

# Comparing no-show rates between palliative care and non-palliative care outpatient clinics at King Fahad Medical city, Riyadh, and KSA: a focus on oncology

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ABSTRACT

Background: No-shows occur, when patient fails to attend a scheduled appointment with no prior notification to the healthcare provider. They are missed healthcare utilized time slots and resources.

Aim: The aim is to determine rate of no-show to palliative care clinic in comparison to non-palliative care clinics and identify reasons for patient's missing their appointment.

Methodology: This retrospective cross-sectional study was conducted in King Fahad Medical City affiliated to the Ministry of Health in Riyadh, Saudi Arabia.

Results: Our study showed that the overall rate of missed appointments in outpatient clinics was 22.5%. Palliative care outpatient clinic reported 39.81%. The main reasons for no-shows were admission/transfer to another hospital or ER, inconvenient appointment times, and patient death.

Conclusion: Our research revealed that the rate of missed appointments was higher in the palliative care outpatient clinic than in the non-palliative care clinic in King Fahad Medical City, Riyadh, KSA. Which is a concern.

**Key words:** missed appointment, no show, palliative care, outpatient

## INTRODUCTION

Non-Communicable Diseases (NCDs) are responsible for a significant number of deaths worldwide and negatively impact social and economic development. They are particularly pronounced among impoverished people and exacerbate inequalities. Interventions exist, but are often overlooked [1].

The incidence of non-communicable diseases, including cardiovascular disease (38.5%), cancer (34%), chronic respiratory disease (10.3%), AIDS (5.7%), and diabetes, is increasing worldwide due to the ageing of the population [2]. Early palliative care for non-communicable diseases can reduce the need for medical treatment and hospitalization.

Globally, only about 14% of individuals who require palliative care receive it. About 40 million people need palliative care annually, 78% of them in low- and middle-income countries.

The World Health Organization (WHO) describes palliative care as an approach that aims to enhance the quality of life for individuals (adults and children) and their families who are dealing with problems related to a life-threatening illness. Palliative care aims to prevent and alleviate suffering through early identification, appropriate assessment, and treatment of pain and other issues, including physical, psychosocial, and spiritual concerns [3].

Early integration of Outpatient Palliative Care (OPC) is beneficial to both patients with advanced cancer and the healthcare systems in which they receive care. Successful establishment and implementation of OPC models requires consideration of the preferences and values of both the patients receiving care and the facilities providing the service [4].

ASCO, ESMO, and other international cancer organizations now recommend early referral to specialized palliative care physicians [5, 6].

Palliative care in Saudi Arabia is still in its early stages, although its introduction dates back two decades. Currently, palliative care is not widely accessible throughout the country [7].

Islamic culture adopts the end-of-life care and legally regulates it in Saudi Arabia on the basis of the Holy Qur'an [8].

The aim of the Saudi Palliative Care National Clinical Guidelines for Oncology is to ensure that every cancer patient experiences

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the best possible quality of life during the course of their disease [3]. This is in line with the country's National Transformation Program as part of Vision 2030 -Saudi Arabia's vision for the future-through the adoption of three pillars that will form the basis for the successful realization of this vision: facilitating access to healthcare services, improving the quality and efficiency of healthcare services, and promoting the prevention of health risk [9-11].

### No-show rate reasons and risk factors

Palliative care patients face unique barriers when accessing outpatient services, such as transportation, financial constraints, and cultural or language differences. It is important to develop strategies to address these barriers and ensure that people who need palliative care receive the support and services they need [12].

No-shows are defined as missed patient appointments without prior notice or contact with clinic staff [13-15].

The rate of no-show can vary widely across health care facilities, ranging from 12% to 50% [16, 17].

According to studies, reported rates of no-shows may vary depending on the country, health care system, clinical setting and diagnostic procedures. However, no-shows continue to be a prevalent issue worldwide. The highest no-show rates were reported in North America (27.1%), Asia (24.3%) while the lowest rates were observed in Europe (14.9%) [18-20].

However, rates vary by specialty, with pediatrics and psychiatry more affected, with reported rates of 31% to 40%. In general, medical clinics, the rate of no-shows ranges from 15% to 30%. It has also been reported that the rate of no-shows in primary care can be as high as 50% [21-24].

