

Effects of Free Day Secondary Education Policy on Academic Performance of Rural Public Day Secondary Schools in Kilifi County, Kenya

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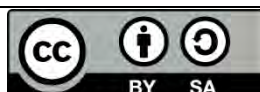
Abstract: The purpose of the study was to investigate the influence of Free Day Secondary Education (FDSE) policy on academic Performance of Rural Public Day Secondary Schools (RPDSS) in Kilifi County, Kenya. The study adopted descriptive survey research design and a sample of 375 subjects was considered sufficient. Structured questionnaires and interview schedules were used to collect data from principals, teachers, and education directors. Data on performance and enrolment were collected through document analysis. Reliability of the instruments was ascertained through test and retest method that yielded a correlation coefficient of 0.83, an indication of reliable instruments. The study found out that there was a decrease in school mean score between 2003-2007 and 2013-2017. There was a strong positive correlation ($r = 0.93$) between enrollment and poor performance. Further, learning resources and student finances were inadequate. The study recommends a reduction in class size, timely disbursement and increased students' capitation.

Keywords: educational policies, enrolment, school resources, school performance.

Introduction

The Government of Kenya officially launched the Free Secondary Education (FSE) program at the beginning of 2008 to address the plight of children from poor households who upon completion of free primary education could not get access to secondary school, mostly because of school fees. Through the FSE policy, the government subsidizes Ksh. (Kenyan shillings) 10,625 per child per year in government secondary schools. A study on the impact of FSE on access to secondary education found that the FSE policy had led to considerable fee reduction in public day schools (Ohba, 2009). Under FSE parents are only responsible for payment of caution money (for new entrants), and development fees which are suggested to be a maximum of Ksh. 2,500 and lunch fees; as opposed to the previous amount of a maximum of Ksh. 11,000 per year as per the national guidelines for school fees.

In African studies that use the household production, function approach usually differentiates between rural and urban households. Rural household are often portrayed as disadvantaged in terms of having lower income and lower levels of education and, therefore, being associated with disadvantaged schooling decisions and outcomes compared with urban areas (McMahon & Oketch, 2013). Public subsidization and expansion of secondary education in Kenya, as in other developing countries, are taking place against a background of inadequate financial and physical resources. A survey conducted in Kenya by the United Nations Educational, Scientific and Cultural Organization, shows that average ratio in 162 sampled schools was 58:1 against the requirement of 40:1 (Musyoka,



2018). Such class sizes in public secondary school make it difficult for teachers to teach lessons effectively as compared to their counterparts in private schools who handle a smaller number of students.

Prior to implementation of Free Day Secondary Education (FDSE), Kilifi County rural public day secondary schools form 4 mean enrolment was 234 while mean academic performance was 3.83. After the implementation of FDSE, rural public day secondary schools form 4 mean enrolment increased to 284 while mean academic performance was 3.4 as obtained from a scan of document analysis in national standardized test scores. This marked an increase in mean enrolment and a reduction in mean performance. It is against this background that the study attempted to assess the influence of FDSE policy on the academic performance of rural public day secondary schools in Kilifi County.

Statement of the Problem

The FDSE (Free Day Secondary Education) policy was intended to make secondary education more affordable and to improve the academic achievement of learners. These were to be achieved through reduced user fees and provision of textbooks and other learning materials. This reduction in user fees was quite significant in rural public day secondary schools and led to increased enrolment (Wanjala & Hussein, 2017). However, increased enrolment because of FDSE should be met with an increase in teaching and learning resources from government and stakeholders. This ensures effective curriculum implementation and good school academic performance. Consequently, the FDSE policy reduced user fees by allocating Ksh. 22,244 as the annual capitation per student. The capitation is released in three installments at the ratio of 3:2:1 corresponding to term dates. Reduced user fees led to increased enrolment in Rural Public Day Secondary School (RPDSS), but there was no corresponding increase in teaching learning resources. Consequently, increased enrolment without sufficient teaching learning resources has negatively affected the academic performance in national standardized tests. This descriptive study therefore seeks to investigate the effects of increased enrolment due to FDSE policy on RPDSS academic performance using the case of Kilifi county in Kenya, an example of an environment that experiences scarcity of resource.

