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Assessment of Menopause- related Quality of Life and Effectiveness of Health Education on Health seeking Behaviour among Rural Perimenopausal Women

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KEYWORDS

Health education, Menopausal symptoms, Perimenopause women, Quality of life, Rural.

ABSTRACT:

Background: Menopause, a natural transition for women, can bring physical and psychological changes that impact quality of life. This study was undertaken to understand how menopause impacts rural women's lives and if education improves their health decisions. By assessing quality of life and healthcare seeking behaviour, it can show if education empowers women to navigate menopause.

Objectives. 1. To assess the menopause-related severity of symptoms (somato-vegetative, psychological, urogenital) and quality of life among rural perimenopausal women in the field practice area of a private medical college 2. To find the effectiveness of health education on their health-seeking behaviour.

Methods: This interventional study was done in 2 stages. In the first stage, a validated scale, the Menopause Rating Scale (MRS) was used to measure the severity of symptoms and Quality of Life (QOL) among women in the age group 40–60 years and their health-seeking behaviour. A total of 310 women participated and were enrolled in Stage 1 of the study (N=310). Culturally appropriate printed education material (pamphlets) was developed that explain perimenopause symptoms and management. The pamphlet was distributed to the women after the data collection and group discussion with the women enrolled. Stage 2 of the study was conducted after a month. It involved data collection on change in health-seeking behaviour of the women who were enrolled in the study after the intervention of health education. The percentage of women who could not be contacted in stage 2 of the study was 5.8% (n= 28).

Results: The mean age of the participants was 49.2 ± 4.9 years. Somato-vegetative symptoms were present among 82% (n=253), psychological symptoms among 78% (n=242), and urogenital symptoms among 47.4% (n=147). Only 22% (n= 68) had good quality of life. It was observed in stage 1 that 30% (n=93) of women with symptoms had consulted a doctor. After the intervention with health education, improvement in health seeking behaviour was evident 69.1% (n= 195) (p=.000)

Conclusion:

This study revealed that more than three-fourths of women experienced menopausal symptoms and most had menopause related poor quality of life. In this study, effective health education

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significantly improved the peri menopause women health seeking behaviour which reflect on symptoms management and thereby improving their quality of life.

INTRODUCTION:

The menopausal transition characterized by many stages (1) represents a significant physiological milestone in a woman's life. Perimenopause' refers to the period from when these signs are first observed and ends one year after the final menstrual period (2). Perimenopause, the years leading up to menopause, and the post-menopause period brings about a myriad of physical, psychological, and social changes, ranging from hot flashes, sleep disturbances, and mood swings to an increased risk of chronic conditions like cardiovascular disease and osteoporosis (3). While menopause is a natural phase, its associated symptoms and consequences can profoundly impact a woman's quality of life (4,5,6,7), These challenges are further compounded for rural women (5,8), who often face barriers such as inadequate healthcare infrastructure, limited access to specialized medical services, and socio-cultural stigmas surrounding menopause and women's health issues (9). In terms of the Indian scenario, studies suggest that rural women in India often experience a higher prevalence and severity of menopausal symptoms compared to their urban counterparts (10,11). Studies suggest that rural women in India often exhibit low rates of health-seeking behaviour for menopausal symptoms [12]. This highlights the need for interventions that can address the specific barriers faced by this population and encourage them to seek appropriate healthcare.

Health education emerges as a promising avenue for fostering informed decision-making and promoting proactive health behaviours among menopausal women. By equipping them with knowledge about menopause, its associated symptoms, available treatment options, and self-care strategies, health education interventions have the potential to mitigate the adverse effects of menopause and enhance overall well-being (13,14). However, the effectiveness of such interventions in health-seeking behaviour in the rural settings remains understudied.

This study aims to fill this gap by conducting a comprehensive assessment of menopause-related quality of life among rural women and evaluating the impact of a tailored health education program on their health-seeking behaviours. By elucidating the interplay between socio-demographic factors, menopausal symptoms, and healthcare utilization patterns, we seek to identify opportunities for intervention that can optimize the health outcomes and enhance the overall quality of life for menopausal women in rural communities.

