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Fertility Desires and Contraceptive Practices of Rural Women in Sokoto, North Western Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Author OMO contributed to conception, design, analysis and interpretation of data, wrote the protocol and also revising of manuscript critically. Authors JTA and TD designed the study, was involved in acquisition of data, performed the statistical analysis, managed the analyses of the study and wrote the first draft of the manuscript. Author GJG contributed to design and acquisition, analysis and interpretation of data and drafting manuscript while authors RL, KM and BI managed the literature searches acquisition, analysis, and interpretation of data and drafting manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Aim: This study aimed at determining fertility desires and contraceptive practices of rural women in Sokoto as well as factors affecting them.

Methods: A cross-sectional descriptive study was conducted, involving 218 women who were recruited using a multi-stage sampling technique. An Interviewer-administered questionnaire was used to obtain data from the respondents, which was entered into and analysed using IBM SPSS version 20.

Results: About sixty-seven percent of the respondents desired more than five children and more

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than half desired shorter birth interval of two years. A large proportion (87.4%) of the respondents were aware of contraception in which friends and relatives, as well as health personal, were the main sources of information. Only 4.9% of the respondents were currently on contraception. Major reasons for low contraceptives usage include religious inhibitions, husband disapproval and fear of side effects

Conclusion: In this study, the respondents had high fertility desires and although a large proportion of them was aware of contraception, very few of them used it. We, therefore, recommended that health workers should create more awareness on the benefits of contraception.

Keywords: Fertility; contraceptive; rural women; Sokoto.

1. INTRODUCTION

High fertility is one of the primary determinants of rapid population growth which can hinder socioeconomic development. Worldwide fertility rates have fallen largely due to the widespread and increasing use of modern contraceptive methods. However, in some developing countries, the uptake of contraception remains low with fertility rates higher in rural areas than urban areas [1,2].

The complex relationship between fertility and development is well established and in Nigeria authorities recognised this when in 1988, the National Population Commission was established and adopted her first population policy with the aim of achieving a total fertility rate of 4 by the year 2000, this was referred to as the four children per family (woman) policy [3]. In February 2005, Nigerian government launched a reviewed population policy tagged the National Policy on Population for Sustainable Development [2]. The targets of this new policy include a reduction in population growth rate to 2% or lower by 2015 and reduction of the total fertility rate by at least 0.6 children every 5 years by encouraging child spacing through the use of family planning [3]. Indeed, the aim of different Nigerian population policies and programmes has since been to reduce fertility in the country [4]. In spite of this, the Nigerian population has continued to grow while her GDP had continued to decline [2].

Nigeria is currently the 7th most populous country in the world and the largest in Sub Saharan Africa with a United Nation's projected population of over 186 million by July 2016 and 285 million by 2050 [5,6]. There are an estimated 35 million women of reproductive age in the country, with an annual number of births of approximately 7 million and annual population growth of 3.2% per annum. The country's rapid population growth has been driven by high fertility with a total fertility rate (TFR) of 5.5 children per woman which has fallen in the last few decades but not

as rapidly as the fall of the crude death rate [5]. High population growth is related to the socioeconomic development of any nation including reduced per capita income, high rural to urban migration, heavy pressure on social services such as healthcare and education, high unemployment rates, poverty, land fragmentation and degradation, and communal clashes over arable land [3,5]. Within families, elevated risks of maternal and child mortality and a higher risk of being trapped in poverty are areas of concern as the family size increases [4]. High population levels such as seen in Nigeria can cause a reduction in the 'carrying capacity' of the ecosystem, over-exploitation, depletion and pressure on natural resources, thus threatening public health systems [1]. Fertility in rural areas is three times higher than that of urban areas, which can be attributed to a variety of social and economic factors [1]. In general, it is estimated that the average woman would bear 15 children over her reproductive lifetime if she used no contraceptive method. Nearly half of pregnancies world-wide were unintended, and much remains to be done to improve contraceptive coverage [1,6-9].

Across the globe, fertility rates had fallen largely due to the widespread and increasing use of modern methods of contraception. However, in some developing countries, the uptake of contraception remains low due to cultural, economic and political barriers [1,2,5]. Today, sub-Saharan Africa is one region with the lowest levels of contraceptive use and higher levels of fertility rates [1,2].

