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ASSESSING THE INFLUENCE OF HEALTHCARE PROVIDERS ON PATIENT PERCEPTIONS ON USE OF MEDICINAL PLANTS IN THE NORTHERN REGION OF GHANA

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ABSTRACT

Introduction: This study investigates the influence of healthcare providers on patient perceptions regarding the use of medicinal plants for disease treatment in the Northern Region of Ghana. Medicinal plants play a significant role in traditional medicine in this area, yet the interplay between healthcare recommendations and patient beliefs remains underexplored. **Methods:** A total of 300 respondents participated in the survey, with demographic information collected on gender, age, education, and occupation. The perceptions regarding medicinal plants were assessed through a structured questionnaire that evaluated participants' experiences, knowledge, and influences of healthcare provider recommendations. **Results:** The findings reveal that 94.7% of participants reported having used medicinal plants, but 83.7% rated their knowledge of these remedies as low. Significant associations were found between socio-demographic factors—such as age, education, and occupation—and patients' perceptions of healthcare provider influence. High influence rates were observed, with 67.7% of respondents scoring between 11 and 15 on the influence scale regarding healthcare provider recommendations. Furthermore, 90.6% consulted doctors for guidance on herbal treatments, and 83.7% indicated that they always sought advice from healthcare providers when considering the use of medicinal plants. **Conclusion:** Despite the prevalent use of herbal remedies, concerns about scientific validation and dosage standardization were highlighted. This study underscores the critical role of healthcare providers in shaping patient attitudes and knowledge concerning medicinal plants. The findings suggest a need for targeted educational initiatives that empower patients to make informed health decisions while integrating traditional remedies into contemporary healthcare practices.

KEYWORDS: Medicinal plants, healthcare providers, patient perceptions, Northern Ghana, traditional medicine.

1.0 INTRODUCTION

The use of medicinal plants for therapeutic purposes has permeated various cultures worldwide, playing a significant role in traditional medicine, particularly in developing countries. In Ghana, particularly in the Northern Region, herbal medicine serves as an integral component of the healthcare system, with many communities relying on plants for treating a myriad of ailments (Boadu & Osei, 2020). According to the World Health Organization (WHO), approximately 80% of the population in developing countries continues to use traditional medicine, encompassing herbal remedies, as a primary healthcare approach (World Health Organization, 2019). Thus, understanding the factors that influence patient perceptions and preferences regarding these treatments is crucial for bridging the gap between traditional and modern healthcare practices. Healthcare providers, especially doctors, nurses, and pharmacists, play a pivotal role in shaping patient attitudes towards medicinal plants. Their recommendations can significantly influence patients' decisions to incorporate or cease the use of herbal treatments (Harrison et al., 2014). However, the actual impact of healthcare providers on patient perceptions regarding the use of herbal medicine remains underexplored, particularly in regions like Northern Ghana, where traditional healing is deeply rooted in the culture (Odukoya et al., 2019).

Numerous studies have highlighted the interplay between socio-demographic factors and health behaviours, indicating that variables such as age, education, and occupation can influence health decisions and perceptions (Rohit et al., 2021). Yet, despite the widespread reliance on herbal remedies in the region, studies investigating patients' knowledge and attitudes toward these remedies, as well as how healthcare guidance shapes these views, are limited. This study aims to assess the influence of healthcare providers on patient perceptions regarding the use of medicinal plants in the Northern Region of Ghana. By exploring socio-demographic characteristics and evaluating the perceived influence of healthcare recommendations, this research seeks to understand the complexities surrounding the use of herbal medicine and its integration within contemporary healthcare systems. The findings will contribute to the development of educational strategies that can empower patients to make informed choices about their health, potentially leading to improved health outcomes through a balanced approach that respects both traditional and modern healing practices.

2.0 METHODOLOGY

Study Design

This study employed a cross-sectional survey design to assess the influence of healthcare providers on patient perceptions regarding the use of medicinal plants for disease treatment in the Northern Region of Ghana. The primary goal was to understand how socio-demographic factors and healthcare-provider interactions shape patients' attitudes toward medicinal plants.

Study Population and Sample Size

The target population consisted of adults residing in the Northern Region of Ghana who had experience using medicinal plants for health purposes. A total of 300 participants were recruited for the study using a convenience sampling technique. Inclusion criteria required participants to be at least 18 years of age.