Objectives:

1. To assess the menopause-related severity of symptoms (somato-vegetative, psychological, urogenital) and quality of life among rural perimenopausal women in the field practice area of a private medical college.
2. To find the effectiveness of health education on their health-seeking behaviour.

Materials and Methods:

Study Method: This Interventional study was conducted among rural perimenopausal women in the age group 40 to 60 years, who had their last menstrual period at least 1 year ago, residing in the field practice area of a private medical college from August 2023 to January 2024. Exclusion criteria included women who had undergone hysterectomy or history of cancer. The study was conducted in 2 stages. Stage one involved data collection and health education. Data was collected using a validated scale, the Menopause Rating Scale (MRS) to measure the severity of symptoms and Quality of Life (QOL) among women in the age group 40–60 years and their health-seeking behaviour for their symptoms. A total of 310 women participated and were enrolled in Stage 1 of the study. Health education involves group discussion and distribution of health education material to the women. Stage 2 of the study was conducted after a period of one month. It involved data collection on change in health-seeking behaviour of the enrolled women after the intervention of health education.

Sample size: Based on the study done by Meenakshi Kalhan in a rural village of Haryana the least prevalence of hot flushes symptom, i.e. 37% was considered during the sample size calculation.(15).The sample size was

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calculated by using n = Zα2PQ/d2, where n = Sample size, Zα = 1.96 at 95% confidence interval (Normal Variant), P = 37, Q = 63 and Margin of error 15% .The sample size calculated was 291 after considering for dropouts, the final sample size required for the study was N=310.

Sampling method: There are a total of 10 villages that come under the rural field practice area. From the 10 villages, 5 villages were selected by Simple random sampling (by lottery method). List of women in the age group 40 – 60 years was acquired from each village. Table 1 shows the number of women in the age group 40 to 60 in the sampled villages and the sample required from each village by PPS (Proportional Probability method) to arrive at the final sample size of N=310. By convenience sampling, the number of women required from each village was sampled.

Table 1: Sample selection from villages using the PPS method.

S.no	Village name	No of Women (40 to 60 yrs.) in each village	No of Sample taken by PPS
1.	Vadamavanthal	320	46
2.	Namandi	523	75
3.	Arasankuppam	270	39
4.	Pillanthangal	430	61
5.	Thirupanangaddu	620	89
	Total	2163	310

Variables Studied: Severity of perimenopausal symptoms (somato-vegetative, psychological, urogenital) and quality of life (QOL) using the MRS scale. The independent variables studied were age, education, occupation, marital status, and socioeconomic status.

Data Collection: Data was collected at 2 cross sections of time as the study was done in 2 stages.

Stage 1: Stage one involved data collection (pre - intervention) followed by health education. Pre intervention data was collected using the semi-structured questionnaire that contained Section 1: Demographic details, Section 2: Assessment of severity of menopause symptoms and the participants QOL using the validated Menopause Rating scale (MRS) which was developed by Klaas Heinemann et al (2003), Section 3(16) : Assessment of health-seeking behavior of women for their symptoms.

The Menopause Rating Scale (MRS): MRS is a self-administered instrument and has been used in many clinical and epidemiological studies and in research on the etiology of menopausal symptoms to assess the severity of menopausal symptoms and menopause related quality of life. (16). This instrument has a good Cronbach's alpha of 0.904.

MRS (Menopause Rating Scale) scoring:

The Menopause Rating Scale MRS has three domains somatovegetative, psychological, and vasomotor, with 11 items, somatic (4 items: Hot flushes & sweating**,** Heart discomfort**,** Sleep problems, Joint and muscular discomfort), Psychological (4 items: Depressive mood**,** Irritability**,** Anxiety**,** Physical and mental exhaustion), Urogenital (3 items: Sexual problems, Bladder problems and Vaginal dryness). (16).

