributes perceived to be extremely important motivators were annual leave by 141 (43.0%) and incentives/benefits package by 138 (42.1).

Support from supervisors and teamwork were reported by 100 (30.5%) and 96 (29.3%) respectively as being extremely important co-workers motivating factors. Others are pride derived from job by 86 (26.3%) and recognition of personal efforts by 84 (25.6%) of the respondents. Meanwhile fulfilling one's personal goal,

job performed to other people, and respects for one's person were rated as extremely important attributes of achievement as a motivating factors by 129 (39.4%), 110 (33.6%) and 120 (36.6%) respondents respectively (Table 3).

Table 3: Respondents' perception of job attributes, remuneration, co-workers and achievement as job motivating factors.

Motivational factors	Not important at all f (%)	A little bit important f (%)	Moderately important f (%)	Very important f (%)	Extremely important f (%)
Some job attributes					
Skill development	11 (3.4)	10 (3.1)	53 (16.2)	122 (37.3)	131(40.1)
Goal	7 (2.1)	15 (4.6)	70 (21.3)	115 (35.1)	121 (36.9)
Decision making	15 (4.6)	24 (7.3)	73 (22.3)	100 (30.6)	115 (35.2)
Job schedule	10 (3)	19 (5.8)	62 (18.9)	125 (38.1)	112 (34.1)
Job control	7 (2.1)	37 (11.3)	64 (19.6)	123 (37.6)	96 (29.4)
Delegation of authority	10 (3.1)	27 (8.3)	85 (26)	111 (33.9)	94 (28.7)
Opportunity to display creativity	6 (1.8)	19 (5.8)	72 (22.1)	138 (42.3)	91 (27.9)
Remuneration					
Salary increment	15 (4.6)	15 (4.6)	67 (20.4)	68 (20.7)	163 (49.7)
Prompt payment of retirement benefits	12 (3.7)	55 (16.8)	29 (8.9)	78 (23.9)	153 (46.8)
Annual leave	16 (4.9	25 (7.6)	58 (17.7)	88 (26.8)	141 (43.0)
Incentives/benefits	13 (4.0)	21 (6.4)	72 (22.0)	84 (25.6)	138 (42.1)
Co-workers					
Support from supervisors	11 (3.4)	24 (7.3)	74 (22.6)	119 (36.3)	100 (30.5)
Team work	11 (3.4)	16 (4.9)	76 (23.2)	129 (39.3)	96 (29.3)
Pride derived from job	12 (3.7)	25 (7.6)	98 (30.0)	106 (32.4)	86 (26.3)
Recognition of personal efforts	12 (3.7)	19 (5.8)	85 (25.9)	128 (39.0)	84 (25.6)
Fairness by other workers	14 (4.3)	17 (5.2)	88 (26.8)	136 (41.5)	73 (23.3)
Achievement					
Ultimate goal	8 (2.4)	16 (4.9)	46 (14.1)	128 (39.1)	129 (39.4)
Respect for your person	11 (3.4)	16 (4.9)	50 (15.2)	131 (39.9)	120 (36.6)
Job performed to other people	6 (1.8)	10 (3.1)	46 (14.1)	155 (47.4)	110 (33.6)

Table 4: Linear regression analyses for job attributes and remuneration, combined and by professional group.

Variables	Job attributes			Remuneration		
	Nurses	**Doctors**	**All groups**	**Nurses**	**Doctors**	**All groups**
Constant	3.22 (0.00)	3.32 (0.00)	3.49 (0.00)	2.03 (0.005)	2.25 (0.02)	1.95 (0.001)
Age	-	-	-	-	-	0.03 (0.04)
Gender	0.276 (0.012)	-	-	0.44 (0.00)	-	0.29 (0.01)
Managerial position	-	-	-	0.38 (0.02)	0.54 (0.02)	0.43 (0.001)
Designation	-	-	-0.21 (0.03)	-	-	-

Linear logistic regression analyses showed that respondents' designation significantly predicted job attributes as a motivating factor for the respondents. Being a doctor is less likely to be motivated by the job attributes (p=0.034). Disaggregating the respondents into their professional sub-group showed that only sex significantly predicted job attributes as a motivating factor among nurses and being a female nurse is likely to be motivated by the job attribute (p=0.012). Across all groups, age (p=0.040), gender (p=0.014) and holding managerial position (p=0.001) significantly predicted remuneration as a motivating factor. Disaggregating into professional group, holding managerial position significantly predicted the remuneration as a motivating factor while among nurses, sex (being a female nurse) (p=0.001) and holding managerial position (p=0.023) significantly predicted the remuneration as a motivating factor (Table 4).

Holding of managerial position (p=0.010) and respondents' designation (p=0.031) significantly predicted co-workers as a motivating factor. By professional subgroups, only nurses (female) (p=0.028) and holding managerial position (p=0.002) are likely to be motivated by co-worker factors. Respondents' age group (p=0.027) significantly predicted achievement as motivating factors whereas sex of nurses [being female] (p=0.027) significantly predicted achievements as motivating factors (Table 5).

Table 5: Linear regression analyses for co-workers and achievement, combined and by professional group.

