



RESEARCH ARTICLE

# Evaluating the utilization and effectiveness of PM-KISAN scheme funds in Hardoi district

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## Abstract

The present study was conducted during the year 2024–25 in the Hardoi district of Uttar Pradesh to assess the fund utilization patterns among Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) scheme beneficiaries. Data were collected from 160 beneficiaries through a structured personal interview schedule. The ex-post factor research design was applied for this study in which the researcher does not have direct control of independent variables because of their manifestation has occurred or because they are inherently not manipulable. The analysis revealed that 48.12 % of the beneficiaries utilized the funds for agricultural purposes, while 30.62 % used them for non-agricultural purposes. Additionally, 21.25 % of the respondents reported using the funds for both agricultural and non-agricultural purposes. Among those who utilized the funds for agricultural activities, 93.50 % used them specifically for purchasing fertilizers. For non-agricultural purposes, 85.71 % of the beneficiaries spent the funds on household expenses, followed by 51.02 % for miscellaneous purposes, 36.73 % for medical expenses and only 16.32 % for educational purposes. Notably, among those who used the funds for both purposes, 100 % spent on household needs and 94.11 % used the funds for fertilizers. Further statistical analysis showed that variables such as age, education and social participation were positively and significantly associated with fund utilization patterns at the 1 % level of probability. Landholding size was also positively correlated and significant at the 5 % level. However, variables such as occupation, availability of farm implements, housing pattern and annual income were found to be statistically non-significant.

**Keywords:** direct benefit transfer; fund utilization; non-agricultural; PM-KISAN scheme; socio-economic correlates

## Introduction

As per the latest land use and agricultural statistics of India, the total geographical area of the country is 328.7 million hectares (Mha), of which about 141 Mha constitute the net sown area. Field crops continue to dominate agricultural land use, with cereals occupying a major share of the cultivated area. Over the past decades, Indian agriculture has shown significant diversification, with horticulture emerging as an important sector and now accounting for nearly 16–17 % of the net sown area. In addition, the livestock sector has expanded considerably and the national livestock population is estimated to be over 535 million, reflecting its growing contribution to agricultural income and rural livelihoods (1). However, economic indicators do not show equitable and egalitarian growth in the income of the farmers. The welfare of farmers is a national priority, especially in an agrarian economy like India's. Over the decades, the number of households dependent on agriculture has increased substantially. In 1951, approximately 70 million households were engaged in agricultural activities, rising to nearly 119 million by 2011. According to the

National Sample Survey Office (NSS) survey (2018–19), India had about 93.094 million "agricultural households," out of a total of 172.443 million rural households. This indicates that over 50 % of rural households still depend on agriculture for their livelihood, even in recent years (2, 3). Further, the country is the leading producer of pulses, milk, spices, as well as occupies the largest area under rice, wheat and cotton. Currently, an estimated 43–46 % of India's population relies on agriculture as their primary source of livelihood, a decline from earlier estimates of approximately 58 %, while the nation's population continues to grow at a rapid pace. Indian farmers have long been recognized as the backbone of the country's economy, yet their reality remains fraught with challenges. Despite their critical role, the agricultural sector is underdeveloped and continues to face numerous structural and economic constraints, resulting in low productivity and insufficient returns (4). A large proportion of farmers, nearly 80 %, are classified as marginal (less than 1 hectare) or small (1–2 hectares) and they struggle daily to sustain their livelihoods (5). To cultivate their land, these farmers often rely on personal