Depending on the severity, each symptom is scored from 0 to 4 on a Likert scale with 0 being none and 4 being very severe. Stomato-vegetative score ranging from 0 to 16; urogenital score from 0 to 12; psychological score ranging from 0 to 16. The overall score ranges from 0 to 44. This total score determines the severity of menopausal symptoms in the form of no or little (score 0-4), mild (score 5 -8), moderate (score 9-16), and severe (score 17- 44). The higher the score of a domain, the more severe the problem and the

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greater the degree of impairment of quality of life (QOL) (5.) A cut-off value of score up to 8 reveal good QOL i.e., no/little to mild symptoms, and a score > 9 i.e., moderate to severe symptoms, reveal poor QOL. (16,17).

Development of Health Education Material: Printed education material (pamphlets) was developed that explain perimenopause symptoms and its management. The pamphlets contained symptoms and management of perimenopause in the form of pictures/images for illiterate women to understand and texts written in simple language.

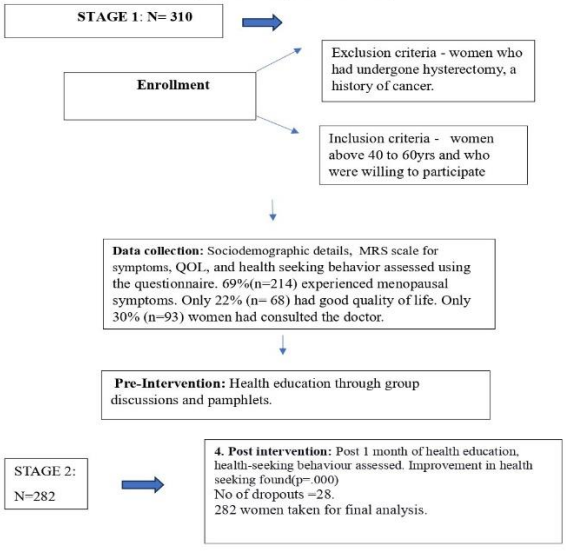
Health Education: Health education was carried out to the enrolled participants in the form of group discussions and distribution of pamphlets. With the help of the health nurse attached to our rural health centre, women of age 40 to 60 were asked to gather on a particular day for a medical camp in each of the villages. Those who consented to participate in the study were enrolled in the study until we met the required sample from each village to get the total study sample size of 310. Study Identification numbers were allotted to each participant and contact phone numbers and address were noted for the stage 2 data collection. The pamphlets were distributed to the participants and education was given on the various symptoms of menopause and the importance of consulting a doctor.

Stage 2: The stage 2 of the study involved data collection after one month on the health seeking behaviour of women, post health education. The women were contacted over phone to check on their health seeking behaviour in the last one month for their menopausal symptoms. If unable to be contacted over phone, visits were made to their house. However, there were 28 women who could be contacted again. These 28 women were considered as dropouts in the study.

Data Analysis: The collected data was entered in Microsoft Excel. Coding of the variables was done. Analysis was done using SPSS software (Version 27, IBM). Descriptive statistics and Chi-square tests was used to find the association between dependent and independent variables. Mc Nemar test was used to measure the paired data of pre and post intervention health seeking behavior. A p-value less than 0.05 was considered statistically significant.

Ethical Consideration: Ethical clearance was obtained from the Institutional Ethical Committee (Ref No: MMCH&RI/PG/59/OCT/22) before conducting the study. Informed consent was obtained from participants before enrollment in the study.

Fig 1: Flow Diagram of the Study



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RESULTS

Socio demographic characteristics: The total participants in stage one of the study were 310. The mean age of the participants was 49.2 with SD of 4.9 years. About 56%, belonged to the age group of 46 and 50 years (n=172), and nearly half 49.7% (n=154) were housewife. Among the participants 52.9 % (n=164) were illiterate, and 44.2% (n=137) belonged to lower middle class. Table 2 shows the demographic characteristics of the study population.

Table 2: Demographic characteristics of the study participants.

