Awareness and perception on COVID-19 among patients visiting to Out Patient Department of Rural Ayurveda Hospital, Kesbewa: A survey study

Narathota S.N.L.[1] and Wimalasiri Y.S.G.[2]

Abstract

Coronavirus disease (Covid-19) is an infectious respiratory condition caused by the SARS-CoV-2 virus, declared a pandemic due to its significant global health impact. Initially presenting with mild to moderate respiratory symptoms, the disease can become severe in later stages. To control transmission, preventive measures such as mask-wearing, hand hygiene, and physical distancing were widely adopted. Additionally, practices from alternative medical systems like Ayurveda gained popularity for prevention. The primary objective of this study was to assess awareness and usage of Ayurvedic preventive measures against respiratory infections like Covid-19 among patients attending the Outpatient Department of the Rural Ayurveda Hospital in Kesbewa. Data were collected through interviewer-administered questionnaires and analyzed using MS Excel and SPSS. Among the 385 participants, over 60% were well aware of Covid-19 and adhered to recommended precautions alongside Ayurvedic methods. All respondents reported using multiple preventive approaches, such as herbal remedies, steaming, and topical oil applications, to boost immunity. Commonly used preparations included liquid formulations with Coriander, Ginger, and Tree Turmeric (*Wenivelgata*), as well as herbal steam inhalations with Lime and *Maduruthalā* leaves. In addition to traditional methods, vaccination was widely adopted. Future research is recommended to evaluate the efficacy of these alternative practices through controlled clinical trials and biochemical analyses to confirm their antiviral and immune-boosting properties. Additionally, observational studies could explore the long-term safety and preventive benefits of these Ayurvedic practices, potentially integrating them into broader public health strategies for future pandemics.

Keywords: Alternative Medicine, Covid-19, Preventive measures, Ayurveda, Utilization

Introduction

The novel coronavirus (Covid-19) pandemic is a highly contagious upper respiratory tract disease first identified during an outbreak in Wuhan, China, in late 2019. Elderly individuals with pre-existing conditions were particularly vulnerable, and by the end of 2020, nearly 53 million cases had been reported globally, resulting in approximately 1.3 million deaths[1]. Covid-19 spreads via a number of means, primarily involving droplets of saliva, other bodily fluids and excretions[2]. The virus spread all over the world like a wave and whole world tried their best to find a proper treatment to this disease. Symptoms of Covid-19 are variable, but usually include fever, dry cough, fatigue, breathing difficulties and loss of smell and taste[3]. The median incubation period for Covid-19 is four to five days[4]. Coronaviruses are a family of enveloped, single-stranded, positive-strand RNA viruses classified within the Nidovirales order[5]. The gold standard for diagnosis is the identification of viral genome targets by real-time polymerase chain reaction (RT-PCR) in

[1] *Ayurveda Medical Officer, Jammugasmulla Mawatha, Nugegoda, Sri Lanka.*
[2]*Department of Ayurveda Pharmacology, Pharmaceutics and Community Medicine, Faculty of Indigenous Medicine, University of Colombo, Sri Lanka.*

**Correspondence: Narathota S.N.L. Ayurveda Medical Officer, Jammugasmulla Mawatha, Nugegoda, Sri Lanka. Email: sandalinarathota@ymail.com*

respiratory tract materials during the first week of symptoms and has very high sensitivity and is able to detect very low amounts of RNA[6]. Allopathic as well as all the other integrated medical systems including Ayurveda sought preventive and therapeutic measures for this disease condition. Vaccination became the main method to get protection from this disease worldwide[7]. Covid-19 and SARS coronavirus are similar as they are becoming a big threat to human civilization and proper strategies and funds were set up by WHO globally to protect the countries with poor and weaker health infrastructure[8]. Ayurveda, the ancient system of medicine, places great significant emphasis on both communicable and non-communicable diseases. The *Susrutha Samhita* contains a chapter called *Janapadodvansa Adhyaya*, which outlines preventive and therapeutic measures for communicable diseases. Traditional medical practices also provide guidelines on maintaining health by preventing from infections[9].