Community suspicion, and in many cases, rejection of family planning, particularly in the northern region of Nigeria has impacted on the health of women and children. In northern Nigeria, researchers found that the mean number of pregnancies was 6.7 [5,9]. On the average, a northern Nigerian woman would have given birth to one child by the age of 19 and more than 50% would have had eight or more children by the time they were in their late forties [1,5,4,9].

Fertility desire of people is an important predictor of their fertility behaviour and it is found to vary by social structure [5]. Studies have found that urban people prefer smaller family size compared to rural dwellers that prefer large family sizes [3,10]. A study conducted by Umoh et al in Uyo Nigeria, found that the number of children the women in Uyo desired to have ranged from 2 to 12 with a mean of 4 [2]. In another study by Adiri and colleagues to determine the fertility behaviour of men and women in three communities in Kaduna State of Nigeria, they found that all the women interviewed had at least four living children and had a desire to have another child [4]. Due to the high value placed on children in typical Nigerian communities, most studies found limiting childbearing to be controversial, or disliked the practice, while child spacing was generally accepted [1,4].

Prevalence of contraceptive practices varies worldwide; in Nigeria, fifteen percent of currently married women use a contraceptive method, an increase of only 2 percentage points from the 2003 National Health Demographic Survey (NDHS) with no change observed from the 2008 NDHS findings [5]. A study conducted in Sokoto to determine awareness and utilization of family planning commodities in a rural community of north-west Nigeria found a very low contraceptive prevalence rate of 4% and only 6.1% of the respondents had ever used modern family planning [11]. Several studies conducted within and outside the country observed that myths and misinformation about family planning had significant negative effects on contraceptive use and alluded that “contraception makes women become promiscuous”, “it is expensive to practice family planning”, and “family planning causes cancer” [12,13].

Fertility desires are known to reflect subsequent fertility behaviour, therefore, understanding these desires could help in planning strategies to modify fertility behaviour. This study therefore aimed to determine the fertility desires, contraceptive practices and factors affecting these choices among rural women in Sokoto state, Nigeria.

2. METHODS

2.1 Study Area

Sokoto State is one of the 36 States that make up the Federal Republic of Nigeria, The state is divided into four health zones with 586 functional

health facilities (2 tertiary, 19 secondary and 565 primary health facilities). It shares boundaries with the French-speaking West African States of the Republic of Niger to the north and east, Benin Republic to the west and south, and with the Nigerian states of Kebbi and Zamfara respectively. The population of the state is estimated to be over 3,696,999, with a total fertility rate of 7.0, the contraceptive prevalence rate of 1% and an unmet need for family planning of 8% [5]. The study was carried out in Runji, Danfilii and Shiyar Magaji settlements of Dingyadi /Badawa ward of Bodinga Local Government Area (LGA) of the state.

2.2 Study Design

A cross-sectional descriptive study design was used.

Using the formula $n = Z^2Pq/d^2$ with a p from a previous study [5,14]. A total of 218 women of child bearing age who were married and have had at least one delivery (inclusion criteria) were recruited into the study using a multi-stage sampling technique.

2.3 Sampling Technique

In stage1, Bodinga Local government area (LGA) was selected from the 18 rural LGAs in the state using simple random selection by balloting, while in stage 2 Dingyadi/Badawa was selected from the eleven wards of the local government area, using simple random sampling. In the 3rd Stage, we selected 3 settlements (Runji; Danfilii and Shiyar Magaji) from Dingyadi/Badawa ward using simple random sampling and the 4th and final Stage involved selection of the respondents, using systematic random sampling from the list of houses in the wards after proportionate allocation.

A pretested validated interviewer-administered questionnaire adapted from previous studies [1,2] was used to obtain data from the respondents. The questionnaire consisted of three sections with a total of twenty-five questions. Section A explored the socio-demographic characteristics of the study subjects. Section B of the questionnaire focused on the respondents' fertility desires while section C included questions that assessed respondents' contraceptive practices.

Data was entered into and analysed using SPSS version20. Analysis of data started with a description of data using mean and standard

deviation for quantitative variables, and frequencies for qualitative variables. Bivariate analysis was done to determine associations between categorical variables.