Data Collection

Data collection was conducted through a structured, self-administered questionnaire developed specifically for this study. The data collection process was carried out over a period of four weeks, and trained research assistants facilitated the process to ensure clarity and completeness of responses.

Data Analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics (means, frequencies, and percentages) were computed to summarize the socio-demographic characteristics of the participants. A chi-square analysis was conducted to determine associations between socio-demographic factors and the influence of healthcare providers on patient perceptions regarding the use and cessation of medicinal plants. A p-value of <0.05 was considered statistically significant for all analyses.

Ethical Considerations

Ethical approval for the study was obtained from the University for Development Studies Institutional Review Board (UDSIRB). Informed consent was secured from all participants prior to data collection, ensuring that they understood the purpose of the study, their right to withdraw, and the confidentiality of their responses.

Limitations

The study acknowledges several limitations, including the potential for response bias due to the self-reported nature of the questionnaire, and the use of convenience sampling may affect the generalizability of the findings. Future research could expand on these findings by employing a larger, more randomized sample and exploring longitudinal perspectives on patient perceptions toward medicinal plants.

3.0 RESULTS

3.1 Socio-demographic characteristics of study participants in the Northern Region of Ghana

Three hundred (300) respondents were involved in the study. The female population dominated with 62.0% with 38.0% being male. The lower age limit was 18 and the upper limit was recorded as 67. The study recorded 28.3% and 23.3% of the population with age ranges of 35-44 and 45-54, respectively. The lowest population was recorded within the 65 and above category with 5.9%.

About 35.0% of the population was recorded to have secondary education, with 30.0% and 16.7% having tertiary and primary education. 18.3% of patients recorded no formal education as shown in Table 1.

3.2 Knowledge of study participants on the use of medicinal plants in the Northern Region of Ghana

As shown in Table 2, 94.7% recorded “Yes” to have ever used medicinal plants with 5.3% participants responding “No” to the use of medicinal plants. Regarding the use of medicinal plants, 69.7% of participants expressed concern about the lack of scientific evidence on medicinal plants, while 28.7% were concerned about no standardized dosage when it comes to the usage of medicinal plants. About 1.7% of the population was also concerned about the high potential of medicinal plants interacting with other chemicals during their usage. Participants were asked about the possible benefits of medicinal plants, 60.0% felt the need for medicinal plants due to their fewer or lower side effects, and 19.0% of respondents also believed in the cost effectiveness in terms of medicinal plant usage. Other participants (21.0%) also felt medicinal plants were complementary to conventional medicine. About 83.7% rated their knowledge of medicinal plants as low, and 15.7% and 0.7% rated their knowledge as moderate and high, respectively.

3.3 Association on Socio-demographic factors and Influence of Healthcare Providers on Patient Perceptions to Stop use of Medicinal Plants

The association between the sociodemographic factors and the Influence of Healthcare Providers on Patient Perceptions to stop the use of medicinal plants for disease treatment was determined using chi-square analysis. There was a

significant correlation between the Influence of Healthcare Providers on Patient Perceptions to stop the use of medicinal plants concerning age (p = 0.01), education (p = 0.02), and occupation (p = 0.01), however, no significant correlation was observed with respect to gender (p = 0.06) and their location (p = 0.22) as shown in Table 3.

3.4 Association on Socio-demographic factors and Influence of Healthcare Providers on Patient Perceptions to use of Medicinal Plants

Using chi-square analysis, the relationship between the sociodemographic characteristics and the Influence of Healthcare Providers on Patient Perceptions of to use of Medicinal Plants for disease treatment was ascertained. There was a significant correlation between the Influence of Healthcare Providers on Patient Perceptions with respect to age (p = 0.01), education (p = 0.03), and occupation (p = 0.00), however, no significant correlation was observed in gender (p = 0.11), and location (p = 0.29) as shown in Table 4.

3.5 Rating of respondents' influence by their healthcare provider's recommendations regarding the use of herbal medicine for treatment

From Table 5, it was observed that 67.7% scored from 11 to 15, indicating a high influence rate by their healthcare provider's recommendation on the use of medicinal plants for the treatment of various diseases, however, only a few (4.0%) chose a scale of 1 to 5, indicating low influence rate, 28.3% recorded moderate influence rate by choosing scale of 6 to10.