Wearing masks, maintaining physical distancing, and frequent hand washing are common precautions recommended by the WHO to control the spread of Covid-19[5]. Adherence to these practices was crucial in reducing transmission of the disease. To further control the infection, a global lockdown was imposed, leading to the suspension of all economic and social activities[10]. Public transport, manufacturing, the hotel industry, educational institutions, and the service sector were all immediately shut down, leaving people confined to their locations at the time of the lockdown announcement. During this period, many individuals began working from home, schools and colleges transitioned to online classes, and a large portion of the population shifted to digital platforms[10]. Throughout the pandemic, a significant number of people experienced panic, emotional insecurity, depression, confusion, and uncertainty about government facilities, reliable news sources, Covid-19 symptoms, and prevention methods[10]. This study aimed to assess the range of awareness and knowledge about Covid-19, as well as the various medical practices people adopted in their efforts to further protect themselves from the virus while adhering to government-imposed guidelines and regulations.

Kesbewa, Jamburaliya is a semi-urban area connecting the Colombo and Kalutara districts. During the initial phase of the Covid-19 outbreak in Sri Lanka, both districts reported a significant number of positive cases, which decreased during the second wave. Thus, the Rural Ayurveda Hospital in Jamburaliya was chosen as the study setting to assess and analyze the awareness and perceptions of residents regarding preventive measures recommended by local authorities, as well as the various practices adopted by them to protect against Covid-19. General Objective was to analyze the awareness, knowledge, attitudes and practices for the prevention of novel Covid-19 in patients attending to OPD of Rural Ayurveda Hospital, Kesbewa. Specific Objectives were to determine the level of awareness and knowledge on Covid-19, to analyze socio-demographic factors associated and to evaluate the common Allopathic, Ayurveda and Traditional practices these patients follow to safeguard themselves from Covid-19.

Material and Methods

The study was initiated after obtaining ethical clearance from Ethics Review Committee, Faculty of Medicine, University of Colombo (PGDHD 20/47). A descriptive cross-sectional study was conducted, and an information sheet about the research was provided to all participants, and informed written consent was obtained. An interviewer-administered questionnaire, consisting of both closed and open-ended questions, was used in a separate area of the OPD to minimize disturbance to participants and others. The questionnaire was designed based on the most current information about Covid-19, with references to relevant literature[3]. Data from survey studies published in recent research articles on PubMed and Google Scholar were incorporated into the preparation of the research questionnaire. The questions focused on the awareness and knowledge of Covid-19, as well as the preventive practices and challenges faced in adhering to precautionary measures[11].

Male and female patients aged 18 to 80 years were included in the study, while patients with mental disorders or deaf-mutism were excluded. As Covid-19 is a global pandemic that has attracted significant attention, it was assumed that the proportion of positive feedback regarding awareness, perception and practices of precautionary measures would be 50%. Based on this assumption, the sample size was calculated. Required sample size was 385 patients visiting to OPD of Rural Ayurveda Hospital – Kesbewa. Systematic random sampling method was used and every 3rd person was selected after considering the inclusion and exclusion criteria. Interviewer administered questionnaire was used after explaining the purpose of the study and obtaining the informed written consent to collect data. Study was conducted for 6 months. Data was analyzed quantitatively using MS Excel – 2010 and SPSS – IBM. Cross tabulation was used for better statistical understanding and p-value of <0.05 was considered statistically significant. Mean, mode, median, standard deviation, minimum and maximum ranges of these data were used to understand the level of awareness, knowledge and practices used by the people for the prevention of Covid – 19.

Results

Demographic data analysis

Gender

The demographic data were analyzed under five main categories: gender, age, marital status, education level, and occupation. The purpose was to assess how these factors influenced the knowledge, attitudes, and practices of participants in relation to Covid-19 prevention. Out of the sample group of 385 patients, the majority (58.96%) were female, while 41.03% were male.

Age

The largest age group was 51–60 years (27.01%), followed by 18–30 years (21.03%). The least represented group was 79–80 years, with only 7.01% of participants. According to the study results, participants in the 51–60 years age group demonstrated a higher level of concern about the disease. They were more likely to practice the recommended precautions and follow alternative practices to protect themselves and their families. On the other hand, participants in the 18–30 years age group were concerned about the disease, but their focus was more on societal changes and family responsibilities.