savings or borrow money to purchase essential inputs such as seeds, fertilizers and chemicals, anticipating that the harvest will meet their financial needs (6). However, the post-harvest scenario frequently brings disappointment. With the sudden surge in market supply at the end of the cropping season, farmers are often unable to sell their produce even at the cost of cultivation. This creates a cash crunch, particularly for small and marginal farmers, forcing them to seek additional loans from moneylenders or to drastically reduce household consumption to survive (7). In view of this, the government is working to reinforce the country's backbone through innovative and strong policies. The Indian government implemented a central sector scheme called "Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)" for helping farmers and their families to meet their agriculture-related needs and requirements. The PM-KISAN scheme is one of the programs that the Indian government launched to help farmer families in the nation supplement their income needs for buying various inputs related to agriculture and related activities as well as household necessities (8). The PM-KISAN scheme was announced in the Interim Budget 2019 and operationalized in December 2018, with its official launch from Gorakhpur, Uttar Pradesh, on 24 February 2019 by Prime Minister Narendra Modi (9). The first installment benefited one crore farmers, who received ₹2000 each up to 31 March 2019. The program aims to enhance farmers' financial capacity to purchase agricultural inputs, encourage modern crop practices and improve liquidity by providing easier access to credit (9). Under the scheme, every landholding farmer family receives ₹6000 annually, disbursed in 3 equal installments of ₹2000. Initially, only marginal and small farmers with up to 2 ha of land were eligible; however, in May 2019, the scheme was revised to include all landholding farmers regardless of land size (10). The identification of eligible farmer families is carried out by State and UT administrations according to the scheme's guidelines. As of now, approximately 9 crore farmers have benefited, with the largest number from Uttar Pradesh [17426960], followed by Maharashtra [8113213], Bihar [7362638], Madhya Pradesh

[7136436] and Rajasthan [538137] (11).

The major objective of the scheme is to help marginal and small farmers with direct financial support, who often face challenges due to fluctuating crop prices, unpredictable weather conditions and limited access to modern agricultural inputs and techniques (11). By offering an assured income, the scheme seeks to enhance the financial stability of these farmers, enabling them to invest in better seeds, fertilizers and other necessary agricultural inputs without falling into debt traps, thereby increasing productivity and ensuring food security (12). Moreover, the scheme aims to alleviate rural poverty and reduce the rural-urban income disparity by empowering the farming community. Simplifying and streamlining the process of providing financial support to farmers while maintaining efficiency and openness is another important goal of the program (13). The scheme leverages digital platforms to transfer funds directly into the accounts of beneficiaries, minimizing the scope for corruption and delays associated with traditional subsidy distribution methods. This direct benefit transfer mechanism ensures to receive full amount of the support to the intended beneficiaries. Additionally, the scheme promotes inclusive growth in the agricultural sector by extending benefits to all the farmer families, irrespective of landholding size (14). PM-KISAN is helping the farmers to invest the money in profitable ventures for a number of reasons. There are no prior studies in the district which ensures that the impact of the PM-KISAN scheme on farmers in that specific region remains unexplored and the researcher is more familiar with the area and local language, which were helpful in building quick rapport and facilitated obtaining relevant information. There are 725924 beneficiaries of the PM-KISAN scheme present in Hardoi district of Uttar Pradesh and the amount released ₹1610.85 Cr. till 25 July 2023. Hence, the present study was conducted to assess the impact of PM-KISAN scheme in the district.