3.6 Healthcare providers mostly visited by respondents regarding the use of medicinal plants for disease treatments

From the study, it was recorded that most respondents (90.6%) visited the medical doctor regarding recommendations on the use of medicinal plants for treatment when ill. An equal number of respondents (4.7%) was reported to have visited the nurse or pharmacist as shown in Figure 1.

3.7 How often do participants consult their healthcare provider regarding the use of medicinal plants for treatments

From Figure 2, it was observed that 83.7% of participants always visited their healthcare workers regarding their decision on the use of medicinal plants for disease treatment, 13.6% of participants recorded occasional visits while 2.7% never visited their healthcare providers on a decision regarding the use of medicinal plants.

Table 1: Socio-demographic characteristics of study participants in the Northern Region of Ghana.

Categories	Variables	Frequency	Percent
Gender	Male	144	38
	Female	186	62
Age	18-24	55	18.3
	25-34	54	18.0
	35-44	85	28.3
	45-54	70	23.3
	55-64	21	7.0
	65 above	15	5.9
	Total	**300**	**100.0**
Education	No Education	55	18.3
	Primary	50	16.7
	Secondary	105	35.0
	Tertiary	90	30.0
	Total	**300**	**100.0**
Occupation	Retired	17	5.7
	Student	63	21.0

	Unemployed	34	11.3
	Employed	186	62.0
	Total	**300**	**100.0**
Location	Rural	36	12.0
	Suburban	96	32.0
	Urban	168	56.0
	Total	**300**	**100.0**

Source: Field Survey, 2024.

Table 2: Knowledge of study participants on the use of medicinal plants in the Northern Region of Ghana.

Variables	Attributes	Frequency	Percent
Have you ever used medicinal plants?	Yes	284	94.7
	No	16	5.3
	Total	**300**	**100.0**
What concerns do you have regarding the use of medicinal plants?	No standardized dosage	86	28.7
	Lack of Scientific Evidence	209	69.7
	Potential Interaction with another chemical	5	1.7
	Total	**300**	**100.0**
What do you believe the benefits of medicinal plants are?	Complementary to conventional medicine	63	21.0
	Cost-effectiveness	57	19.0
	Fewer side effects	180	60.0
	Total	**300**	**100.0**
How would you describe your knowledge of medicinal plants	Low	251	83.7
	Moderate	47	15.7
	High	2	0.7
	Total	**300**	**100.0**

Source: Field Survey, 2024.

Table 3: Association on Socio-demographic factors and Influence of Healthcare Providers on Patient Perceptions to Stop use of Medicinal Plants.

Categories	Variables	Yes	No	P value
Gender	Male	112	2	0.06
	Female	174	12	
	Total	**286**	**14**	**300**
Age	18-24	46	9	0.01
	25-34	50	4	
	35-44	85	0	
	45-54	69	1	
	55-64	21	0	
	65 above	15	0	
	Total	**286**	**14**	**300**
Education	No Education	54	1	0.02
	Primary	49	1	
	Secondary	103	2	
	Tertiary	80	10	
	Total	**286**	**14**	**300**
Occupation	Retired	17	0	0.01
	Student	54	9	
	Unemployed	33	1	
	Employed	182	4	
	Total	**286**	**14**	**300**
Location	Rural	35	1	0.22
	Suburban	94	2	
	Urban	157	11	
	Total	**286**	**14**	**300**

Source: Field Survey, 2024.

Table 4: Association on Socio-demographic factors and Influence of Healthcare Providers on Patient Perceptions to use of Medicinal Plants.

Categories	Variables	Yes	No	P value
Gender	Male	111	3	0.11
	Female	173	13	
	Total	**284**	**16**	**300**
Age	18-24	45	10	0.01
	25-34	49	5	
	35-44	85	0	
	45-54	69	1	
	55-64	21	0	
	65 above	15	0	
	Total	**284**	**16**	**300**
Education	No Education	54	1	0.03
	Primary	49	1	
	Secondary	102	3	
	Tertiary	79	11	
	Total	**284**	**16**	**300**
Occupation	Retired	17	0	0.00
	Student	53	10	
	Unemployed	33	1	
	Employed	181	5	
	Total	**284**	**16**	**300**
Location	Rural	35	1	0.29
	Suburban	93	3	
	Urban	156	12	
	Total	**284**	**16**	**300**

Source: Field Survey, 2024.