Variables	Co-workers			Achievements		
	Nurses	**Doctors**	**All group**	**Nurses**	**Doctors**	**All group**
Constant	2.19 (0.00)	3.629 (0.00)	2.94 (0.00)	3.122 (0.000)	2.660 (0.00)	2.94 (0.00)
Age						0.02 (0.03)
Gender	0.239 (0.028)			0.25 (0.03)		
Managerial position	0.41 (0.002)		0.27 (0.01)			
Designation			-0.21 (0.03)			

DISCUSSION

Nigeria suffers from wide-scale brain drain through migration of health workers, particularly doctors, to western countries. Nigeria is one of several major health workforce-exporting countries in Africa. Recent Organization for Economic Co-operation and Development (OECD) data identified Nigeria as the leading African source of foreign-born nurses practicing in OECD countries; and one of the three leading African sources for foreign-born physicians.[17]

Among the job motivating factors investigated, achievement was the highest rated motivator and remuneration, job attributes and co-workers followed this. Achievement, an intrinsic factor, was the major motivational factor among the doctors and nurses subgroup. This implies that assisting employee to achieve their ultimate goal, equipping them with the prerequisite knowledge and skills to perform jobs/duties to patients and according them respect for the humanitarian services rendered should be part of hospital human resource strategy.

Remuneration of staff was also of paramount importance to the respondents. This also implies that increasing the salary/incentives/benefits of employees, granting annual leaves and prompt payment of retirement benefits are important financial strategies to motivate employees in a healthcare setting. This may be explained by the fact that basic social amenities are not readily available in Nigeria making individuals to depend largely on their salary/benefits to provide for these such as potable water, transport, electricity etc.

By profession, job attributes was the second highest ranked motivating factor among doctors as against nurses that ranked remuneration as the second highest motivating factor. The lowest ranked motivator by both groups was a co-worker. These findings are corroborated by studies done in Cyprus and Greece that also reported that achievement and remuneration were the predominant motivators among the health professionals but differed from these studies in that co-worker was the least reported motivating factor.[3,18] Findings of a similar study conducted in 2013 in South Africa revealed that majority of the respondents were equally motivated by respect and appreciation received from colleagues and the community. These are consistent with this study in which respect and appreciation were grouped under achievements.[11]

The high rating of skill development and achieving ultimate goal as extremely important motivating factors may be explained by the fact that the hospital is a teaching hospital where doctors do residency training. As such individuals are more interested in developing their skills and achieving their ultimate goal while on training which is becoming a fellow.

Female nurses were more likely to be motivated by achievements compared to their male counterparts and doctors. This may be due to the fact that there are largely female nurses in the wards, spend more time on the wards nursing and carrying out instructions enumerated by doctors on the management of patients and as such well respected by patients. Some of them even pride themselves that they own the wards. This however, are in contrary to the findings in the study done elsewhere.[3,18]

According to Herzberg, motivated employees are likely more productive and creative. A happy employee is more very likely to provide service to consumer expectation, thereby making him/her satisfied and happy. Therefore, poorly designed reward system and compensation package provided by the organization might result to employee job dissatisfaction and low motivation.[19] Rewards in terms of salary would absolutely influence the employees' satisfaction or dissatisfaction. A study done in 2013 at the University hospital in Greece revealed that the major motivator was not remuneration but achievements. However, the researchers observed an indirect relationship between remuneration and achievements, i.e., the best-paid employees seemed to be more concerned with personal and professional achievements.[20]

This study further revealed that respondents' designation significantly predicted job attributes as a motivating factor. However, doctors are less likely to be motivated compared to female nurses. Most doctors that participated in this study are into residency training, which is a temporary appointment, and as such less likely to have good job control compared to the nurses whose jobs are permanent and with pension. This is in contrast to the report from a study done in Greece in 2009 that revealed job attributes significantly motivated doctors and nurses in managerial positions.[18]

Lastly, co-worker was a significant motivator only for female nurses in managerial positions. The establishment of respect, trust and communication between co-workers is very important and common among these professional groups.[21] Majority of the participants in this study were satisfied with their jobs. Support from supervisors recorded the highest percentage of satisfaction and the lowest being workload. This is similar to reports from other studies.[22]

Differences in the opinion of the doctors and nurses as to what constitute the key important elements for their motivation implies that hospital managers should take these differences into account in their efforts for developing effective human resource management strategies. Low morale among the workforce can undermine the quality of service provision and drive workers away from the profession.

The country in general, suffers from wide-scale brain drain through migration of health workers, particularly doctors. The implication is a huge gap of human resource for health and this will continue to pose a serious threat to attainment of universal health care coverage in the country. The limitation of this study is that the level of motivation exhibited was not matched with possible job performance. There is need for further study to carry out comparative analysis of different factors that motivate and demotivate health workers and also match the level of motivation with their job performance.

In conclusion, this study showed that motivation was influenced by both financial and non-financial incentives. The study has revealed that the highest ranked job motivating factor among doctors and nurses was achievements. By professional subgroup, doctors ranked achievements, job attributes, remuneration and co-workers in this order as motivating factors, whereas, among nurses, achievements, remuneration, job attributes and co-workers were ranked in this order as motivating factors. Both doctors and nurses ranked co-workers as the least motivating factor. On the individual motivating factors, salary increment, incentives/benefits, annual leave and prompt payment of pension and retirement benefits were ranked most as extremely important motivating factors. However, hospital employees reported being motivated more by intrinsic factors, implying that these should be a target of effective employee motivation to optimize employee job satisfaction and performance.

ACKNOWLEDGEMENTS

The authors hereby acknowledged the valuable time and information of the study respondents. There was no financial support from any group of individuals or corporate organization. It was purely self-sponsored research work.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Kaoje AU, Magaji BA, Raji MO, Oladigbolu RA, Mohammed MBK, Sani M, et al. Predictors of job motivation among doctors and nurses in a tertiary hospital in Sokoto, Nigeria. Int J Community Med Public Health 2019;6:1385-92.