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Survey of medical specialists on their attitudes to and resources for health research in Nigeria

Page | 144

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Abstract

Aim: To study the views of medical specialists on their attitude to and the resources for health research in Nigeria and draw appropriate policy implications.

Materials and Methods: Structured questionnaires were distributed to consenting 90 randomly selected medical specialists practising in six Nigerian tertiary health institutions. Participants' background information, importance attached to research, motivations for conducting research, funding, ethical oversight, literature search, and statistical support were probed. The coded responses were stored and analyzed using the statistical SPSS software.

Results: Fifty-one out of the 90 questionnaires distributed were returned, giving a response rate of 63.3%. Research function was rated third by 64.7% of the respondents after hospital service (72.5%) and teaching (66.0%). Advancement of knowledge was the strongest motivating factor for conducting research (78.4%). Securing funding (94%) and finding time (80%) were their major constraints. Only a minority of the respondents, 20% and 14%, respectively, positively rated the quality and promptness of the decisions of their institutions' ethical organs in the highest category. Most of their literature search was conducted on the internet (96.1%) and they stored and analyzed their research data with commonly available statistical software.

Conclusion: Our study respondents regarded research highly but were severely constrained in conducting research by lack of access to sources of funding from within and outside Nigeria and finding time from core hospital functions. We recommend periodic (re)training in research particularly on how to apply for research grants and giving some protected research time for Nigerian medical specialists in order to boost their research function.

Keywords: Health research, medical research, Nigeria, physician researchers

Résumé

But: Pour étudier les opinions de spécialistes médicaux sur leur attitude envers et les ressources pour la recherche en santé au Nigeria et dessiner des implications politiques appropriées.

Matériaux et procédés: Structurée questionnaires ont été distribués à consentants medical choisis au hasard 90 spécialistes exerçant dans des établissements de santé tertiaires nigérian six. Renseignements de base des participants, importance attaché à la recherche, les motivations pour effectuer de la recherche, le financement, la surveillance éthique, la recherche documentaire et statistiques soutien ont été sondés. Les réponses codées sont stockées et analysées à l'aide du logiciel SPSS statistique.

Résultats: Cinquante et un de 90 questionnaires distribués ont été renvoyés, donnant un taux de réponse de 63,3%. Recherche fonction a été classée troisième par 64,7% des répondants après service hospitalier (72,5%) et de l'enseignement (66,0%). Avancement des connaissances a été la plus forte motivation pour effectuer de la recherche (78,4%). Sécurisation de financement (94%) et de la fi nding temps (80%) ont été les principales contraintes. Seule une minorité des répondants, 20% et 14%, respectueusement, positivement Note: la qualité et la rapidité des

décisions des organes éthiques de leurs institutions dans la catégorie la plus élevée. La plupart de leur littérature perquisition a été effectuée sur l'internet (96,1%) et ils stockées et analysées leurs données de recherche avec le logiciel statistique couramment disponible.

Conclusion: Notre étude intimés considéré recherche hautement mais ont été sévèrement limités de la recherche par manque d'accès aux sources de financement au sein et à l'extérieur du Nigéria et fi du temps davantage de fonctions de l'hôpital de base. Nous recommandons de périodiques (re) formation en recherche particulièrement sur la façon de présenter une demande de subventions de recherche et de donner certains protégée des temps de recherche pour les spécialistes médicaux nigériens afin d'accroître leur fonction de recherche.

Mots clés: Recherche en santé, recherche médicale, Nigéria, chercheurs en médecine

Introduction

Nigeria is the most populous country in Africa with an estimated population of 140 million^[1] which also makes it the ninth most populous country in the world.^[2] The persistent crippling burden of disease in the African region as a whole can be attributed to many causes that include the following: weak national and district health systems; human resources for health crisis which has been exacerbated by internal and external brain drain; 47% of the population in the region have no access to health services, and about 50% having no access to essential drugs;^[3] about 59% of pregnant women delivering babies without the assistance of skilled health personnel;^[4] 64% of the population lacking sustainable access to improved sanitation facilities and 42% lacking sustainable access to an improved water source;^[5] out-of-pocket expenditures constituting 51–90% of the private health expenditure in 14 countries and 91–100% in 24 countries;^[4] 38.2% of the people in sub-Saharan Africa living below the international income poverty line of US\$ 1 per day;^[6] low investment in health development; and poor governance.^[7] These challenges are compounded by weak national health research systems, which hinder the generation of new information and knowledge for diagnosing and providing solutions; monitoring of health system performance; development and production of new technologies and health products for tackling priority diseases and health conditions; and innovating ways of accessing and putting into effective nationwide use the existing cost-effective promotive, preventive, curative, rehabilitative and care interventions.^[8] The World Health Organization reviewed the current state of global health research in 2004 in its World Report on Knowledge for Better Health – Strengthening Health Systems.^[9] One of its conclusions was that health research must be managed more effectively if it is to help strengthen health systems and build public confidence in a science.