Table 5: Rating of respondents' influence by their healthcare provider's recommendations regarding the use of herbal medicine for treatment.

Variables (Influence)	Scale	Frequency	Percent
Low Influence Rate	1-5	12	4.0
Moderate Influence Rate	6-10	85	28.3
High Influence Rate	11-15	203	67.7
Total		**300**	**100.0**

Source: Field Survey, 2024

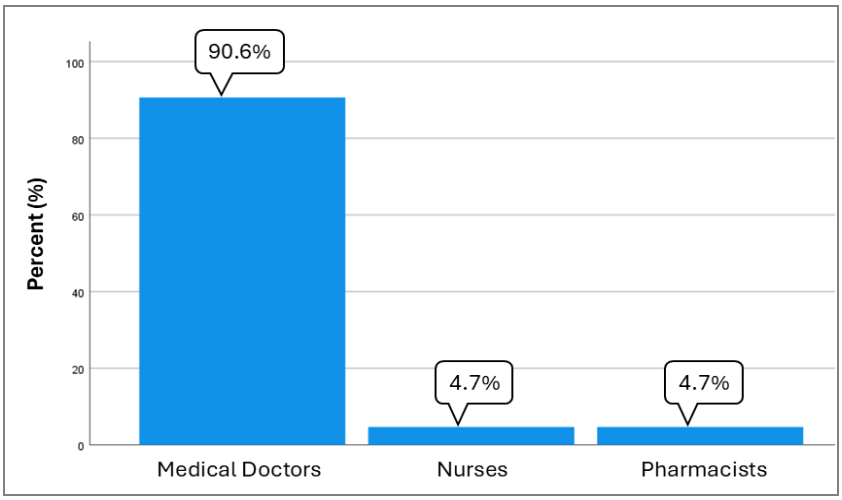

Figure 1: A graph showing healthcare providers mostly visited by respondents regarding the decision on the use of medicinal plants for disease treatments.

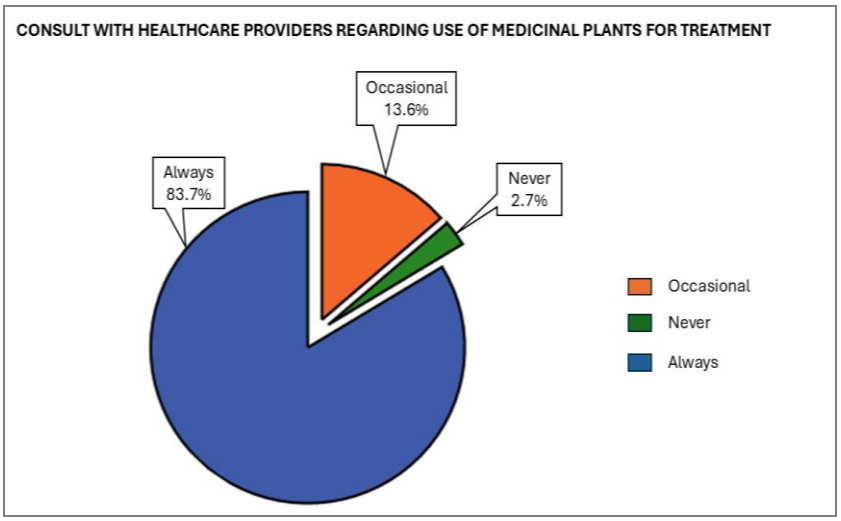

Figure 2: A chart showing how often participants consult their healthcare provider regarding decisions on the use of medicinal plants for treatments.