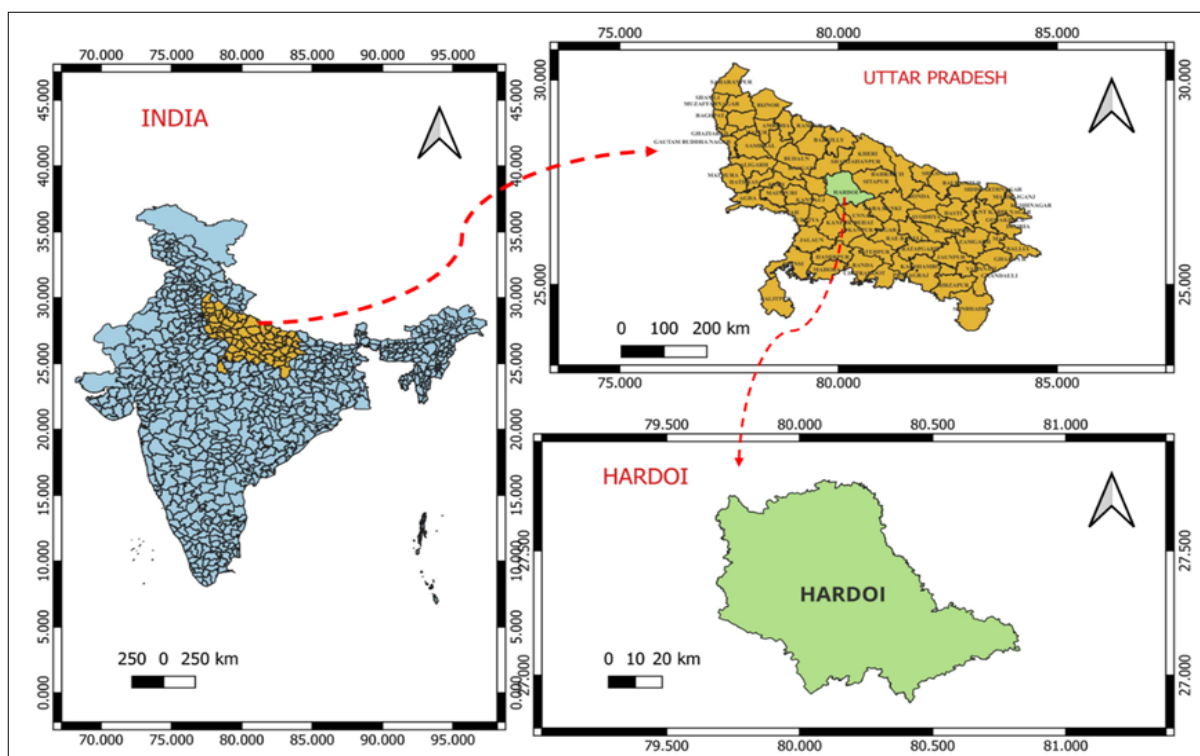


Fig. 1. Map depicting the study area.

## Material and Methods

The present study was purposively conducted in the Hardoi district of Uttar Pradesh by ICAR-CSSRI-KVK, Hardoi II (Fig. 1), which is one of the agriculturally significant districts of the state. Hardoi comprises 19 administrative blocks, out of which 2 blocks, namely Sandila and Bharawan, were randomly selected to represent the study area. These blocks were chosen to capture variation in geographical, socio-economic and agricultural conditions within the district. Within the selected blocks, 2 villages from each block were purposively chosen based on the maximum number of PM-KISAN beneficiaries recorded. Accordingly, Sarwa and Sikrori villages were selected from Sandila block and Atrauli and Bharawan villages were selected from Bharawan block. This purposive selection ensured that the villages included in the study had sufficient coverage of PM-KISAN beneficiaries, thereby providing a robust base for meaningful analysis. In total, 4 villages were selected for the present investigation.

For the purpose of beneficiary selection, the random sampling technique was employed. A comprehensive list of beneficiaries under the PM-KISAN scheme was first prepared for each village and beneficiaries were selected in proportion to the total number of beneficiaries available. From each of the 4 villages, 40 beneficiaries were randomly selected, ensuring equal

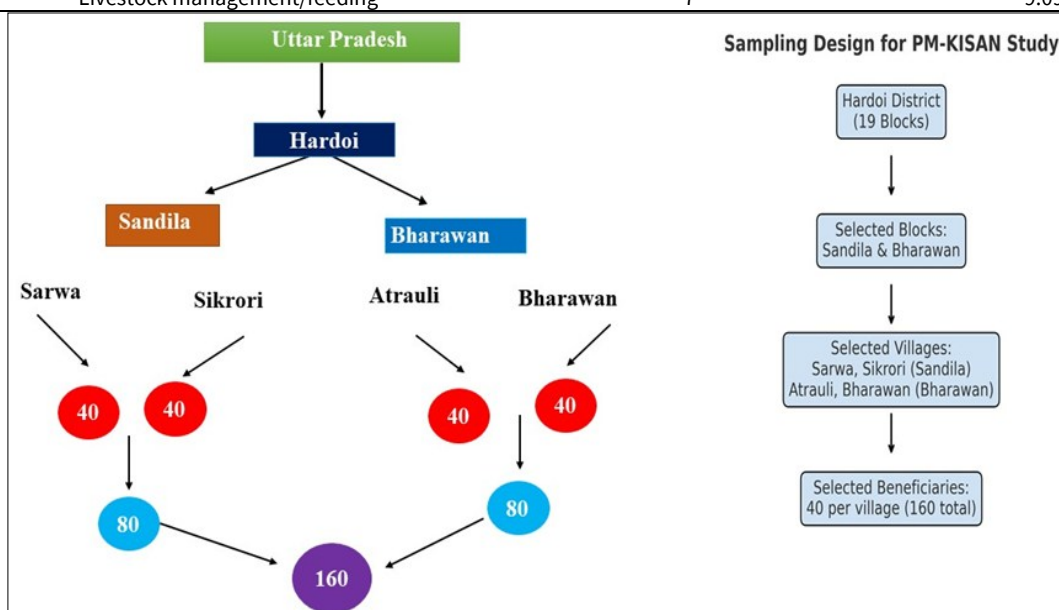
representation across villages. Thus, the final sample size for the study was 160 PM-KISAN beneficiaries (Fig. 2). The sampling design provided both randomness and proportional representation, enhancing the reliability of the results. The primary data for the study were collected directly from respondents through the personal interview method using a pre-tested structured interview schedule. This approach ensured that relevant, consistent and comparable information was gathered from all beneficiaries. The personal interaction with farmers also helped in clarifying doubts, cross-verifying responses and improving the overall accuracy of the data collected. Once collected, the raw data was coded and tabulated systematically. To ensure analytical rigor, the data was subjected to appropriate statistical analysis using standard tools and techniques (SPSS 16.0). The primary methods employed included: Frequency and percentage analysis to describe the distribution and proportion of responses for different variables; arithmetic means and standard deviation to measure the central tendency and variability in responses; and coefficient of correlation to identify and assess the strength of relationships between selected variables such as socio-economic characteristics of beneficiaries and fund utilization patterns.