Medical specialists constitute the top echelon of health staff and administrators in Nigerian tertiary health facilities whose core mandates include

provision of health service, teaching and conducting health research. Though the volume of research publications emanating from Nigerian hospitals in Nigeria has undoubtedly increased astronomically over the years,^[10] there have not been published works on the general perceptions of the individual researchers in these institutions on their attitude and challenges that they face in conducting research works. Such studies on perceptions of researchers in both the developing world settings^[11,12] and developed ones^[13-15] have proved very illuminating to shaping health research in those areas. We are therefore aiming in this study to study the views of medical specialists in Nigeria on their attitude to and on the status of resources for conducting health research and draw appropriate policy implications for health research in Nigeria.

Materials and Methods

The period of the despatch and collation of the questionnaires was between September 2009 and March 2010. Ethical approval for the study was obtained from the Aminu Kano Teaching Hospital, Kano, Nigeria.

Copies of the study questionnaire were distributed to 90 consenting randomly selected medical specialists practising in six Nigerian tertiary health institutions located in Abuja, Birni Kebbi, Ilorin, Lokoja, Owo and Sokoto. The two-stage sampling process firstly involved the selection by simple balloting of the six institutions from among the list of 52 health institutions in Nigeria. Secondly, the self-administered and anonymous questionnaire was distributed after full confidentiality of the data collected was ensured to all the study participants and their representing hospitals, to 15 medical specialists who were randomly selected from the list of the medical specialists as compiled by the respective institution's Consultants/Specialists Association. They were also assured that the results of this study would not be presented either at an individual study participant or at a hospital level. Pretesting was done prior to the definitive study, where the questionnaire was administered to a sample of medical specialists

to assess comprehension and feasibility.

As a part of a larger study on various facets of research undertaken by medical specialists in Nigeria, this study was aimed to study the views of medical specialists in Nigeria on their attitude to and on the status of resources for conducting health research and draw appropriate policy implications for health research in Nigeria. The primary approach used to collect data of the study reported in this paper was a structured questionnaire. In all, 13 questions were included in the study questionnaire. The first four were on the study participants' background information; others were on relative importance attached to research, motivations for conducting research, sources of funding, ethical oversight, literature search, and utilization of statistician and statistical software. The format of the responses was generally on a scale of 0–3, with 0 representing none/never/lowest/least and 3 representing most/highest/greatest/always/strongest depending on the specific context of the question posed, with the respondents choosing appropriate responses among the already supplied options. All analyses and statistical tests were conducted using SPSS version 15.0 (SPSS Inc., Chicago, IL, USA). Simple descriptive statistics was used to generate frequencies, percentages, and proportions. Where necessary, Chi-square test was used to determine any significant difference and a *P* value of <0.05 was taken as significant.

Results

Fifty-one out of the 90 questionnaires distributed were filled and returned, giving a response rate of 63.3%. The age range of the respondents was from 29 to 63 years with a mean of 45.3 and an SD of 7.23. Forty respondents were males and 11 were females (M:F = 3.6:1). Of the 49 respondents who

stated their specialties/sub-specialties, 23 were surgical (general and sub-specialties including ophthalmology and ENT), 19 were physicians (internists of various sub-specialties, psychiatrists, and public health), and 7 were laboratory-based (histo- and chemical-pathologists, hematologists, microbiologists). Of the 50 respondents who indicated their years of post-specialist qualification experience, 13 (26%) had less than 5 years, 19 (38%) had 5–9 years, 11 (22%) had 10–15 years, and 7 (14%) had over 15 years.

Table 1 illustrates the relative importance that each respondent attached to each of the quadruple roles that a medical specialist is expected to perform in a tertiary hospital setting in Nigeria: core hospital/clinical service, research, teaching and community service. Research was rated third (64.7%) as “very important” after hospital service (72.5%) and teaching (66.0%).

Advancement of knowledge ranked the highest (78.4%) among the strongest motivating factors for conducting research among the respondents [Table 2]. Wealth and fame were generally tagged as the least motivating factors for conducting research.

Table 3 illustrates the rating that the respondents gave some factors that impacted negatively on conducting research by Nigerian medical specialists. Ninety-four percent of the respondents rated securing funding as either the “higher” or the “highest” among the factors that impact negatively on conducting research in Nigeria. This was closely followed by finding time from other schedules to conduct research (80%) and getting useful data from hospital records. Table 3 illustrates the detailed rating given by the respondents on the factors.