Accurate tracking of no-show rates is critical because it is impossible to quantify the results of efforts to reduce patient no-shows without accurate numbers that reflect baseline data and progress. Studies have shown that the earlier an appointment is scheduled, the higher the no-show rate tends to be [25-27].

### Factors affecting no show

Previous research has shown that the frequency with which a patient missed an appointment is a strong indicator of which patients are likely to miss their next appointment. Several studies have examined reasons for patient no-shows, such as forgetting the appointment, misunderstandings, transportation and social issues, inconvenient appointments, sick children or relatives, or new patients who do not show up because their symptoms have improved. Understanding the factors that contribute to no-shows can help healthcare organizations develop targeted interventions to reduce missed appointments and improve patient access to care [28].

Given the variability of published studies, patient factors that increase the no-show rates have been shown to include both male and female gender, substance and alcohol abuse, both younger and older patients, and depression [29-33]. Patients with public health insurance are more likely to not show up for their appointments [18-20].

According to Rosenbaum et al., the scheduling lead time and

modality type were identified as the two most significant factors associated with increased no-show rates [34, 35].

### Impact of no show

Like other medical specialties, a significant number of missed appointments occur in palliative care. This can adversely affect the utilization of resources and the quality of health care services. Missed appointments can reduce the effectiveness of health care services, lead to inefficient use of clinical and administrative staff, financial losses, waste of resources, longer waiting times, and loss of revenue, especially for services where resources are expensive and demand is high [36-37]

Numerous studies have examined various strategies to increase patient attendance and reduce the impact of missed appointments, but none has been shown to be consistently effective [38, 39]

To date, there have been no studies investigating the extent of no-shows and its possible predictors in outpatient palliative care clinics in the Middle East. The palliative care team at King Fahad Medical City (KFMC) in Riyadh, KSA, have identified a significant number of no-shows at their outpatient palliative care clinic. Therefore, the aim of this study is to determine the characteristics of patients and reasons that lead to no-shows, as well as the rate of no-shows in the palliative outpatient clinic compared to the non-palliative outpatient clinic at KFMC.

## AIM OF STUDY

### Research question

What is the rate of no-show to out-patient's palliative care clinics in comparison to non-palliative care clinics in King Fahad Medical City, Riyadh, Saudi Arabia?

### Primary objectives

To identify the rate of missed appointments or 'No-show' in outpatient's palliative care clinics in comparison to non-palliative care clinics at King Fahad Medical City, Riyadh, Saudi Arabia.

### Secondary objectives

1. To determine the reasons of missed appointments or 'No-show' in out-patient's palliative care clinics in comprehensive cancer center at King Fahad Medical City, Riyadh, Saudi Arabia.
2. To explore the correlation between no-show rate in relation to patients' characteristics (age, gender, type of cancer, Palliative Performance Scale (PPS)), and Edmonton Symptom Assessment System (ESAS) variables in outpatient's palliative care clinics in comprehensive cancer center at King Fahad Medical City, Riyadh, Saudi Arabia.

## MATERIALS AND METHODS

### Study design, setting and duration

This retrospective cross-sectional study based on registration records of outpatient palliative and non-palliative clinic was conducted in king Fahad Medical City (KFMC) affiliated to the Ministry of Health (MOH) in Riyadh, Saudi Arabia, from

January 1<sup>st</sup> 2018 until December 31<sup>st</sup> 2021.

### Data collections

All patients 14 years or older who scheduled an appointment in an out-patient’s palliative care and non-palliative care clinic. The confidentiality was maintained throughout the study.

The researcher calculated the number of patients who either new or follow up, booked or walk in, showed up or not showed up. The no show rate was calculated on the basis of number of no-show patient divided by total number of booked patients in palliative care clinic.

Using a daily generated list of eligible patients who had missed that day’s appointment, a Palliative care coordinator attempted to call these patients or their caregivers the same day.

The Palliative care coordinator documented the patient’s reported

reasons for missing the appointment in a Microsoft Excel sheet, and these reasons reviewed and categorized by the authors. Calls were made on weekdays from 8 am to 4 pm to increase the likelihood of reaching patients.

### Ethical consideration

The authors obtained the approval from the ethics committee in King Fahad medical City IRB# (H-01-R-012).