S.NO	Variables	Frequency	Percentage
1.	**Age**		
	40 - 45	35	11.3%
	46 -50	172	55.5%
	51- 55	43	13.9%
	56 - 60	60	19.4%
2.	**Education**		
	Illiterate	164	52.9 %
	Primary	109	35.2%
	Secondary	32	10.3%
	Graduate	5	1.6%
3.	**Occupation**		
	Skilled	7	2.3%
	Semiskilled	133	42.9%
	Professional	15	5.2%
	Housewife	154	49.7%
4.	**Marital status**		
	Married	226	72.9%
	Separate	19	6.1%
	Unmarried	7	2.3%
	Widows	58	18.7%
5.	**Socioeconomic status**		
	Upper class	9	2.9%
	Upper middle class	33	10.6%
	Middle class	116	37.4%
	Lower middle class	137	44.2%
	Lower class	12	3.9%

Menstrual history and health seeking behaviour (Table 3): Among the study participants 47.7% (n=148) attained menarche around age 13, 45.8% (n=142) had irregular menstrual cycles, 41.9%(n=130) experienced moderate pain during menstruation, 27.1% (n=84) had heavy bleeding. With regard to health seeking behaviour, only 24.8% (n=77) had consulted the doctor and among them 44.1% (n=34) had visited private hospital and 19.4% (n=15) had hormone replacement therapy. Being unaware, not interested, not having enough money, treatment centre far away were few of the reasons for not consulting the doctor.

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Table 3: Menstrual history and health seeking behaviour of the study participants

S.no	Variables	Frequency (n = 310)	Percentage
1.	**Menarche age**		
	12 years	65	21.0%
	13 years	148	47.7%
	14 years	71	22.9%
	15 years	5	1.6%
	16 years	20	6.5%
2.	**Menstrual cycle history**		
	Regular	168	54.2%
	Irregular	142	45.8%
3.	**Pain during menstruation**		
	No pain	63	20.3%
	Mild pain	92	29.7%
	Moderate pain	130	41.9%
	Severe pain	25	8.1%
4.	**Heavy bleeding during menstruation**	84	27.1%
	Yes	98	31.6%
	No	128	41.3%
	Sometime		
5.	**Consulted doctor**		
	Yes	77	24.8%
	No	233	75.1%
6.	**Health facility visited (n= 77)**		
	Government hospital	43	55.84%
	Private hospital	34	44.15%
8.	**Treatment taken***		
	Vitamins	53	68.8%
	Exercise and diet	45	58.4%
	Hormone replacement therapy	15	19.4%
7.	**Reasons for not consulting the doctor ***	68	29.1%
	Hospital faraway	82	35.1%
	Unaware	37	15.8%
	Not interested	55	23.6%
	It is not disturbing day to day work	46	19.7%
	No money		
*the questions had combination of answers.			

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Severity of menopausal symptoms (Table 4): According to the Menopause Rating Scale (MRS), joint and muscular discomfort was the predominant symptom 90.3%(n=280) in the somato-vegetative domain. Depressive mood, irritability and anxiety were equally seen among the participants which was around 85 %. Vaginal dryness was the most commonly prevalent symptom among the urogenital symptoms i.e. 76.7% (n=238). As per each domain, somato-vegetative symptoms were present among 82% (n=253), psychological symptoms among 78% (n=242), and urogenital symptoms among 47.4% (n=147). Overall, the menopausal symptoms were experienced by 69% (n=214) of women.

Table 4: Menopausal symptoms and its severity according to MRS scale.

Symptoms	Percentage with symptom	Mild (%)	Moderate (%)	Severe (%)	Extremely Severe (%)	% in each domain
Somatovegatative domain						82 % (n= 253)
Hot flushes & sweating	80.6% (250)	67.4% (209)	13.2% (41)	0	0	
Heart discomfort	73.8% (229)	54.8% (170)	18.4% (57)	0.6% (2)	0	
Sleep problems	81.6% (253)	35.8% (111)	40.3% (125)	5.2% (16)	0.3% (1)	
Joint and muscular discomfort	90.3% (280)	7.1% (22)	23.5% (73)	51% (158)	8.7% (27)	
Psychological						78 % (n= 242)
Depressive mood	86.45% (268)	22.9% (71)	57.4% (178)	5.5% (17)	0.6% (2)	
Irritability	88.3% (274)	47.4% (1470	38.4% (122)	1.3% (4)	0.3% (1)	
Anxiety	84.8% (263)	50.6% (157)	30.6% (95)	3.5% (11)	0	
Physical and mental exhaustion	52.5% (162)	15.5% (104)	15.5% (48)	2.3% (7)	1.3% (4)	
Urogenital						47.4% (n= 147)
Sexual problems	15.1% (47)	11.3% (35)	2.9% (9)	0.6% (2)	0.3% (1)	
Bladder problems	50.6% (157)	39% (121)	11.6% (36)	0	0	
Vaginal dryness	76.7% (238)	31% (96)	42.3% (131)	3.5% (11)	0	