4.0 DISCUSSION

The demographic characteristics of the study participants provide valuable insights into the context within which healthcare providers impact perceptions of medicinal plants in the Northern Region of Ghana. Among the 300 respondents, the predominance of females (62.0%) reflects the cultural dynamics typical in many Ghanaian communities, where women often serve as primary caregivers and health decision-makers (Agyemang & Van Dijk, 2014). This gender distribution is important as it may influence the types of medicinal plants utilized and the attitudes toward their efficacy. Studies have shown that women tend to have a more holistic approach to health care, often incorporating both conventional and traditional remedies (Bohara et al., 2017). The age distribution, with 28.3% of respondents aged 35-44 and 23.3% aged 45-54, highlights a demographic that is likely more engaged with healthcare decisions. This middle-aged group often grapples with more complex health issues, which could amplify their reliance on medicinal plants known for fewer side effects (Kumar et al., 2013). Interestingly, the low representation of participants aged 65 and above (5.9%) poses a limitation in understanding the perceptions of older adults, who may have different health needs and perspectives on medicinal plants compared to their younger counterparts (Foster et al., 2018).

Regarding educational background, the study reveals a considerable portion of respondents with secondary education (35.0%) and some with tertiary education (30.0%). However, nearly one in five participants (18.3%) reported no formal education. This educational gradient may directly influence knowledge and attitudes toward medicinal plants; individuals with higher educational levels may possess a better understanding of the importance of scientific evidence when it comes to health decisions (López-García et al., 2015). This dynamic also suggests that healthcare providers need to adopt tailored communication strategies that consider the educational levels of their patients to effectively discuss the use of medicinal plants and their potential benefits. The fact that 94.7% of participants reported having used medicinal plants signifies their cultural significance and potential acceptance among the population (Odukoya et al., 2019). However, the 83.7% of participants who rated their knowledge of medicinal plants as low is concerning, as it highlights a critical gap that needs to be addressed. The participants expressed concerns about the lack of scientific evidence (69.7%) and standardized dosages (28.7%) indicating a cautious approach to the use of medicinal plants, which is likely fuelled by incomplete knowledge and possibly misinformation (Bhat et al., 2020). Importantly, while

60.0% of respondents cited fewer side effects as a key benefit of medicinal plants, and 19.0% recognized cost-effectiveness, this shows a nuanced understanding of the potential advantages, albeit coupled with caution regarding their use. The perception that medicinal plants could serve as complementary options to conventional medicine (21.0%) reflects a growing trend toward integrative healthcare practices (Rohit et al., 2021). These insights suggest that healthcare providers play a pivotal role in guiding patients by providing clear, evidence-based information that addresses both the benefits and concerns surrounding medicinal plants.

The association between socio-demographic factors and the influence of healthcare providers on patient perceptions regarding the use and cessation of medicinal plants underscores the complex dynamics at play in health decision-making in the Northern Region of Ghana. Statistically significant relationships were found concerning age, education, and occupation, while gender and location did not show significant correlations. The findings regarding age ($p = 0.01$) emphasize that different age groups respond uniquely to healthcare provider recommendations concerning medicinal plant use. Younger individuals may be more receptive to changes in medicinal practices as they might view traditional remedies with a blended perspective, often integrating them with modern medical advice (Tapsell et al., 2006). In contrast, older individuals may have a stronger reliance on traditional remedies and, therefore, be less inclined to stop their use, highlighting the necessity for targeted educational initiatives that address these age-related perceptions (López-García et al., 2015). Education also presented a significant influencing factor ($p = 0.02$ for stopping use and $p = 0.03$ for use), aligning with existing literature that suggests higher educational attainment correlates with a more nuanced understanding of medicinal practices (Rohit et al., 2021). Individuals with higher levels of education often have better access to information and are more likely to weigh the pros and cons of various treatment options, including both conventional medicine and medicinal plants. This understanding can create variability in how messages from healthcare providers are interpreted and acted upon (Odukoya et al., 2019).