### Patient data collection and analysis

All patients’ information collected in Microsoft Excel 2019 sheet. The data were coded and entered to Statistical Package for Social Sciences version 22 (SPSS Inc., Chicago, IL, USA). Descriptive statistics (percentage and frequency) of different variables of missed appointments were assessed.

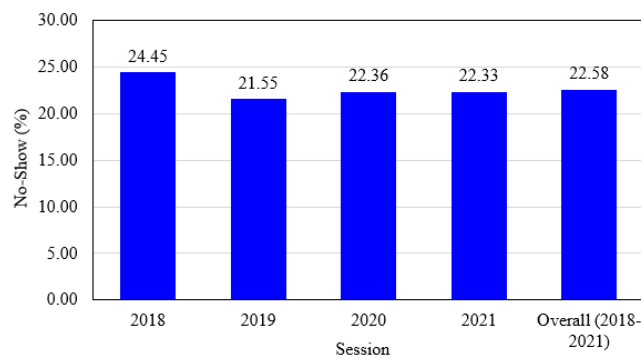


Fig. 1. Rate of no-show in outpatient clinics 2018-2021

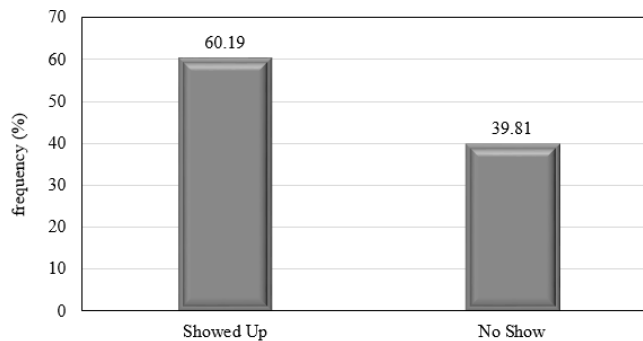


Fig. 2. Rate of show and no-show’s in palliative care out-patient’s clinic

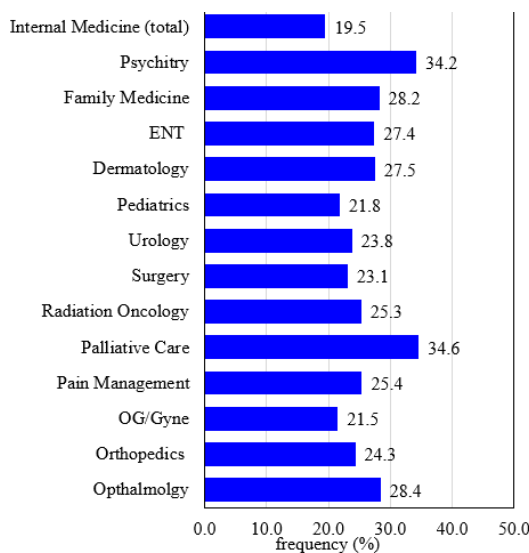


Fig. 3. Rate of no-show (%) during 2018-2021

## RESULTS

The overall out-patient's clinic no show rate during study period was 22.5%. No-shows in palliative care out-patient's clinic were 38.9% as shown in Figure 1 and 2 respectively.

Figure 3 demonstrate the no show in outpatient clinic of different specialties in king Fahad Medical City. The high no show rate was in palliative care clinic followed by Psychiatry clinic, ophthalmology and Family medicine clinic (Table 1).