The gender and age wise distribution of research participants were shown in Figure 1.

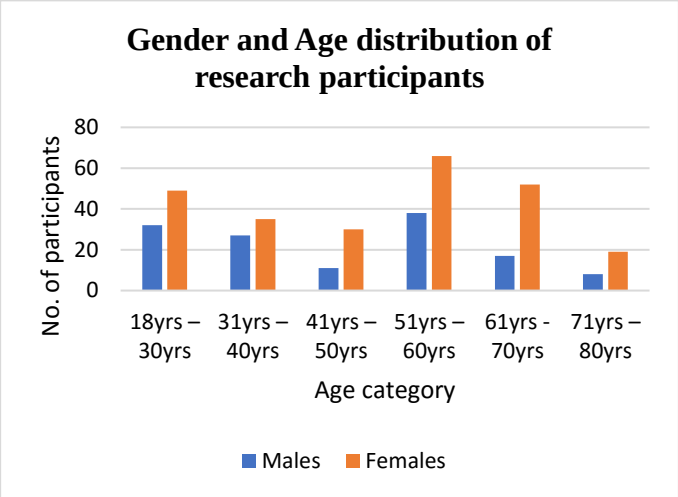

Fig. 1: Gender and age wise distribution of research participants

Marital status

The number of married participants was 309 (80.25%), with 224 (58.18%) of them living with children. Married individuals who lived with both parents and children showed a greater tendency to follow Covid-19 precautions to protect themselves and their families. They were also more likely to engage in additional practices, such as herbal steaming, herbal fumigation, and the intake of herbal medicines like coriander.

Education level

The survey results indicate a varied distribution of education levels among participants. The majority of respondents (41%) reported having completed their education up to the General Certificate of Education (GCE) Ordinary Level (O/L), followed by those who have reached the GCE Advanced Level (A/L) (22%). 4% of participants hold university education, and only a few (1%) have completed postgraduate

studies. 32% had studied up to grade 8 or lower (Figure 2). These results suggest that the surveyed population is largely composed of individuals with secondary education, with fewer participants having completed tertiary education, which may influence their responses to other aspects of the survey related to knowledge, awareness, or perceptions.

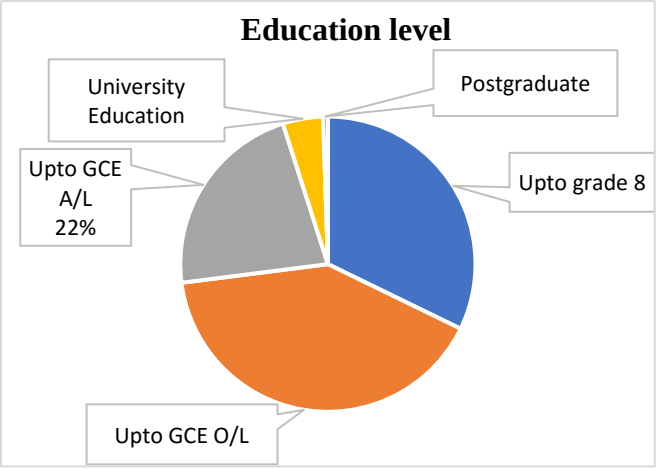

Fig. 2: Education level of research participants

Occupation

Monthly income was used with reference to the present occupation of the participant. Education leads to better, more stable jobs that pay higher income and allow families to accumulate wealth that can be used to improve health of the person and the dependent family[13]. Economic factors play an important role in the fulfilment of health needs and to follow necessary steps to safe-guard life during the Covid – 19 as well. As an example, it was cleared that the economic status of participants helps in using personal protective equipment (PPE) like sanitizers, masks, face shields etc. People who didn't have sufficient income showed slight negligence to follow these precautions. Majority of the female participants of the study were housewives with no income and most males were doing self-employment like working as three-wheeler drivers without a fixed monthly income. Highest number of participants have a monthly income less than ≤ 50000 rupees (48.83%).