Research Questions

In this regard, the following research questions guided the research:

1. What is the trend in enrolment and academic performance between 2003-2007 and 2013-2017 in rural public day secondary schools?
2. What is the effect of enrolment on academic performance in rural public day secondary schools?
3. What is the relationship between the levels of teaching learning resources and academic performance in rural public secondary schools?

What is the association between students' finance allocation and academic performance in rural public day secondary schools?

Significance of the Study

The study is a wake-up call to educators to take appropriate measures that ensure resources allocated to public day secondary schools in general and RPDSS in particular do not only achieve the intended objective of improving access and retention to secondary education, but that they also yield the

maximum benefits possible to the students in terms of improved academic performance. The study could also be important to policy makers who may come up with policies to address areas/issues in schools and/or in the entire education system that may be a cause of poor school performance. The study may also add to the body of knowledge of secondary education management, besides filling gaps in research that could prompt other researchers to do similar studies in other regions or levels of education.

Theoretical Framework

The proposed study adopted the Classical Liberal Theory of Equal Opportunity, which holds that an individual's Socio-Economic Status (SES) is a product of the environment they live in thus nature and nurture have a bearing on an individual's destiny. Equal opportunity is a stipulation that all people should be treated similarly, unhampered by artificial barriers or prejudices except when a particular distinction can be explicitly justified. Rural areas are sometimes neglected by the central government in terms of equal opportunities leading to exclusion in terms of social and economic development and this impacts negatively on education. Socio-economic factors such as family income level, parents' level of education, adequacy of learning and teaching materials or resources and occupation, all influence the quality and availability of education as well as the ability of education to improve life circumstances. Low social economic status and its correlates, such as lower education, poverty, and unemployment, ultimately affect a society as a whole. Inequalities in wealth distribution and quality of life are increasing in the rural areas.

Therefore, social policies are needed in areas, such as housing, health, education and training, income support for those who cannot earn childcare, aged care, disability care, public transport, etc. These require taxation of those who can afford to pay. Under classical liberalism, there is a continuing polarization of wealth. Wealth is accumulated from labor and capital. Therefore, as you begin to accumulate money you can make more money from that as well as earnings from your own labor. Children of the wealthy not only have the advantages of better health, education, location and connections but also, finally, inherit their parents' wealth. Allowing too wide a difference in wealth and opportunity has, throughout world history, led to conflict and, finally, revolution. Social and political instability is thus another danger of excessive economic liberalism (Perry, Hondegem & Wise, 2010). The theory was however relevant to the study as FDSE is aimed at giving children from poor households an opportunity to participate in secondary education. Thus, by eliminating fees the government has removed some economic barriers. FDSEP has created a situation where the poor can access secondary education and be able to transit to higher levels of education or to the world of work.

Literature Review

i) Student Enrolment and Academic Performance

A study by Ohba (2009) on the impact of FDSE on access to secondary education found that the FDSE policy had led to considerable fee reduction in public day schools. Under FDSE, parents are only responsible for payment of caution money (for new entrants), and development fees which are suggested to be a maximum of Ksh. 2,500 and lunch fees; as opposed to the previous amount of a maximum of Ksh. 11,000 per year as per the national guidelines for school fees. Ndambuki (2016) on administrative factors influencing the implementation of free secondary school education in public

secondary schools in Makindu County, Kenya. The study found out that there are high enrolment rates into secondary schools, which was not consistent with completion rates due to a number of challenges that included physical facilities, instructional materials, and school funds, among others (Ndambuki, 2016). It was recommended that the study be extended to other counties. These studies did not assess the influence of enrolment on learners' academic performance in RPDSS in Kilifi County, which this study sought to establish.

ii) Teaching-learning Resources and Academic Performance

Availability of teaching learning resources enhances the effectiveness of schools for good academic performance in students (Wanyama, 2013; McIlrath & Lyons, 2012; Taylor, 2009). Studies on effective teaching learning technologies in Botswana found that lack of relevant teaching materials caused dismal students' academic performance (Laurillard, 2013). Further, Atieno (2014) recommended that states should allocate more funds for improving the status and condition of physical facilities and employment of more teachers for the FDSE to be effective. In Kenya, there is a direct relationship between the students' performance and availability of school physical facilities (Wanjala & Malechwanzi, 2016). This is in line with Mwangi and Nyagah (2011) who argued that good academic performance is contributed to by the availability of school buildings and other appropriate plans thus resulting in effective teaching and learning activities. Poor state of school facilities greatly influences the academic performance of students. Finally, as we discuss teaching learning resources, teachers' effectiveness should not be sidelined. Schools should constantly recruit, retain and retrain teachers to promote effectiveness (Mulkeen, Chapman, DeJaeghere & Leu, 2007).