Occupation ($p = 0.01$ for stopping use and $p = 0.00$ for use) was also a significant factor in shaping perceptions. Different occupational roles may expose individuals to varied health information sources and decision-making environments. For instance, individuals engaged in the health sector or related fields may have greater access to professional guidance regarding the use of medicinal plants, thereby influencing their perceptions and practices. Conversely, those in less informed occupations may rely more heavily on community and traditional knowledge when considering the use of medicinal plants (Bhat et al., 2020). The lack of significant correlation with gender ($p = 0.06$ for cessation and $p = 0.11$ for use) and location ($p = 0.22$ for cessation and $p = 0.29$ for use) suggests that these factors may not play as prominent a role in shaping perceptions as the other demographic variables. This finding prompts further inquiries into why gender and geographic location did not show significant influences. In many contexts, women are often seen as the primary custodians of traditional medicine and may have entrenched beliefs about medicinal plants; thus, additional research may be warranted to explore the reasons behind the observed trends (Agyemang & Van Dijk, 2014). The findings regarding the influence of healthcare providers' recommendations on the use of herbal medicine for treatment reveal critical insights into patient behaviour and perceptions. A notable 67.7% of respondents rated the influence of their healthcare providers highly, scoring between 11 to 15 on an influence scale, which indicates a strong reliance on healthcare providers for guidance on the use of medicinal plants for various diseases. In marked contrast, only 4.0% of participants indicated a low influence (scoring 1 to 5), pointing to the significant role that healthcare professionals play in shaping patient beliefs and practices related to herbal medicine.

The high influence observed can be interpreted through the lens of the trust patients place in their healthcare providers. Research has shown that patients often seek the advice of professionals when making health-related decisions, which can significantly contribute to the uptake and acceptance of medicinal plants in treatment protocols (Bridges et al., 2011). The presence of a strong recommendation from healthcare providers can act as a pivotal factor in aligning patient choices with evidence-based practices, thus enhancing the credibility of herbal medicine within the medical community (Sawyer et al., 2018). Furthermore, the data suggest that a significant majority of respondents (90.6%) consulted medical doctors regarding recommendations for the use of medicinal plants. This finding highlights the critical role that medical doctors play as the primary source of information and guidance for patients exploring herbal treatments. Previous studies have indicated that direct communication with physicians enhances patient engagement and can lead to a more informed decision-making process (Harrison et al., 2014). The equal representation of those who consulted nurses or pharmacists (4.7% each) indicates an opportunity for these healthcare professionals to also contribute to the conversation around medicinal plants, despite being less frequently consulted than physicians. The frequency of consultations further reinforces the importance of healthcare providers in patient decision-making processes regarding medicinal plants. An overwhelming 83.7% indicated they "always" consulted their healthcare providers on this matter.

Such habitual consultation points to a strong inclination among patients to seek professional advice before making health decisions, which is consistent with findings from other studies reflecting on the role of consultations in improving health outcomes (Miller et al., 2015). The small proportion of respondents who reported infrequent or no consultations (13.6% occasionally and 2.7% never) underscores the need for initiatives that encourage ongoing dialogue between patients and healthcare providers, to ensure that all patients are aware of the available treatment options and can engage in informed discussions about their health.

5.0 CONCLUSION

This study highlights the significant influence of healthcare providers on patient perceptions regarding the use of medicinal plants for disease treatment in the Northern Region of Ghana. A strong reliance on medical professionals, especially doctors, underscores their role in guiding patients' decisions about herbal remedies. Socio-demographic factors, such as age, education, and occupation, notably shape these perceptions, indicating the need for tailored educational approaches. Although there is widespread use of medicinal plants, concerns about scientific validation and safety remain prevalent. The high rates of consultation with healthcare providers present an opportunity for enhanced dialogue that can bridge knowledge gaps and promote informed decision-making. Ultimately, integrating traditional remedies into healthcare discussions can foster a holistic approach to health that respects local practices while ensuring patient safety. Future initiatives should focus on empowering patients with knowledge to make informed choices about their health.

Data Availability

The data used to support the findings of this study are available within the article.

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Authors' Contributions

Conceptualization and methodology: Frederick Sarfo-Antwi and Charity Adowagyiri. Formal analysis and investigation: Frederick Sarfo-Antwi, and Charity Adowagyiri. Writing of the original draft, review, and editing: Frederick Sarfo-Antwi, Charity Adowagyiri, and Christopher Larbie. All authors approved the final manuscript.

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Declaration of Conflicting Interests

The authors do not have any conflict of interest.

Ethical statements

The study was approved by the University for Development Studies Institutional Review Board (UDSIRB) with an ethically approved number of UDSIRB/167/24.

Informed Consent Statement

The conduct of the study followed the guidelines set by the Committee for Monitoring and Control of Human Experimentation's guidelines. Protocols for all human experiments were verified and approved by the ethical committee.

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