Analysis on awareness about Covid – 19 in the sample

Electronic media, including TV, radio, and social media, emerged as the primary source of information about COVID-19 for the majority of participants (71.42%). Printed media, such as newspapers and notices, was the second most common source, with 51% of respondents relying on it for information. A significant number of participants reported gaining awareness about the disease through a combination of various media sources, reflecting the diverse ways in which information about COVID-19 is disseminated to the public.

The study revealed that 71.94% of participants were aware of the origin and nature of COVID-19, while 68.05% demonstrated awareness of its signs and symptoms. A higher proportion, 83.89%, were knowledgeable about protective and precautionary measures, and 54.02% were informed about the prognosis and available treatments.

Across these four criteria, the mean awareness level was calculated at 69.48%, indicating that approximately 70% of participants had an average or adequate understanding of the disease, including its origin, symptoms, precautions, and treatment options. Furthermore, the majority of participants (70.12%) correctly identified the cause of the disease as viral, and 88.05% were aware that its primary route of transmission was through droplets or airborne spread (Figure 3).

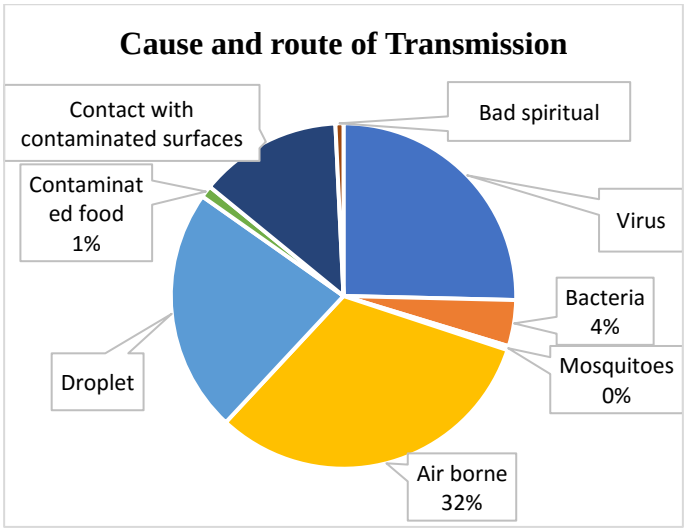

Fig.3: Cause and route of transmission

Knowledge of the signs and symptoms of COVID-19 is crucial for early identification, timely treatment, and controlling the spread of the disease. Nearly all participants (91.94%) recognized fever as a key symptom, and 83.90% were aware of dry cough, another common symptom. Over half of the participants were familiar with additional symptoms such as tiredness, headache, body pain, rhinitis, and loss of smell or taste. However, awareness was notably lower for symptoms like sore throat (43.11%) and difficulty breathing or shortness of breath (36.88%).

Global and local health authorities have emphasized three primary precautions for protection against COVID-19: wearing well-fitted masks, regular hand washing, and maintaining social distancing[14]. These practices have proven effective in managing the disease and controlling its spread. In this study, nearly all participants reported practicing at least one of these precautionary measures, highlighting widespread adherence to recommended guidelines.

Surgical masks were the most commonly used type, reported by 51.16% of respondents. The frequency of mask-wearing was notably high, with 65.45% indicating they wore masks often. This suggests that increased awareness and knowledge about the disease encouraged adherence to health care guidelines whenever possible. The primary motivation for following these precautions was the desire to protect themselves and their families (91.16%), rather than compliance with government regulations. Following the second wave of COVID-19 and the emergence of new virus variants, many individuals began supplementing masks with face shields for additional protection. This practice gained traction during the second wave of COVID-19 in Sri Lanka.

Due to financial constraints, many individuals adapted by using homemade or low-cost cotton masks instead of surgical masks. Due to their high cost, a smaller proportion of individuals opted for KN95 and N95 masks, despite their known effectiveness in controlling the disease[14]. Participants reported frequent mask usage, with the primary motivation being disease prevention (91.16%) (Figure 4). However, 41.03% of participants stated that their compliance was mainly driven by the legal mandate.