**Tab. 1.** No-show's in palliative care out-patient's clinic in comparison with the showed up cases

Characteristic	Description	Shown Up	No Show	Total	p-value
		1919 (60.2)	1269 (39.8)	3188 (100.0)	
Age (year)	min-max	3-100	1-100	1-100	0.002
	Mean ± SD	57 ± 16	58 ± 18	57 ± 17	
	Median (P25, P75)	58 (48, 68)	58 (47,70)	58 (48, 70)	
	≤ 18	21 (1.1)	34 (2.7)	55 (1.7)	
	19-40	270 (14.1)	171 (13.6)	441 (13.9)	
	41-60	825 (43.2)	499 (39.7)	1324 (41.8)	
Gender	>60	795 (41.6)	554 (44.0)	1349 (42.6)	<0.001
	Female	1228 (64.0)	715 (56.4)	1943 (61.0)	
Diagnosis	Male	691 (36.0)	553 (43.6)	1244 (39.0)	<0.001
	Non Cancer	36 (1.9)	25 (2.0)	61 (1.9)	
	Central nervous system	167 (8.7)	128 (10.1)	295 (9.3)	
	Head and neck malignancy	201 (10.5)	137 (10.8)	338 (10.6)	
	Lung cancer	126 (6.6)	90 (7.1)	216 (6.8)	
	Breast cancer	385 (20.1)	191 (15.1)	576 (18.1)	
	Gastrointestinal malignancy	478 (24.9)	390 (30.7)	868 (27.2)	
	Genitourinary	310 (16.2)	176 (13.9)	486 (15.2)	
	Bone and soft tissue malignancy	39 (2.0)	37 (2.9)	76 (2.4)	
	Hematological malignancy	124 (6.5)	48 (3.8)	172 (5.4)	
Code status	Unknown primary	53 (2.8)	47 (3.7)	100 (3.1)	<0.001
	DNR	437 (22.8)	507 (40.5)	944 (29.8)	
	Full code	1478 (77.2)	746 (59.5)	2224 (70.2)	

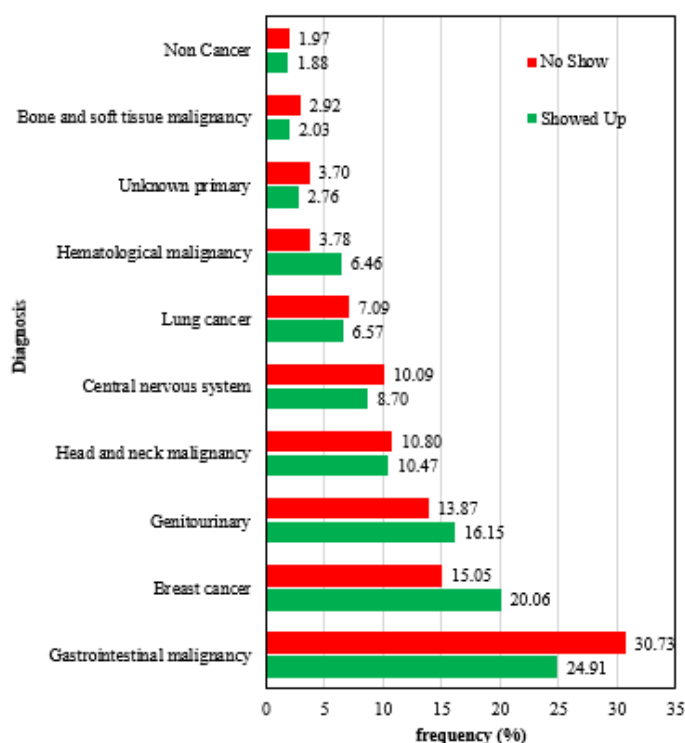


Fig. 4. Diagnosis in relation with show and no-show

Figure 4 shows that patients with GIT cancer have high no-show rate, while non cancer patients have low no show rate.

Figure 5 shows that high no show rate was associated with pain and tiredness of patients, while vomiting was the patients' characteristics with low no show rate.

Figure 6 shows the Major reasons of no shows among palliative care clinic patients. The main reasons were admission or transfer to another hospital/ER, inconvenient time of appointment, and patients passed away.

A significant portion of the study sample (38.93%) could not be reached as they did not answer the call. This could be due to various reasons such as patients being too sick to answer the

phone, having a language barrier, or simply not wanting to engage with healthcare providers.

## DISCUSSION

To the best of our knowledge, this is the first study in the Middle East and specifically in Saudi Arabia to examine the no show rate in palliative outpatient clinics and its predictors.

Missed appointments by patients cause disruptions in the health care delivery system, resulting in inefficiencies and valuable resources being unused [40].