Approval for the study was obtained from the Ethical Committee of the Usmanu Danfodiyo University Teaching Hospital, Sokoto and permission to carry out the study was obtained from the Ministry for Local Government and consent from each of the respondents before administration of the questionnaire.

3. RESULTS

In this study, the ages of the study subjects ranged from 15-47 years with a mean age of 26.73±7.46 years. The majority, 175(85%) of the respondents were Hausa by tribe, married, 198(96.1%) and in monogamous settings, 110(53.4%). Also, most 138(67%) of the respondents had Qur'anic education alone with none of them completing tertiary education, although 58(23.8%) of their husbands completed tertiary education. All the respondents (207) were Muslims and about twenty percent of them had more than 5 children (Table 1). Over two-thirds of the study subjects 139 (67.5%) desired more than 5 children and among the majority of them 125 (60.7%), their husbands alone decided the number of children they should have. Majority of the respondents 180 (87.4%) were aware of contraception (Figs. 1 and 2). The commonest reason given by the respondents on the number of children desired was to protect their health 91(44.2%) with only 12(3.8%) giving sex preference as a reason (Table 2).

Among the respondents that were aware of contraception, 121(42.01%) got their information from friends/relatives, followed by health personnel, 94(32.64%) and electronic media 73(25.35%) (Fig. 3). Only 10 (4.9%) of the one hundred and eighty respondents who were aware of contraception were currently using a contraceptive method, 3(1.5%) each was currently using oral pills, injectables and implants. Some of the respondents who had never used a contraceptive method 65(31.6%) said it was against their religion, followed by 63(30.6%) who said it was against their culture (Table 3). A total of 36(17.5%) of respondents had never used a contraceptive method because of fear of side effects (Table 4). Among the respondents who were aware of contraception, 125 (69.4%) desired more than five children. The results (Table 5) showed that a higher proportion of women who were younger desired more than

five children 91(44.2%). A high proportion 81(83.5%) of the respondents' husbands with formal education desired to have more children and similarly, those with more children desired to have more than 5 children ($p < 0.05$ in both instances). A high proportion (65.6%) of the respondents whose husbands alone decide on the family size wanted more than five children, and this was found to be statistically significant, $p=0.042$ (Table 6).

Table 1. Sociodemographic characteristics of respondents

Variables	n=206 n	(%)
Age group (years)		
15-24	85	41.3
25-34	79	38.3
35-44	38	18.4
≥45	4	1.9
Mean age (years)	26.73±7.46	
Tribe		
Hausa	175	85.0
Fulani	29	14.1
Others	2	1.0
Marital status		
Married	198	96.1
Separated	4	1.9
Divorced	4	1.9
Type of marriage		
Polygamy	96	46.6
Monogamy	110	53.4
Level of education		
None	13	6.3
Quranic	138	67.0
Primary	33	16.0
Secondary	22	10.7
Occupation		
Petty trading	96	46.6
Artisan	9	4.4
Housewife	97	47.1
Civil servant	1	0.5
Others	3	1.5
Number of living children		
1-2	67	32.5
3-5	96	46.6
>5	43	20.9
Husband's level of education		
None	3	1.5
Quranic	74	35.9
Primary	22	10.7
Secondary	58	28.2
Tertiary	49	23.8