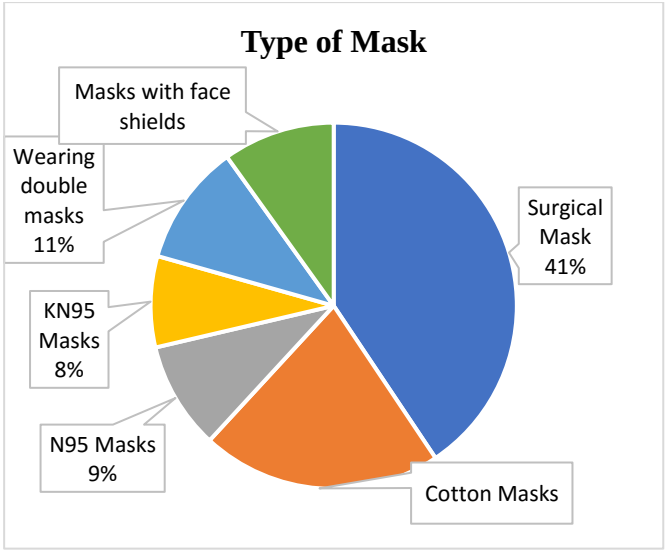

Fig.4: Types of masks used by participants to reduce Covid-19 risk

As the disease spreads through contaminated surfaces, hand washing was identified as a key precautionary measure. Most participants (76.62%) frequently used alcohol-based sanitizers, finding them more convenient than washing hands with water. Additionally, alcohol-based sanitizers were regarded as the most effective type of sanitizer.

Social distancing was the third precautionary method reported in the study. The majority of participants maintained an approximate one-meter distance from others (43.63%), avoided crowded areas (63.89%), and stayed at home whenever possible (46.23%). Notably, most participants in the study were over 51 years of age (51.94%), which may have contributed to these results.

This study was conducted in two phases due to travel restrictions and quarantine curfews imposed during the increase in COVID-19 cases. As a result, the questionnaire was revised in the second phase to include questions about the COVID-19 vaccination program[15], which was introduced at that time to control the spread of the disease and prevent severe complications. New questions were added to assess participants' awareness and knowledge of the free, island-wide vaccination program. The responses of 285 participants were analyzed for this phase.

Most vaccinated individuals were over 51 years of age and reported taking the vaccine primarily to prevent the disease and reduce the severity of potential complications. Conversely, the 18–30 age group had the lowest vaccination rates, largely due to rumors about sexual dysfunction and other adverse effects associated with the vaccine (Figure 5).

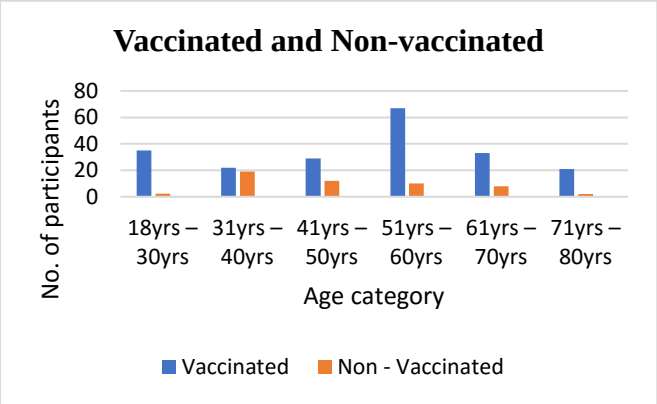

Fig. 5: Percentage of vaccinated and non-vaccinated participants

The majority of participants received the Sinopharm vaccine (66.18%), followed by AstraZeneca (23.67%) (Figure 6). Among the 207 vaccinated participants, 82.60% had completed both doses of the vaccine. Those who did not receive the second dose cited allergic reactions such as skin itching, headaches, dizziness, drowsiness, body aches, and fatigue as the primary reasons.

As the disease continued to spread, the government mandated carrying a vaccination card when visiting public places, which led to an increase in vaccination rates as a measure to control the outbreak. By the conclusion of the study, a new regulation was introduced, requiring the administration of a third dose (booster dose).