A high rate of missed appointments can result in lost revenue and

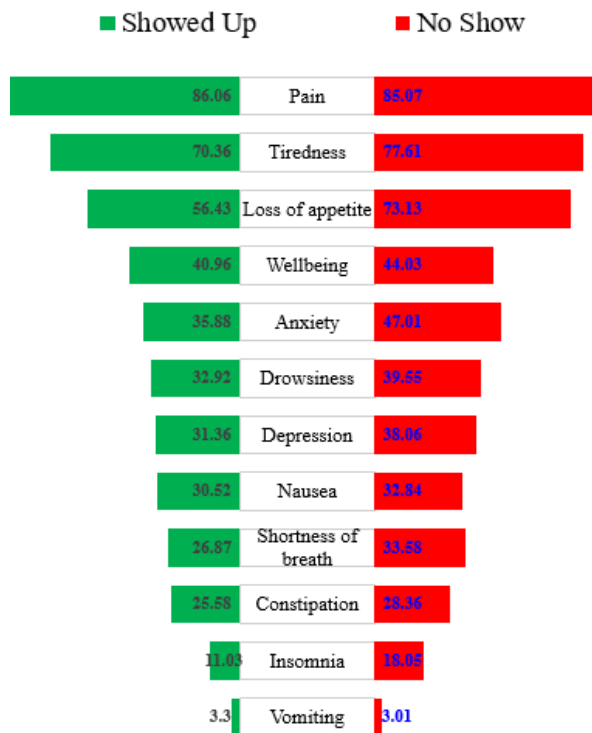


Fig. 5. Patient characteristics (ESAS) for show and no shows to palliative care out-patient's clinic

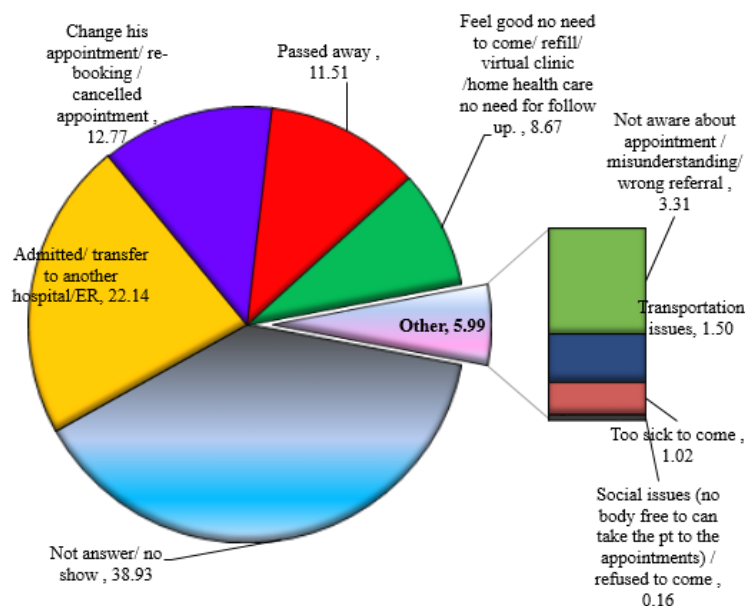


Fig. 6. Reason for no show



profits for the hospital, amounting to \$89,107 per year. It can also lead to inefficiencies in the scheduling system and longer wait times for outpatients. Reducing the no-show rate to 5% would result in \$51,769.00 in additional revenue [41]. On average, hospitals miss approximately 62 appointments per day, resulting in approximately \$3 million in lost revenue annually [42].

Different studies of patient no show in different medical specialties have used different parameters, settings, populations, and data collection and analysis methods, leading to different results [43, 44].

In our study, compared with other non-palliative care out-patient clinics, the Palliative Care out-Patient Clinic (PC) had the highest no-show rate of 39.81%, which is higher than those reported in the literature. For example, a recent study of 1,352 patients referred to the PC service at MD Anderson Cancer Center in Texas, USA, showed that only 16% missed their first visit [45, 46].

Also, higher than the no-show rate of about 20% found in an out-patient community palliative medicine clinic within an oncology clinic.

According to the results of this study, the overall no show rate for outpatient clinics was 22.58%, which is within the reported range of 2-41% reported in other countries [47-51]. In addition, the no-show rate was lower than the previously reported rate of 30% in KSA [52]. Oppenheim et al. conducted a study showing that the rate of no-show for an appointment typically ranges from 19% to 28% [53].

The correlation between physician specialty and patient attendance can vary widely. According to a study by Kheirkhah P et al, the highest no-show rates in the health centers studied were observed in consultations with gastroenterologists and otolaryngologists [54]. Dantas LF et al. found that the majority of patients did not appear for consultations with psychiatrists [55]. In another study, no-show rates were highest among patients who saw neurologists (17%), traumatologists (11.3%), and cardiologists (10.5%). In our study, the highest no-show rate was observed in the palliative care clinic, followed by the psychiatry clinic. However, in contrast to previous studies, gastroenterologists had the lowest nonattendance rates (19%). These heterogeneous results suggest that no-show is context-dependent and that several unmeasured factors may contribute to missed appointments in out-patient clinics [56].