Table 1: Relative importance attached to research by Nigerian medical specialists

Activity	Number of respondents	Not important (%)	Mildly important (%)	Somewhat important (%)	Very important (%)	Total (%)
Research	51	0 (0.0)	5 (9.8)	13 (25.5)	33 (64.7)	51 (100.0)
Hospital service	51	0 (0.0)	3 (5.9)	11 (21.6)	37 (72.5)	51 (100.0)
Teaching	50	0 (0.0)	4 (8.0)	13 (26.0)	33 (66.0)	50 (100.0)
Community service	51	2 (3.9)	6 (11.8)	24 (47.1)	19 (37.3)	51 (100.0)

Table 2: Motivations for conducting research by Nigerian medical specialists

Motivation	Number of respondents	None (%)	Strong (%)	Stronger (%)	Strongest (%)	Total (%)
Advancement of knowledge	51	0 (0)	2 (3.9)	9 (17.6)	40 (78.4)	51 (100.0)
Promotion	51	2 (3.9)	4 (7.8)	9 (17.6)	36 (70.6)	51 (100.0)
Wealth	51	12 (23.5)	24 (47.1)	9 (17.6)	6 (11.8)	50 (100.0)
Fame	50	8 (16.0)	14 (28.0)	16 (32.0)	12 (24.0)	50 (100.0)

While 80.4% of the respondents had never accessed funding for research from an International Non-governmental Organization (INDGO) and 68.4% had not done so from a foreign government or agency, majority (84%) had “always” funded their research undertaking from their personal income. Table 4 shows the detailed frequency of utilization of various sources of funding for research by Nigerian medical specialists.

On the frequency of usage of some sources of literature by Nigerian medical specialists, the internet was “always” the source of literature search for 96.1% of the respondents while the library was “always” used by only 28%. The mode of sourcing of reference materials directly from authors was either never used by 13.7% or only rarely used by 58.8% of the respondents.

Only a minority of the respondents, 20% and 14% respectfully, positively rated the quality and promptness of the decisions of their institution’s ethical organs in the highest category. But none said such an organ was not available in his/her hospital. Table 5 gives the detailed characteristics of the respondents’ institution ethical organs by Nigerian medical specialists.

The respondents were also asked to rate the degree of their familiarity with some named statistical software packages in use for storing and analyzing data such as Excel, SPSS, Epi Info, G Power, etc. The percentages of the respondents who were “somewhat familiar” and “highly familiar” with SPSS, Excel, Epi Info and G Power were 60, 64, 52, 12.5 respectively. On the other hand, the percentages of the respondents who were “not familiar and “mildly familiar” with SPSS, Excel, Epi Info and G Power were 36, 40, 48 and 87.5 respectively. For the question on how often the respondents had consulted a statistician in the design and/or analysis of their research projects, 4.2% responded that they had never done so, 56.3% rarely did, and 33.3% did so often, while only 6.3% did so very often.

Discussion

The demographic background of the respondents in this study closely mirrors that of the medical specialists as a whole in Nigeria. Our finding of underrepresentation of females among researchers is similar to the findings in some studies done in the US,^[16,17] one of which^[16] cites low self-ability as a major barrier toward their involvement in research. The real reasons may be due to the cultural and social expectations and responsibilities faced by

Table 3: Rating of some factors that impact negatively on conducting research by Nigerian medical specialists

Factor	Number of respondents	None (%)	High (%)	Higher (%)	Highest (%)	Total (%)
Funding	50	0 (0.0)	3 (6.0)	5 (10.0)	42 (84.0)	50 (100.0)
Finding time	50	2 (4.0)	8 (16.0)	29 (58.0)	11 (22.0)	50 (100.0)
Literature search	50	4 (8.0)	22 (44.0)	23 (46.0)	1 (2.0)	50 (100.0)
Ethical approval	50	6 (12.0)	19 (38.0)	21 (42.0)	4 (8.0)	50 (100.0)
Hospital data records	50	6 (12.0)	8 (16.0)	11 (22.0)	25 (50.0)	50 (100.0)

Table 4: Frequency of utilization of various sources of funding for research by Nigerian medical specialists

Source of funding	Number of respondents	Never (%)	Occasionally (%)	Sometimes (%)	Always (%)	Total (%)
Self/out of pocket	50	0 (0.0)	5 (10.0)	3 (6.0)	42 (84.0)	50 (100.0)
Local institution	51	22 (43.1)	23 (45.1)	3 (5.9)	3 (5.9)	51 (100.0)
INDGO*	51	41 (80.4)	10 (19.6)	0 (0.0)	0 (0.0)	51 (100.0)
Foreign government and agencies	51	35 (68.6)	12 (23.5)	3 (5.9)	1 (2.6)	51 (100.0)

*International Non-governmental Development Organizations such as the Rockefeller, Ford, Millinder-Gates, DFID, etc.