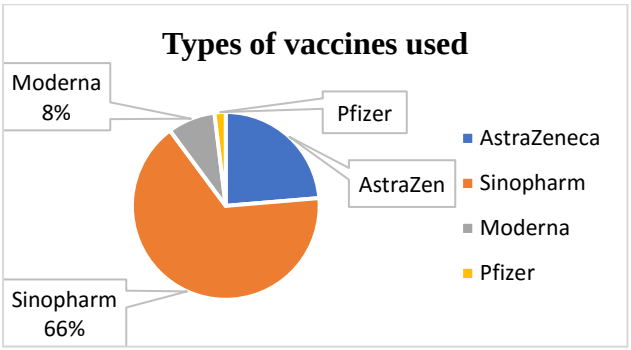

Fig. 6: Type of vaccines used in Sri Lanka

In addition to following official health guidelines, participants also adopted alternative and general practices for protection (Table 1). Common practices included Ayurveda treatments, traditional medical remedies for conditions like cough, sore throat, fever, and body pain, as well as spiritual practices such as chanting *Pirith*. Most of these treatments involved external applications, such as herbal steaming. The primary aim of these internal and external treatment modalities, along with spiritual practices, was to safeguard health and well-being. Nearly all participants engaged in at least one of these practices while adhering to government-imposed precautionary measures and the vaccination process.

Table 1: Practices adopted Externally in order to get prevented from Covid – 19

Alternative practices used Externally to prevent Covid – 19	No. of research participants	Percentage (%)
Herbal steaming		
Leaves of lime (*Citrus aurantiifolia*)	135	35.06%
Leaves of *Adathoda* (*Adhatoda vasica*)	85	22.07%
Leaves of *Beli* (*Aegle marmelos*)	46	11.94%
With all the 3 types of leaves mentioned	35	9.09%
Boiled *Kottamalli* (*Coriandrum Sativum*)	200	51.95%
Boiled *Wenivelgata* (*Coscinium fenestratum*)	131	34.02%
Boiled *Kottamalli* + *Wenivelgata*	108	28.05%
Boiled Ginger (*Zingiber officinale*)	42	10.90%
Boiled Garlic (*Allium sativum*)	19	4.93%
With all the 4 types of materials	15	3.90%
Herbal oil application on head		
Coconut oil	73	18.96%
Herbal oils like *Thriphala*	12	3.11%

Herbal steaming was the most widely adopted practice, with a variety of plant materials being utilized. The most commonly used single ingredient was boiled *Kottamalli* (*Coriandrum sativum*), reported by 51.95% of participants. This was followed by lime leaves (*Citrus aurantiifolia*) at

35.06% and boiled *Wenivelgata* (*Coscinium fenestratum*) at 34.02%. Some participants combined materials, such as *Kottamalli* and *Wenivelgata* (28.05%), while others used combinations of all listed ingredients, though this was less frequent (3.90%) (Figure 7).

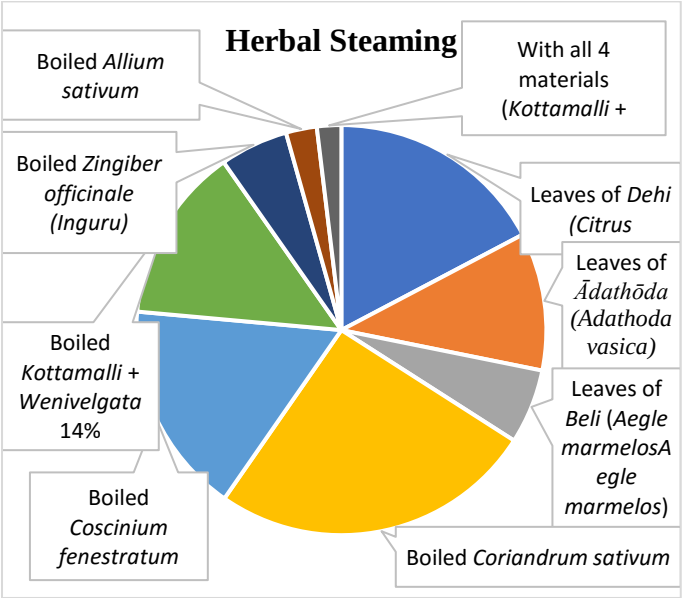

Fig. 7: Substances used in Herbal Steaming

Another approach involved herbal oil applications on the head, with coconut oil being the most popular choice (18.96%). Comparatively, specialized herbal oils like *Thriphala* were used by a smaller proportion (3.11%). Overall, the data reflects a preference for steaming with simple, accessible ingredients in preventing Covid-19, with more complex or combined practices adopted by a smaller segment of participants.