The study found that the most common primary tumors in patients who did not attend their appointments were Gastro-Intestinal Tumors (GIT) (n=452, 30.7%), followed by breast tumors (n=206, 14.0%) and urologic tumors, this is consistent with Paiva CE et al finding the high rates of no-shows were associated with GIT tumors, followed by breast cancer and urologic tumors [57].

Out of 3,180 appointments, 1,269 (39.8%) were no-shows, with 494 patients (38.93%) not responding to our calls to find the reasons for their nonattendance. According to the study, the most common reason for appointment cancellation or no-show was that patients were admitted, transferred to another hospital, or presented to the emergency department (22.14%, n=281), appointments were changed, rescheduled, or cancelled (12.77%, n=162), and patients died (11.51%, n=146), which is consistent with the findings of Lauren et al. and Sherry et al. [58, 59]

In addition, our study found that patients who missed their appointments that misunderstandings, incorrect referrals, transportation problems, and social problems were also consistent

with reasons for missed appointments reported by a general practice in the United Kingdom [60-63].

Previous studies have shown that Breakers have a number of characteristics, such as low socioeconomic status, more psychosocial problems, and fewer chronic medical problems [63]. The characteristics of Breakers in this study confirmed some of these previous studies, although not all. We had hypothesized that lack of availability of transportation could be a contributing factor to missing appointments. This is consistent with a study conducted by Mohamed BA et al in 2020, in which 33% of patients reported the same reason for missing appointments [21]. This could be due to the fact that many families rely on hired foreign drivers for transportation, who are not always available or reliable.

The results of our study are consistent with a previous study that identified death before consultation as the most common cause of missed appointments in outpatient palliative care. In addition, the study found that patient or caregiver unavailability by telephone or inability to make a call were also important factors contributing to missed appointments.

The data from our study clearly show a positive correlation between longer time intervals between initial contact and appointment and a higher percentage of missed appointments. This highlights the importance of using appointment reminders, especially when longer intervals are required. By implementing effective reminder systems, healthcare providers can better alert their patients of their upcoming appointments, reducing the likelihood of missed appointments and improving patient access to care. Study by William et al, found that telephone reminders were effective when the interval between appointments was more than 2 weeks, resulting in a 40% decrease in missed appointments as patients indicated that these reminders made them feel important.

## CONCLUSION

Failure of a patient to attend a scheduled appointment without prior notification of the health care provider negatively impacts the use of space and human resources. In palliative care clinics, the no-show rate is higher than in non-palliative care clinics and is related to age, gender, primary diagnosis, and coding status. The most common reasons are admission/transfer, inconvenient appointments, and patient death.

## LIMITATION

Despite its strengths, this study has some limitations, such as the lack of control groups, a retrospective cross-sectional study without follow-up data, and recall bias that depends on patients' recollection of the reason for not attending the appointment. The study was conducted using a structured electronic database in King Fahad Medical City, Riyadh, Saudi Arabia. In addition, no intervention was performed to change the cancellation rate of the clinic.

## RECOMMENDATION

- To address the problem of missed appointments, we recommend the following strategies.

- Educate patients on the clinic's various reminder options, such as email, automated phone call, and text message allowing patients to choose their preferred method.
- Educating patients about how missing appointments and not cancelling on time can not only impact their health, but also widen the gap of inequality, as time spent on an appointment could be utilized to help someone else.
- Appointment attendance confirmation either by system or by a phone call from the clinic coordinator two days prior to the appointment to confirm attendance.
- Conduct a psychoeducational intervention for patients at the time of referral to palliative care and for all patients with localized cancer to increase knowledge about palliative care.
- Shortening the waiting time between scheduled and the actual appointment.

## DECLARATION OF CONFLICTING INTERESTS

The author(s) declare(s) that there are no potential conflicts of interest related to the research, authorship, and/or publication of this article.

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## AUTHOR'S CONTRIBUTIONS

All authors contributed to the conception and design of the study, and all authors were involved in editing earlier versions of the manuscript. In addition, the final manuscript was revised and approved by all authors

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