Quality of Life of participants based on MRS score: Based on the cut-off value of score up to 8, 22% (n=68) have good QOL, and who scored > 9, 78.1%(n=242) have poor QOL. Table 5 shows the association of symptoms severity and quality of life. It is observed that severity of symptoms was significantly associated with poor quality of life (QOL) (p= <0.00).

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Table 5: Association between severity of symptoms and QOL

S.no	Symptoms	Severity of symptom	Good QOL (n=68)	Poor QOL (n=242)	p value
1.	Somatovegatative domain symptoms	No or little Mild Moderate Severe	56 (82.3%) 12 (17.6%) 0 0	22 (9.0%) 141 (58.2%) 51 (21%) 28 (11.5%)	0.000*
2.	Psychological symptoms	No or little Mild Moderate Severe	49(72%) 19 (27.9%) 0 0	14 (5.7%) 44 (18.1%) 143 (59%) 41 (16.9%)	0.000*
3.	Urogenital symptoms	No or little Mild Moderate Severe	57(83.8%) 11 (4.5%) 0 0	48 (19.8%) 146 (60.3%) 28 (11.5%) 20 (8.2%)	0.000*

Results of stage 2 of the study: There were 28 dropouts in this stage. So, the total participants taken for analysis was 282. **Effectiveness of Health Education:** Table 6 shows the effectiveness on the health seeking behaviour of women post intervention with health education. While 27.3%(n=77) consulted the doctor before the intervention, 69.1% (n=195) consulted the doctor post intervention and the difference was found to be statistically significant. (p=.0001)

Table 6: Effectiveness of health education on health seeking behaviour before and after intervention

Variable	Before intervention(n=282)	After one of month intervention (n=282)	p-value
Consulted the doctor	77 (27.3%)	195(69.1%)	0.0001*
Not consulted the doctor	205 (72.7%)	87 (30.9%)	

Discussion:

The purpose of this study was to assess the menopause-related severity of symptoms (somatovegetative, psychological, and urogenital symptoms) and quality of life among rural perimenopausal women. This study also finds the effectiveness of health education on their health-seeking behaviour. A significant proportion of participants (47.7%) reported attaining menarche around the age of 13. This finding aligns with Indian trends indicating that the average age of menarche typically falls between 12 and 13 years [18]. However, 45.8% of participants experienced irregular menstrual cycles. Irregular menstruation can be indicative of underlying health issues such as polycystic ovary syndrome (PCOS), thyroid disorders, or other endocrine abnormalities (19,20). Moreover, 41.9% of

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the participants reported experiencing moderate pain during menstruation, and 27.1% had heavy bleeding. Dysmenorrhea, and menorrhagia can significantly impact daily activities and quality of life. (21)

Despite the significant menstrual health issues reported, only 24.8% of participants sought medical consultation. This low rate of health-seeking behaviour is concerning and highlights potential barriers to accessing care. The study identified several reasons for not consulting a doctor, including lack of awareness, disinterest, financial constraints, and the distance to treatment centres. These barriers reflect broader systemic issues within healthcare access and education that need to be addressed through targeted interventions. [22,23]

Among those who did seek medical advice, 44.1% visited private hospitals, suggesting a possible preference for perceived higher quality care in private facilities, despite potentially higher costs. The findings are similar to the study done by Ginic Gupta et al and Samreen khan et al (22,23). Most of the women visited the government hospital and the main reason for visiting the hospital was not disturbing day-to-day activities and being unaware which was similar to the study done by Apoorva et al [24].