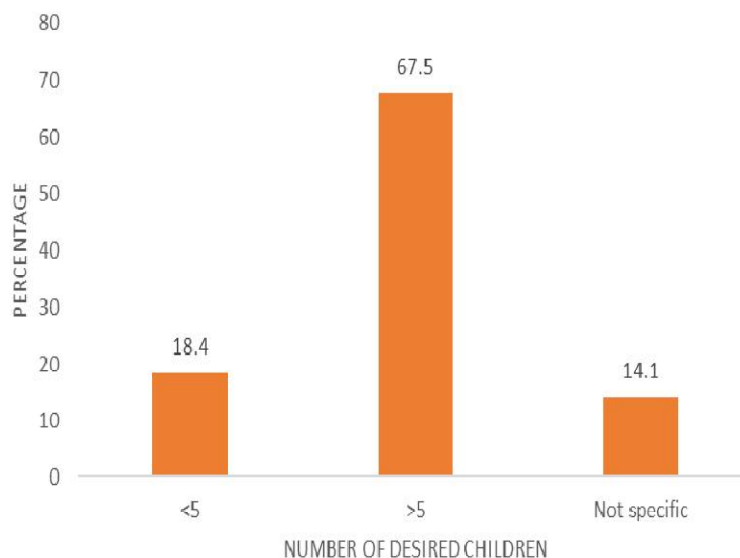


Fig. 1. Number of children desired by the respondents

Table 2. Respondent's reasons for the desired number of children

Variables	Frequency (n=206) N (%)
Reasons	
To protect my health	91(44.2%)
That is the number I can cater to	6(2.9%)
To have a particular sex	12(3.8%)
It is a tradition in my village	3(1.5%)
I had no reason	83(40.3%)
Others	26(12.6%)

Table 3. Respondents currently on contraception

Variable	Frequency (n=180)	Percentage (%)
currently on any contraception		
Yes	10	4.9
No	170	82.5
Methods of contraception Currently being used by respondents		
Oral pills	3	1.5
Injectables	3	1.5
Implants	3	1.5

Respondents who were Hausa, less than 30 years of age, in a polygamous marriage and whose husbands were informally educated were more likely to desire five or more children (Table 7)

4. DISCUSSION

This study showed some distinct peculiarities in the fertility desires and contraceptive use of rural

women in Sokoto. It was observed that majority 85(41.3%) of the women were between 15-24 years with a mean age of a 26.7±7.5 year. This is in contrast to the studies done in some Northern and Southern parts of Nigeria where the mean age was between (25 ±3.4 years) [2,3,6,8,10]. The study showed that the mean number of children desired by the study subjects was eight; this is slightly higher than the national average of seven [2]. The figure obtained from this study

was also higher compared to other studies conducted in South-Western Nigeria where the average desired number of children was 4 [2,3,11]. This may be attributable to the fact that majority of the study subjects in our study lacked formal education, usually marry and give birth at early ages. The age at which childbearing commences is an important determinant of the overall level of fertility as well as the health and welfare of the mother and child. In some societies, the delay of first births as a result of an increase in the age at marriage has contributed to a decrease in fertility [5]. The interplay of other socio-cultural factors leading to high fertility desires have been highlighted in other studies from Muslim dominated study areas [4,6,11,15].

A significant proportion (60.7%), of the study subjects concluded that their husbands usually took decisions on their respective family sizes which are not unexpected in a typical rural Northern Nigerian setting where there is male dominance and the heads of households usually made most decisions in every aspect including childbearing while the women are obliged to respect their husbands' decisions [2].

The study showed high level (87.4%) of awareness concerning contraception, which is similar (85%) to the level of awareness observed in the NDHS 2013 [5]. However, the level of awareness observed in this study is higher than that obtained in a similar study carried out

previously in Sokoto [11]. A study from southern Nigeria though similar to our finding observed a much higher level of awareness (92.3%) among their study subjects [16].

Findings from this study showed that health workers and the electronic media were the commonest sources of information regarding contraception and this is similar with the study by Avidyne et al. [1] This finding of electronic media as one of the commonest sources of information may not be unrelated to antedodal fact that Hausa is the common language spoken in the study area and used as medium of communication by international Radio stations hence the ownership of transistor radios by most families. This has greatly enhanced the level of awareness and knowledge of health and health-related issues.

Only 5.6% of the respondents were currently using a contraceptive method and this is similar to the national average of 5.5% [5]. Although the figure in this study is very low, it is also similar to findings from many countries where the demand for contraceptives is still not being fulfilled [17].