iii) Student Finance Allocation and Academic Performance

Financial management determines the way the school is managed and whether or not the school will meet its objectives. The head teacher is responsible for the budgeting, accounting and auditing functions of financial management. With the introduction of free secondary education, schools get some funding from the government while parents are required to meet various other costs such as school development projects and boarding fees (James, Simiyu, & Riechi, 2016). Wanjala and Hussein (2017) studied the impact of subsidized fees on students' access to quality education in public secondary schools of Wajir County. They established that even after the introduction of subsidized fees, the enrollment rates remained low because finances to support Free Tuition Secondary Education were inadequate and delayed before disbursement. Consequently, the implementation of a subsidized fees program by the government has not greatly influenced access to quality education in public secondary schools in Wajir County. These studies did not assess how students' adequacy of finances influences academic performance that the present study sought to establish.

Conceptual Framework

Conceptual framework was developed to provide clear links of dependent and independent variables as they relate to each other in this study as shown in Figure 1. The independent variables of learners' enrolment, teaching learning resources and students' finance allocation, are factors that influence academic performance (dependent variable) as noted in the reviewed literature.

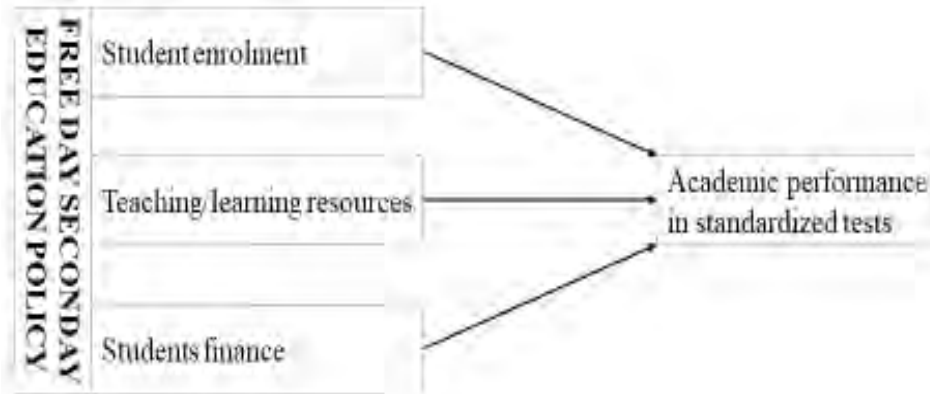


Figure 1: Conceptual framework showing effect of FDSE policy on academic performance

Methods

This study employed descriptive survey research design, as it was best suited for the study since it allowed the researcher to generate both numerical and descriptive data that was used in measuring the relationship between variables as well as determining their influence on KCSE mean performance. A sample of one county education officer, six principals and 68 teachers were drawn using stratified random sampling method from a population of 375 members (Mugenda & Mugenda, 2009). Questionnaires for teachers, interview schedules for principals and county education officers and document records were the main research instruments that were used to collect data. The instruments' validity was ascertained by pilot study and expert opinion. Internal consistency was assured by correlation coefficient that yielded a value of 0.86, far above the least value of 0.70 (Orodho, Waweru, Ndichu, & Nthinguri, 2013). Qualitative data were organized using relevant themes while quantitative data collected was analyzed then presented using mean, percentages and range by means of the Excel computer program. Further, Pearson's Product Moment Correlation Coefficient (PPMCC) was used to calculate the correlation between enrolment and school national standardized test results. Research ethics were in line with the Pwani University Ethics and Review Committee.

Results and Discussion

Demographic Details

The turnout rate was 83.8% with a slight gender disparity (male = 54% and female = 46%). The majority of respondents had a Bachelor's degree (84%) while Diploma and Master's holders were 13% and 3% respectively. Most respondents were under experienced (1-5 year experience were 48% while those with more than 20 years' experience were 6%).