Table 2 outlines internal alternative medical practices adopted by participants to prevent Covid-19. Among these, the *Suwa dharani* immune-enhancing drug provided by the Department of Ayurveda was the most commonly used, reported by 63.11% of participants. This was followed by the consumption of *Pas-panguwa*, an herbal preparation, by 42.07%. These were commonly used in Ayurveda hospitals for the prevention of Covid – 19 and this was available in pharmacies as well.

Boiled Coriandrum sativum was also widely used (51.95%), while *Coscinium fenestratum* was utilized by 34.02%. Some participants combined *Coriandrum sativum* and *Coscinium fenestratum* (28.05%), while smaller proportions consumed *Zingiber officinale* (10.90%), *Allium sativum* (4.93%), or a combination of all four ingredients (3.90%). These data underscore a strong reliance on Ayurvedic and herbal remedies, particularly government-recommended or widely available herbal preparations, for Covid-19 prevention.

Table 2: Alternative practices used Internally to prevent Covid – 19

Alternative practices used Internally to prevent Covid – 19	No. of research participants	Percentage (%)
Pas-panguwa	162	42.07%
Suwa dharani immune enhancing drug (Department of Ayurveda)	243	**63.11%**
Boiled *Coriandrum Sativum*	200	**51.95%**
Boiled *Coscinium fenestratum*	131	34.02%
Boiled *Coriandrum Sativum* + *Coscinium fenestratum*	108	28.05%
Boiled *Zingiber officinale* (*Inguru*)	42	10.90%
Boiled *Allium sativum* (*Sudulūnu*)	19	4.93%
With all the 4 ingredients	15	3.90%

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adherence to government-endorsed precautions, the use of widely available herbal preparations remains prevalent.

The table 3 highlights spiritual practices adopted by participants to prevent Covid-19. Among these, chanting *Pirith* was the most common, practiced by 42.07% of participants. Meditation was the second most prevalent practice, reported by 23.11%. A smaller number engaged in chanting *Manthra* (3.89%) or applied chanted oil on their nostrils (2.07%). This indicates that spiritual practices, particularly chanting and meditation, were viewed as supportive measures in Covid-19 prevention.

Table 3: Spiritual practices used to prevent Covid – 19

Spiritual practices used to prevent Covid – 19	No. of research participants	Percentage
Chanting *Pirith*	162	42.07%
Chanting *Manthra*	15	3.89%
Application of a chanted oil on nostrils	8	2.07%
Meditation	89	23.11%

Other practices used to prevent Covid – 19

The most commonly reported practices were drinking hot water frequently (76.10%) and steaming with hot water (63.11%). Participants also engaged in gargling with salt-mixed warm water (34.02%) and washing their body with turmeric water (27.01%). Fumigating the house with medicinal plant leaves and powders, such as *Kohomba* (*Azadirachta indica*) and *Beli* (*Aegle marmelos*), was practiced by 17.92% (Table 4).

Additionally, many participants incorporated immune-boosting foods into their diet. The most common were vegetables like *Pathōla* (Snake gourd) and *Bandakkā* (Ladies' fingers) (71.94%), and spices such as turmeric and *Uluhāl* (fenugreek) (67.01%). Fruits, including *Beli* and lime, were consumed by 36.10%, and green leaves like *Gotukola* and *Mukunuwanna* were consumed by 54.02%. Fewer participants used small fish (21.30%) or *Thambum hodi* (3.11%).

In addition, some participants took Panadol tablets when going out (12.20%) and practiced washing and drying clothes under sunlight (23.89%). These practices suggest a combination of natural remedies and preventive actions that were widely used in the community to safeguard against Covid-19.