Worldwide, 12% of women currently married who do not want any more children or want to postpone their next pregnancies for at least two years are not using any form of contraception meaning they have an unmet need for family planning [17]. In developing countries the

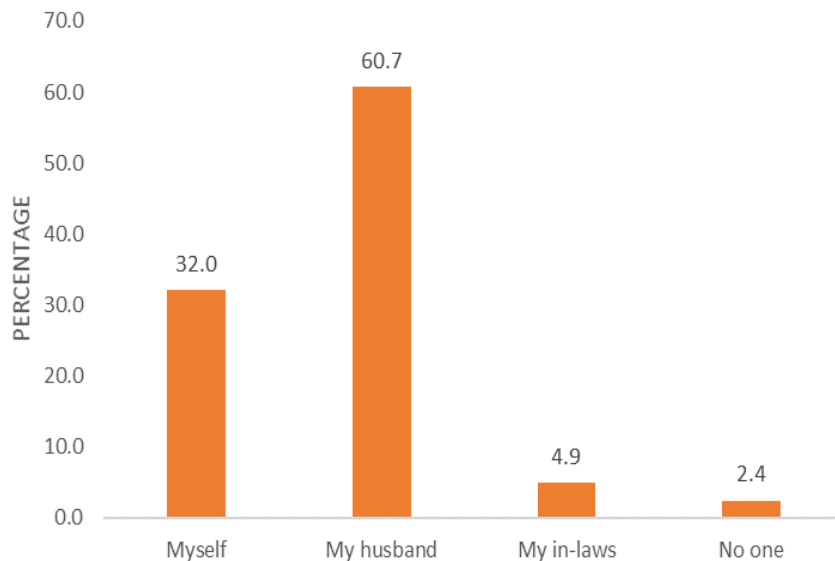


Fig. 2. Person who decides the family size of the respondents

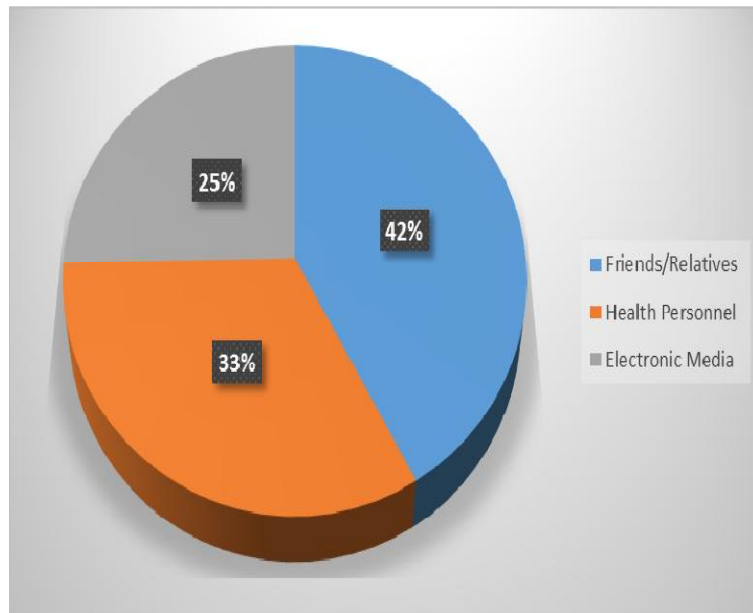


Fig. 3. Source of information about contraception

Table 4. Reasons for not using contraception*

Variables	Frequency (n=170)	Percentage (%)
It is against my culture	63	30.6
It is against my religion	65	31.6
It encourages promiscuity	4	1.9
Fear of side effect(s)	36	17.5
Ignorance of method	25	12.1
Others	38	18.4

*Multiple responses

proportion of married women with unmet need for modern contraception is 18% but is much higher than average in Western Africa, Middle Africa, Eastern Africa and Western Asia [18].

The low level of contraceptive use may be attributed to cultural and religious practices common in the area of this study as the majority of the respondents' reason for not using contraceptives was because it was against their religion (31.6%) and culture (30.6%). In this study as the age increases the proportion of those who desired more than five children also increased and those in polygamous setting desired more children than those in the monogamous setting. This may be because the women in a polygamous setting would want to compete with their co-wives believing the number of children a woman has gives more stance with the spouse, prevents him from marrying more wives and also determine the inheritance her

children will get. Similarly, those who are Hausa and were married had a larger proportion of those who wanted more children but there is no statistically significant relationship. A high proportion (83.5%) of the respondents' husbands with formal education desired to have more children and similarly those with more children desired to have more than five children. Findings from other studies have shown that desired fertility of a population is influenced by a number of factors ranging from religion, cultural background, level of education, number of wives and the median age at marriage [2,11,19,20]. Similar to the findings in this study, the study in Uyo found that the number of children desired was significantly associated with the husband's education and the number of children alive, [2] this is not surprising as the level of education allows the individual to make informed decisions as to the responsibility towards the needs of the child beyond food and

shelter and studies have also shown that men desire more children than women irrespective of their educational status probably because they are deemed in charge of the family and are

responsible for providing for the family so having more children may be seen as ego booster and show how capable the man is [2,21,22].