The severity of menopausal symptoms among the study participants, as measured by the Menopause Rating Scale (MRS), reveals significant physical, psychological, and urogenital challenges experienced during menopause. These findings emphasize the necessity for comprehensive healthcare strategies to address the multifaceted nature of menopausal symptoms. Joint and muscular discomfort was reported by an overwhelming 90.3% of participants, making it the most predominant symptom in the somato-vegetative domain. This high prevalence indicates that musculoskeletal issues are a major concern for menopausal women, which can significantly impact their mobility and quality of life. This finding is consistent with other studies that have reported similar trends [24]. About 81% of perimenopausal women had irritability, and anxiety, and half of them had physical and mental exhaustion which was similar to the study done among rural women by Meenakshi Kalhan et al[15].In this current study, 81% of the study population had symptoms of hot flashes and sweating, depressive mood 86%, irritability 88%, anxiety 85 % and vaginal dryness 77% which was similar to the study done by Meena amor et la [25].

Depressive mood, irritability, and anxiety were reported by around 85% of the participants, indicating that psychological symptoms are nearly as prevalent as somato-vegetative ones. The high prevalence of these symptoms underscores the mental health challenges faced by women during menopause. Hormonal fluctuations during menopause are known to affect neurotransmitter levels, contributing to mood disturbances (26). Vaginal dryness was the most commonly reported urogenital symptom, affecting 76.7% of participants. Vaginal dryness can lead to discomfort, dyspareunia (painful intercourse), and increased risk of urogenital infections, significantly impacting sexual health and overall quality of life. These findings were similar to studies done by Meenakshi Kalhan et al and Menna amor et al [15,25].

The menopausal symptoms based on the three domains showed that somatovegetative symptoms were the most prevalent followed by psychological and then uro genital domain symptoms which was similar to the studies done by Meenakshi Kalhan et al, Yuvaraj Krishnamoorthy and Meena armo et al[15,25,27]. Overall, 69% of the women experienced menopausal symptoms, indicating that a majority of the study population is affected by this transition. This high prevalence of symptoms across multiple domains highlights the complex and comprehensive nature of menopausal health issues.

The quality of women based on MRS scale in this study showed that majority of the women had poor QOL which was similar to the study done by Somak Majumdar (28). Another study done by Meenakshi Kalhan et al, where 70.2 % of women had the poor Quality of life (QOL) which is similar to my current study. The majority of women having a poor quality of life mainly due to somatovegetative and psychological problems which was similar to the study done by Yuvaraj Krishnamoorthy et al [15,27]

The were significant association between poor QOL with mild and moderate symptom of somatovegetative domain, moderate and severe symptom of psychological domain and mild symptom of urogenital symptom which was similar to the study done by Anil K Agarwal et al [24]

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There is an increase in health-seeking behaviour among perimenopause women after health education which shows that educational and intervention programs are effective in encouraging women to seek medical advice and actively manage their symptoms which improves overall health outcomes and quality of life. There was also a significant difference in the health-seeking behaviour of the women after health education intervention which was similar to the study done by Tugce Koyuncu et al [29]. Following health education intervention, women's perceptions of menopause improve [30,31].

Having accurate knowledge regarding menopause can assist women in developing more reasonable anticipations about the menopausal phase and in making well-informed decisions regarding treatment options for menopausal symptoms [32]. By health education intervention, understanding of menopause and health education does not consistently result in attitude modification. However, menopausal process functioning, such as how it emerges, can help women to eliminate the feeling of uncertainty experienced during this period and their negative attitudes about menopause [33].

Conclusion:

This study revealed that more than three-fourths of women experienced menopausal symptoms and most had menopause related poor quality of life. In this study, effective health education significantly improved the peri menopause women health seeking behaviour which reflect on symptoms management and thereby improving their quality of life. After the intervention, there has been a positive response from the women for the management of menopausal symptoms.

Recommendation and Action Plan:

To offer menopausal women comprehensive treatment, their primary healthcare physician should teach them how to manage these symptoms using a variety of techniques, including pelvic floor exercises, a healthy diet, increased physical activity, and lifestyle modifications like yoga and exercise. So, the government should start the menopausal clinic to combat these problems and help to sensitize and increase awareness among them. To increase the well-being of women in our nation, more research on perimenopausal women is necessary.

Conflicts of interest

There is no conflict of interest.

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