**Table 1.** Distribution of the respondents according to their utilization pattern (n = 160)

S. N.	Utilization purpose	Frequency	Per cent
1	Agriculture purpose	77	48.12
2	Non-agriculture purpose	49	30.62
3	Both (Agriculture & non-agric.)	34	21.25
	Total	160	100

**Table 2.** Distribution of respondents according to agricultural utilization

S. N.	Particulars	Frequency	Per cent
1	Field preparation	31	40.25
2	Buying seeds	40	51.20
3	Fertilizer purpose	72	93.50
4	Pesticides/insecticides	51	66.23
5	Irrigation charges	20	26.00
6	Electricity charges	6	7.79
7	Fuel (diesel/tractor)	6	7.79
8	Harvesting & threshing	26	33.76
9	Repairing/purchasing tools	5	6.49
10	Machinery maintenance	5	6.49
11	Livestock management/feeding	7	9.09



**Fig. 2.** Study on the state, district, block and village level.

## Results and Discussion

### Utilization patterns of PM-KISAN funds and agricultural utilization of funds

The findings (Table 1 & 2) indicate that 48.12 % of beneficiaries utilized PM-KISAN funds exclusively for agricultural purposes, primarily for purchasing seeds, fertilizers and other essential farm inputs, reflecting the scheme’s objective of supporting farming activities. In contrast, 30.62 % of respondents allocated the funds to non-agricultural needs, including household expenses, medical treatment and education, highlighting the financial pressures faced by rural households. Additionally, 21.25 % of beneficiaries adopted a mixed-use approach, utilizing funds for both agricultural and non-agricultural purposes. Overall, about 69 % of beneficiaries used at least a portion of the assistance for agricultural activities, while a significant number directed funds toward non-farm needs, suggesting that

PM-KISAN support alone may be insufficient to cover all financial requirements. As presented in Table 2, beneficiaries primarily prioritized essential farm inputs (15, 16). Fertilizers were the most common expenditure (93.50 %), followed by pesticides/insecticides (66.23 %) and seeds (51.20 %). Other agricultural uses included field preparation (40.25 %) and crop harvesting and threshing (33.76 %), while irrigation (26 %), livestock management (9.09 %), fuel, electricity and machinery maintenance (7.79 %) were each less frequently reported. These findings suggest that PM-KISAN primarily addresses immediate input requirements, reducing reliance on credit for production purposes (Fig. 3) (17, 18).