Table 5: Characterization of their institution ethical organs by Nigerian medical specialists

Characteristic	Number of respondents	None	High (%)	Higher (%)	Highest (%)	Total (%)
Availability	50	0 (0.0)	6 (12)	20 (40)	24 (48)	50 (100.0)
Regularity of meetings	50	3 (6)	25 (50)	19 (38)	3 (6)	50 (100.0)
Frequency of meetings	50	2 (4)	30 (60)	14 (28)	4 (8)	50 (100.0)
Quality of decisions	50	0 (0)	17 (34)	23 (46)	10 (20)	50 (100.0)
Promptness of decision	50	1 (2)	26 (52)	16 (32.0)	7 (14.0)	50 (100.0)

females in contrast to males (like household and marital responsibilities) in the Nigerian setting.

Our respondents ranked their research role third after their hospital service and teaching functions, as they were probably overwhelmed with their core physician role. This would also explain why “finding time” was also rated high as a negatively impacting factor by 80% of our respondents.

Page | 148

Despite the huge geographical and wealth divide between Nigeria and Australia, the motivators for conducting research in both the countries are strikingly similar. Advancement of knowledge was the strongest motivating factor for 78.4% of the respondents in our study to conduct research and this compares favorably well with the finding in Australia^[13] that the “excitement of discovery” was rated as “very” or “extremely” important by 86% of all their respondents. Similarly, 70% our respondents cited promotion as the next “strongest” motivating factor, while 74% of the Australian researchers rated “career path” as very important. Fame and wealth were equally rated low in both studies.

The challenge of adequate fund for research appears to be universal, even in countries where appreciable strides have been made in making funds available for research.^[13-15,18] Nevertheless, it is hugely surprising that adequacy of funding was rated either “very” or “extremely” important by 91% of all respondents in the earlier cited Australian study,^[13] a figure that is not much different from that obtained in our own study (84%). There is, however, a great need to ascertain the exact reason(s) why the majority of Nigerian medical specialists had never accessed popular sources of external governmental and non-governmental research funds and instead funded their research undertakings from their personal savings. Were they either unwilling or more likely unable to write convincing applications for research grants? This is an important area for further study as governmental and non-governmental sources of funding are crucially depended upon by researchers worldwide and this should be more so in a resource-challenged setting such as Nigeria.

Recent improvement in information communication technology and access to it has greatly improved the capability of third-world researchers to search for literature and store and analyze their data using cheaply affordable statistical software. The libraries have in recent times been unable to acquire recent volumes of journals and books which would explain why only a minority of our respondents would conduct their literature search there.

Though the respondents in our study confirmed the

availability of ethical review boards in their tertiary health facilities, most of the boards appeared not to be functioning optimally. This would probably explain why our respondents did not give superlative ratings to the quality of the decisions and the promptness of decisions of their ethical boards. A recent revelation that about 25% of health-related studies in developing countries were not subjected to some form of ethics review by an international review board, national ethics board, or ministry/department of health is worrisome.^[19] In the current era of globalized biomedical research, good ethics stewardship demands that every country, irrespective of its level of economic development, should have in place a functional research ethics review system in order to protect the dignity, integrity and safety of its citizens who participate in research.^[20]

The small sample size and the selection bias associated with obtaining information from only those who agreed to participate in a research study are limitations in this study. A better-funded study on a nation-wide scale with a larger sample of subjects and with more questions to tease our additional details is highly desirable in the nearest future.

In conclusion, a majority of medical specialists in our study sample regarded their research role very highly and were motivated to conduct research largely by their wish to advance knowledge and their career prospects. Their major constraints to conducting research were paucity of fund and finding time from their core physician functions. They had very poor access to national and international sources of research funding and consequently had to fund their research works from personal sources. Ethical review organs in their institutions needed to be made more functional. Most of their literature search was conducted on the internet and they stored and analyzed their research data with commonly available computer statistical software.

Training in research in general and the aspect on applying for research grants should be made compulsory during undergraduate and postgraduate training of physicians. Giving some protected research time to medical specialists is sorely necessary. Further studies such as this, on a larger scale, and with emphasis on the quality of research training and output resulting from it are recommended.

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