Research Question 1: What was the trend in enrolment and academic performance between 2003-2007 and 2013- 2017 in rural public day secondary schools?

The results indicate the period 2003-2007 had an average mean score of 3.7 and the period 2013-2017 had an average mean score of 3.4. This shows a decline in performance between the two periods representing an 8.1% decline in academic performance as shown in Table 1. This reduction in performance could be attributed to scarcity of necessary resources amid increased enrolment. Macharia (2013) supports the study findings by singling out effective school management and teacher

motivation as primary determinants of overall academic performance; these factors have direct correlation with resource availability. Ngaiwa (2015) who carried out a study on factors influencing academic performance in Sabatia sub-county, Kenya, identified lack of resources and poor commitment by teachers in performing their role in class. These findings reinforce the research findings not only on the availability of resources but efficient utilization of the scarce available resources as factors influencing mean performance in rural public day secondary schools in Kilifi County. To the contrary, FDSE policy has contributed to improvement in performance of day schools through provision of textbooks, other learning materials and improved attendance rates as absenteeism due to non-payment of fees had reduced (Macharia, 2013).

Table 1: Standardized test mean scores in sampled rural public day secondary school

Phase 1		Phase 2	
<u>Year</u>	<u>Mean</u>	<u>Year</u>	<u>Mean</u>
2003	3.17	2013	3.83
2004	3.83	2014	3.83
2005	3.83	2015	3.17
2006	3.83	2016	3.17
2007	3.83	2017	3.17
Average Score	3.7	Average Score	3.4

Sources: Kenya National Examination Council Results 2003-07 and 2013-17

Figure 2 shows enrolment in all the six sampled schools for the periods 2003-2007 and 2013-2017 increased by 6.8% in rural public day secondary schools in Kilifi County as a result of FDSE policy. The results suggest that average propensity to enroll for education when opportunities arise as provided by FDSE policy increases. Ohba (2009) found out that abolishing secondary schools' fees by the Ugandan government shifted access patterns from limited elites to the majority of children in the country. What's more, removal of user fees was effective in improving equitable access to education—specifically the ability to reach the poor, girls, orphans and other disadvantaged groups (Figueredo & Anzalone, 2003).

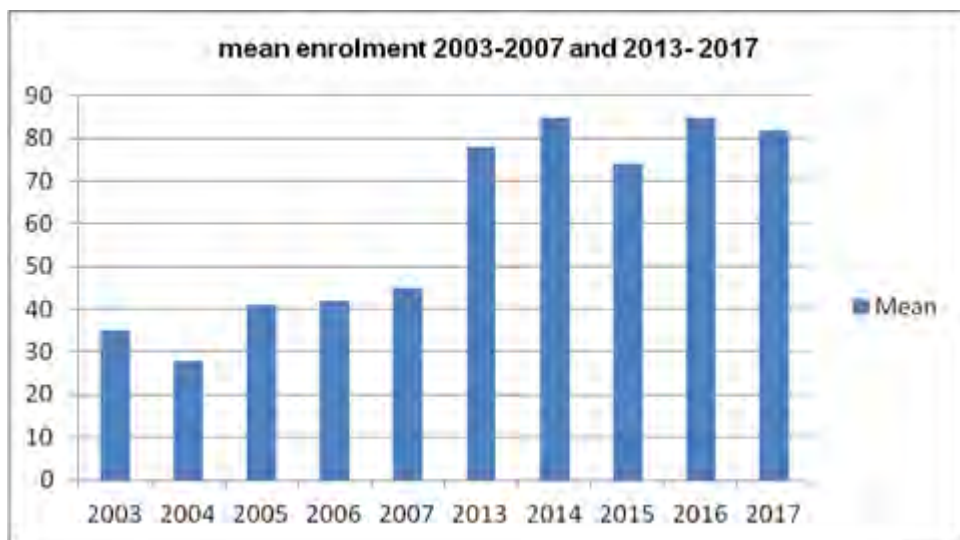


Figure 2: Enrolment rates between 2003-2007 and 2013-2017 in sampled schools

Research Question 2: What is the effect of enrolment on academic performance between 2003-2007 and 2013-2017 in rural public day secondary schools?