### Non-agricultural utilization of funds and combined agricultural and non-agricultural use

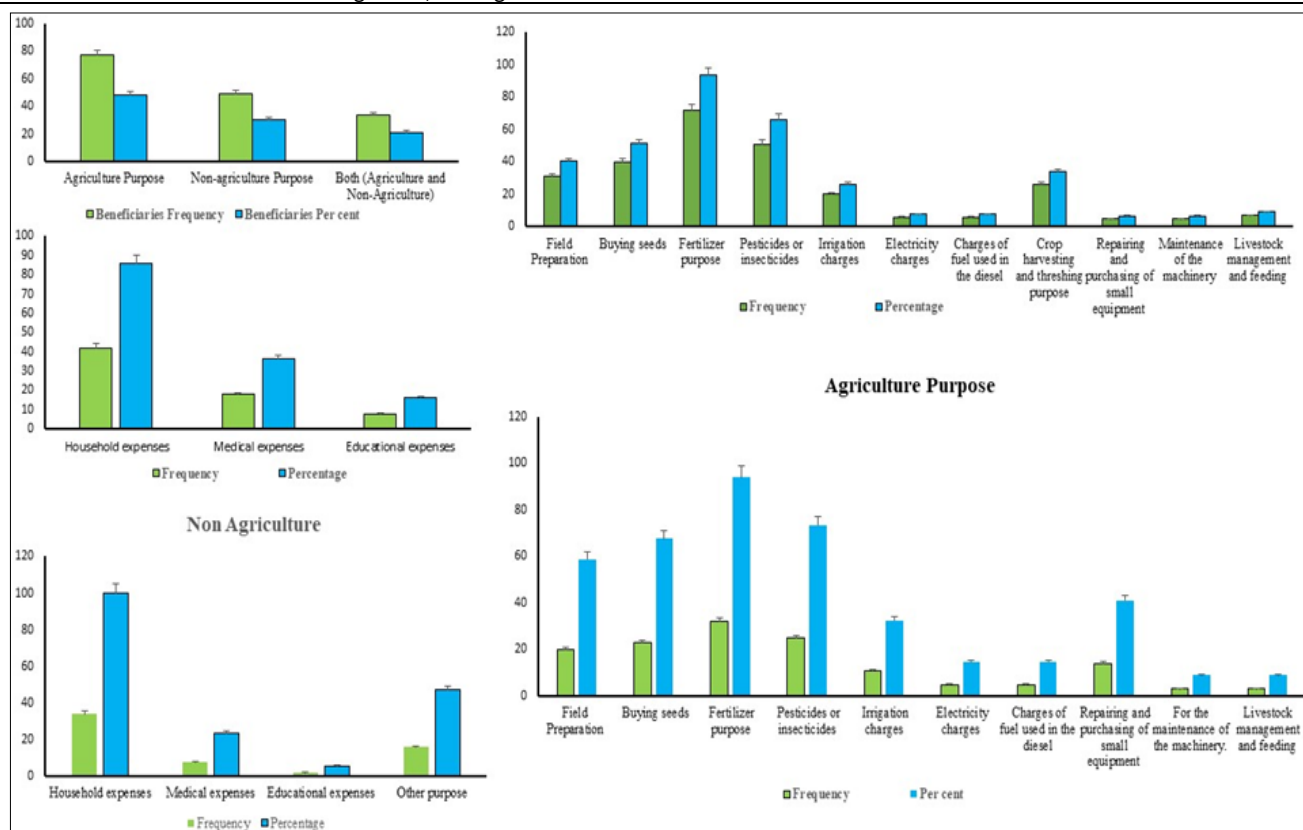
The majority of beneficiaries (85.71 %) used the funds for household expenses, followed by spending on other

**Table 3.** Distribution of respondents according to non-agricultural utilization

S. N.	Particulars	Frequency	Percent
1	Household expenses	42	85.71
2	Repayment of loan	0	0.00
3	Medical expenses	18	36.73
4	Educational expenses	8	16.32
5	Other purposes	25	51.02

**Table 4.** Distribution of respondents according to combined utilization

S. No.	Particulars	Frequency	Per cent
1	Field preparation	20	58.82
2	Buying seeds	23	67.64
3	Fertilizer purpose	32	94.11
4	Pesticides/insecticides	25	73.52
5	Irrigation charges	11	32.35
6	Electricity charges	5	14.70
7	Fuel (diesel/tractor)	5	14.70
8	Harvesting & threshing	14	41.17
9	Repairing/purchasing tools	0	0.00
10	Machinery maintenance	3	8.82
11	Livestock management/feeding	3	8.82