Table 5. Relationship between the desired number of children and socio-demographic profile of the respondents

Variable	Desired number of children			Test statistic/P-value
	<5 n(%)	>5 n(%)	Nonspecific (Any number) n(%)	
Age group(Years)				
<30	8(5.9)	109(80.7)	18(13.3)	Fisher's exact p=0.913
≥30	4(5.6)	56(78.9)	11(15.5)	
Tribe				Fisher's exact p =0.215
Hausa	12(6.9)	141(80.6)	22(12.6)	
Fulani	0 (0.0)	23 (79.3)	6(20.7)	
Others	0(0.0)	1(50.0%)	1(50.0)	
Marital status				Fisher's exact p =0.323
Married	11(5.6)	156(80.0)	28(14.4)	
Separated	1(25.0)	2(50.0)	1(25.0)	
Divorced	0(0.0)	4(100.0)	0(0.0)	
Type of marriage				
Polygamy	7(7.4)	76(80.0)	12(12.6)	$\chi^2=1.586$ p =0.45
Monogamy	4(3.8)	85(80.2)	17(16.0)	
Level of education				
Informal	10(6.7)	118(78.7)	22(14.7)	$\chi^2= 0.948$ p =0.62
Formal	2(3.6)	47(83.9)	7(12.5)	
Occupation				
Unemployed	3(3.1)	81(83.5)	13(13.4)	$\chi^2=2.7$ p =0.25
Employed	9(8.3)	83(79.9)	16(14.8)	
Husband level of education				
Informal	8(10.7)	55(73.3)	12(16.0)	$\chi^2=6.89$ p =0.03
Formal	2(2,3)	107(84.3)	17(13.4)	
Parity				
≤2	9(13.0)	48(69.6)	12(17.4)	$\chi^2= 11.54$ p-0.02
3-5	2(2.1)	81(85.7)	12(12.6)	
>5	1(2.4)	36(85.7)	5(11.9)	

Table 6. Relationship between -desired number of children and decision on family size

Variable	Desired number of children (n=206)			Test statistic/the
	<5 n(%)	>5 n(%)	Nonspecific n (%)	
Decision on family size				
Myself	11(16.7)	51(77.3)	4(6.1)	Fisher's exact p=0.042
My husband	22(17.6)	82(65.6)	21(16.8)	
My in-laws	3(30.0)	4(40.0)	3(30.0)	
No one	2(40.0)	2(40.0)	1(20.0)	

Table 7. Binary logistic regression of factors associated with desire of 5 or more children (large family size)

Variables	Aor	Lower 95% CI for OR	Upper	p value
Tribe				
Hausa	9.07	0.39	209.6	0.17
Fulani	3.69	0.14	99.7	0.44
Age				
< 30 years	4.12	0.70	24.1	0.12
Type of marriage				
Polygamous	3.80	0.73	19.71	0.11
Education level				
Informal	2.57	1.03	6.39	0.04
Occupation				
Employed	0.98	0.39	2.40	0.96
Partner's Education level				
Informal	4.817	1.02	22.70	0.04
Ever used contraceptives				
Yes	1.43	0.12	16.91	0.78

5. CONCLUSION

The results of this study showed that the respondents had high fertility desires and although a large proportion of them was aware of contraception, very few of them used it. Some factors responsible for this included socio-cultural, religious, spousal influence, parity and level of education. We, therefore, recommend that Health workers should create more awareness on the benefits of contraception and how it can help with spacing despite the number of children desired. The government should also help develop strategies involving men, traditional and religious leaders in reproductive health matters which can be achieved through advocacy on the need for the adoption of modern methods of family planning.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

ETHICAL APPROVAL

As per international standard or university standard, written approval of Ethics committee has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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