The Pearson product-moment correlation coefficient (PPMCC) was used to measure the linear correlation between enrolment (X) and schools mean standardized test score (Y). Results show a strong positive correlation ($r = 0.93$) between X (enrolment) and Y (Mean test score). This implies that high enrollment leads to poor academic performance. The responses from the principals on influence of high enrolment on academic performance indicate that 72.2% agree with PPMCC analysis indicating that high enrolment in rural public day secondary schools in Kilifi County leads to poor academic performance while 27.8 disagreed. On the other hand, 84.2% of teachers confirmed that high enrolment had a negative influence on academic performance while 15.8% disagreed. Although a study done in University of KwaZulu-Natal concluded that an increase in enrolment of already large classes does not influence student academic achievement (Ramchander & Naude, 2018); Gatheru (2008) concurs with the present study that rising enrolments in secondary schools strains teachers leading to a decline in academic performance.

Research Question 3: What is the relationship between the levels of teaching learning resources on academic performance in rural public day secondary schools?

Responses from principals and teachers were sought on the availability of resources such as textbooks, library books, teaching aids, computer access points, laboratory apparatus, office space, classrooms, laboratories, toilets, desks, playing fields, and transport facilities. The results show that the majority of the sampled principals (an average of 67.7%) agreed that teaching learning resources were inadequate in their respective schools. The study sought to establish from teachers if rural public day secondary schools had adequate teaching learning resources. Teacher noted similar results where, on average, 63.2% indicated that teaching/learning resources were unavailable in rural public day secondary schools in Kilifi County. Consequently, the shortfall of teaching learning resources experienced in these sample schools has strained existing resources making management of FDSE policy ineffective and inefficient, causing poor academic performance in these rural public day secondary schools.

Onyango (2001) supports this view by opining that with the introduction of Free Secondary Education, schools over-enrolled, the resources available were constrained causing negative school academic performances. School facilities such as administrative office, staff rooms, classrooms, laboratories, workshops, equipment, stores, libraries, hostels, staff houses and school grounds must be adequate and efficiently utilized for a school to advance the learning opportunities offered to the pupils. Although the present study recommends an increase in school facilities, it should be realized that increased public spending might not necessarily produce increases in education attainment and learning achievement. There must be proper reforms that aim at a more efficient use of available resources and that find sources of additional funding. Well-structured Public-Private Partnerships (PPPs) can help diversify the sources of financing and provision (Verspoor, 2008); and how these funds are utilized influences student academic performance (Okongo, Ngao, Rop, & Wesonga, 2015; Bakari, Likoko, & Ndinyo, 2014).

While numerous authors support the current notion that school facilities have a negative relation on academic performance, Lyons (2001) disagrees with the study findings by opining that school facilities alone are not enough to improve learners' performance. Lyons' (2001) clue is reinforced by a study conducted in Botswana that showed, despite all efforts by the government of Botswana to provide adequate teaching and learning resources, the students' academic performance has continued to decline (MolokoMphale & Mhlauli, 2014). Good teachers and learner cooperation is most vital in complimenting school facilities for learners' academic success (Malechwanzu & Lei, 2018). Availability of teaching and learning resources enhances the effectiveness of schools for good academic performance. Specifically, instructional materials used in the teaching and learning process facilitates the learning of abstract concepts and ideas, discourages rote learning and helps to stimulate and motivate learners, thereby, improving learners' performance (Atieno, 2014). Studies done in Kenya based on different geographical and cultural setting have also shown that the FDSE policy resulted in increased enrolment, which overstretched the available teaching and learning resources, leading to poor academic performance (Kipeen & Kikoe, 2015; Atieno, 2014).

Research Question 4: What is the association between students' finance allocation and academic performance in rural public day secondary schools?

To answer this question, it was necessary to look at students' capitation per year as contained in the FDSE policy tabulated in Table 2. The data on FDSE capitation indicate that the average total cost (unit cost) per student per year was Kshs 39,157. The government portion (a subsidy) of Kshs 22,244 released in the ratio of 3:2:1, corresponding to school terms. The parents' portion of the total amount of Ksh. 16,952, also paid in the ratio of 3:2:1, corresponding with term dates. The views of school principals and the County Director of Education were sorted on the adequacy of students' finance allocation in the FDSE policy, since this has an influence on students' academic performance. The school principals were asked to indicate whether the students were allocated adequate finance according to their needs. The county Director of Education was asked whether government funding for rural public day secondary schools in Kilifi County was adequate. All Principals and the County Director of Education (100%) reported that the students' finance allocation was insufficient to meet all the direct costs required by the schools. This has affected availability of teaching learning resources

and other core aspects of teaching and learning, hence, having a negative effect on rural public day secondary schools' academic performance.