**Fig. 3.** Utilization pattern of PM-KISAN scheme funds in Hardoi district.

miscellaneous needs (51.02 %) and medical expenses (36.73 %) (Table 3 & 4). Educational expenditures were lower (16.32 %) and no respondents used the funds for loan repayment, reflecting the predominance of immediate livelihood needs in rural households (19-21). Even when funds were split, agricultural expenditure remained dominant, particularly for fertilizers (94.11 %), pesticides (73.52 %) and seeds (67.64 %), followed by field preparation (58.82 %) and harvesting (41.17 %). Smaller proportions were used for irrigation (32.35 %), electricity, fuel (14.70 % each) and livestock/machinery (8.82 %). Non-agricultural spending remained high on household needs (100 %), with other uses (47.05 %), medical (23.52 %) and education being less frequent (5.88 %). No beneficiaries reported loan repayment (Fig. 3). (22, 23). The results show that 48.12 % of beneficiaries used PM-KISAN funds exclusively for agricultural purposes, mainly to purchase fertilizers, pesticides and seeds, while 30.62 % used the funds for non-agricultural needs such as household expenses, medical care and education and 21.25 % adopted a mixed-use approach. Overall, about 69 % of farmers used at least part of the assistance for farming, but the significant diversion to non-farm uses reflects severe liquidity constraints, multi-dimensional poverty and the pressure of meeting basic household needs in rural areas, rather than misuse of funds. Fertilizers emerged as the top expenditure (93.50 %) because of their rising market prices and their perceived immediate and visible impact on crop productivity, making them a priority input for farmers. Non-agricultural spending was dominated by household consumption (85.71 %), followed by medical and miscellaneous expenses, indicating that PM-KISAN functions not only as production support but also as an informal income safety net (24). Correlation analysis further revealed that education, age and social participation had a significant positive influence on productive fund utilization, while landholding size showed a moderate positive effect, suggesting that knowledge, experience and social capital play a more important role than material assets in ensuring the effective use of PM-KISAN funds (25).

### Correlation of socio-economic factors with fund utilization

The correlation analysis (Table 5) revealed that education ( $r = 0.328$ ,  $p < 0.01$ ), age ( $r = 0.254$ ,  $p < 0.01$ ) and social participation ( $r = 0.242$ ,  $p < 0.01$ ) positively influenced fund utilization, indicating that higher knowledge, experience and community involvement enhance productive spending. Landholding size was moderately correlated ( $r = 0.206$ ,  $p < 0.05$ ), while occupation, housing pattern, farm implements and annual income showed no significant effect. These results underscore the importance of education, social engagement and landholding size in ensuring effective use of PM-KISAN funds (Fig. 3) (24–30).

**Table 5.** Correlation between socio-economic attributes and fund utilization

S. N.	Variables	Correlation coefficient (r)	Regression coefficient (β)	t-value
1	Age	0.254**	0.215	2.87**
2	Education	0.328**	0.294	3.96**
3	Land holding	0.206*	0.176	2.31*
4	Occupation	0.062 NS	0.041	0.58 NS
5	Housing pattern	0.115 NS	0.083	1.12 NS
6	Farm implements	0.142 NS	0.097	1.36 NS
7	Social participation	0.242**	0.201	2.65**
8	Annual income	0.066 NS	0.052	0.71 NS

## Conclusion

The study highlights the utilization patterns of PM-KISAN funds among beneficiaries in Hardoi district, Uttar Pradesh. Nearly half of the beneficiaries used the financial assistance exclusively for agricultural purposes, primarily on fertilizers, pesticides and seeds, demonstrating the scheme's role in supporting farm inputs. A substantial proportion allocated funds to non-agricultural needs or both agricultural and non-agricultural purposes, reflecting the diverse financial requirements of households. Socio-economic factors such as education, age and social participation significantly influenced productive fund utilization, whereas landholding size had a moderate effect and variables such as occupation, housing, farm implements and annual income were non-significant. Overall, PM-KISAN effectively supports immediate agricultural input needs while also assisting household and livelihood requirements, underscoring the importance of socio-economic empowerment in maximizing the benefits of direct financial assistance programs. Future research could broaden the scope to include additional districts, employ longitudinal tracking to assess long-term impacts and examine complementary interventions such as training, credit access and market linkages to enhance fund utilization among diverse beneficiary groups.

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## Authors' contributions

MS, PN and R conceptualized the research, methodology and writing. TNR, TS, AS, W and DR edited the manuscript. All authors read and approved the final manuscript.

## Compliance with ethical standards

**Conflict of interest:** Authors do not have any conflict of interest to declare.

**Ethical issues:** None

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