Table 2: Composition of capitation grant in rural public day secondary schools, Kilifi

<u>Vote Head per Student</u>	<u>State Subsidy (Ksh.)</u>	<u>Parent Fee (Ksh.)</u>	<u>Total (Ksh.)</u>
Teaching learning materials/exam	4,792	0	4,792
Repair, maintain and Improvement	2,886	0	2,886
Local travel and transport	1,833	0	1,833
Administrative costs	1,572	0	1,572
Electricity, water and conservancy	2,151	0	2,151
Activity fees	1,256	0	1,256
Personnel emolument (PE)	5,755	1,918	7,673
Medical and insurance	1,999	0	1,999
Equipment and stores	0	13,034	13,034
Top-up	0	1,961	1,961
Total capitation	22,244	16,952	39,157

Source: Ministry of Education (2012). Kenya's Government Guidelines on FDSE Program

In the application production theory where input to output model is analyzed, school infrastructure (input) is key to quality output-score (Hulse & Livingstone, 2010). The inputs include students (enrolment), direct costs (student's capitation), and teaching learning resources, while the output is the mean academic performance. The quality, quantity and timely application of these resources in the production process produce positive results and the reverse is true, *ceteris paribus*. The study found out that the capitation grant does not cover all the direct costs associated with school attendance. While several recurrent costs are included, the capitation grant first excludes development expenditure (better known as capital expenditure). Second, the capitation grant essentially covers direct costs for attending day school but it does not cover add-on costs, such as co-curricular activities. Therefore, it is more appropriate to define the capitation grant as a form of public subsidy to education including FDSE rather than the school fee abolition program.

Although a study done in Nigeria by Ebenuwa-Okoh (2010) disclosed no significant difference in academic performance based on age, gender and financial status, Ngaywa (2015) supports the study findings by opining that the government should fully fund secondary education to reduce the problem of school levies, lack of textbooks and to leave parents to fend for other basic needs, such as food, to improve students' test scores. This study, therefore, concludes that full government support informed of adequate students' financing as captured is essential for rural public day secondary schools to implement their curriculum fully and to achieve excellent academic performance.

Conclusion and Recommendations

Based on the findings of the study it was concluded that the implementation of the FDSE policy had a negative influence on rural public day secondary schools' academic performance (see Table 1 and

Figure 2). This was attributed to affordability of fees, which created high demand for spaces in rural public day secondary schools in an environment with insufficient teaching learning facilities. The study findings also revealed that student capitation was inadequate, teaching learning resources, too, were inadequate in rural public secondary schools in Kilifi County. The insufficiency of required resources had a negative influence on learners' academic performance. Based on the present results the following recommendations were put forth. First, the study established a declining academic performance in rural public day secondary schools due to over-enrolments, insufficient teaching learning resources, and insufficient student funds. The study therefore recommends strict guidelines on a recommended class size of 40:1 be enforced by the County Director of Education to minimize overcrowding and improve teacher–student interaction. Second, policy makers and school management must ensure firm control measures on available resources for FDSE policy to yield maximum benefits to individuals and to the nation. Third, increase the current students' annual capitation of Ksh. 22,244, due to ever-rising inflation rates in Kenya. Fourth, the study recommends prompt disbursement of funds in full immediately as schools open in the first term to minimize shortages, especially during school openings. Lastly, the study recommends creation of vote, headed by the Ministry of education, on physical facilities development for rural public day secondary schools.

Further Research Directions

This study targeted rural public day secondary schools in a rural setting. A similar study may be carried out in urban public day secondary schools to establish if similar patterns of the effects FDSE policy has on rural public day secondary schools before and after the introduction of FDSE exist. A similar study may be carried out in rural public day schools in other counties to establish if similar patterns of academic performance before and after introduction of FDSE exist. A study should be conducted on the strategies being employed by school administrators in coping with the challenges faced in management of free day secondary education policy in rural public day secondary schools.

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Conflict of Interest: The authors have not declared any conflict of interest.

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