Table 4: Other practices used to prevent Covid – 19

Other practices used to prevent Covid – 19	No. of research participants	Percentage (%)
Steaming with hot water	243	63.11%
Drinking hot water frequently	293	76.10%
Gargling with salt mixed mild warm water	131	34.02%
Washing body with Turmeric (*Kaha*) water	104	27.01%
Fumigating the house with any of the following *Sambrāni* powder, leaves of medicinal plants like *Kohomba* (*Azadiracta indica*), *Beli* (*Aegle marmelos*), *Dehi* (*Citrus aurantifolia*)	69	17.92%
Intake of immune enhancing food materials frequently		
Green leaves (*Palā varga*) eg – *Gotukola, Mukunuwanna, Nivithi, Sārana*	208	54.02%
Intake of more vegetables eg – Snake gourd (*Pathōla*), Ridged gourd (*Wetakolu*), Ladies fingers (*Bandakkā*)	277	71.94%
Fruits like *Beli* (Indian bael), Lime, Oranges	139	36.10%
Spices like *Kaha* (Turmeric), *Uluhāl* (Fenugreek), *Sūduru* (Cumin)	258	67.01%
Thambum hodi	12	3.11%
Small fish	82	21.30%
Intake of Panadol tablets when going out	47	12.20%
Washing and drying the cloths well under sunlight	92	23.89%

Discussion

The Covid-19 pandemic, which emerged in late 2019, has significantly impacted global health systems and societal practices. Preventive measures, both conventional and alternative, have been widely adopted to mitigate the virus's spread. This discussion

explores the adoption of conventional and alternative preventive measures during the Covid-19 pandemic, with a particular focus on surveys conducted to understand individual responses and preferences across different cultures and regions. Studies have consistently highlighted the widespread adoption of mask-wearing, social distancing, and hand hygiene as the most common preventive measures. While government-imposed lockdowns played a crucial role in reducing transmission, their negative socio-economic impacts prompted many to explore complementary and alternative approaches[12]. As the pandemic evolved, well-established practices were supplemented by alternative methods, including traditional medicine and spiritual practices. In several countries, including Sri Lanka, India, and various Southeast Asian nations, surveys have shown that a significant portion of the population turned to herbal remedies and spiritual practices to prevent Covid-19 infection[13].

The popularity of herbal steaming, the intake of immune-boosting foods, and spiritual practices like chanting mantras or meditation have been documented in numerous studies. For instance, herbal steaming with *Coriandrum sativum* (coriander) and *Coscinium fenestratum* (yellow vine) was found to be practiced by more than half of the surveyed population[14]. While the immediate efficacy of these practices in preventing Covid-19 remains unclear, their popularity underscores a critical gap in global health communications. It suggests that even in the face of a pandemic, individuals may prefer practices that align with their cultural and traditional beliefs. For instance, herbal remedies like turmeric, garlic, and ginger, which are commonly believed to have immune-enhancing properties, are frequently used despite the lack of large-scale clinical evidence supporting their direct impact on Covid-19 prevention[15]. This phenomenon reflects the influence of cultural heritage and the trust individuals place in time-tested practices.

The incorporation of traditional medicine into health practices during the Covid-19 pandemic has raised critical discussions about the role of alternative therapies in public health. In many communities, particularly in rural areas, people have continued to rely on herbal drugs and practices passed down through generations. Immune-boosting herbal concoctions such as *Suwa dharani*, which contain ingredients like *Coriandrum sativum* and *Zingiber officinale*, were commonly used in Ayurvedic hospitals in Sri Lanka for Covid-19 prevention.

Spirituality has also emerged as a key theme in Covid-19 prevention measures, with many participants in surveys reporting practices such as chanting *Pirith*, chanting *Mantras*, and meditation[13]. These practices not only serve as preventive measures but also as means of promoting mental well-being during a time of uncertainty and fear. In many cultures, particularly in Buddhist and Hindu communities, spiritual rituals are intertwined with health practices and are often believed to offer protection from diseases.

Another noteworthy finding from survey studies is the widespread use of immune-enhancing foods. Inhalation of thermal water has been used in the treatment of chronic respiratory tract diseases like COPD and gives anti-inflammatory properties as well[17]. According to the recent research findings reinfection with Covid-19 virus can occur a multiple time depending on the exposure and prevention of the individual[18]. Fruits, vegetables, and spices, such as turmeric, cumin, and fenugreek, were commonly consumed by participants, with surveys revealing that 71.94% of individuals included vegetables like snake gourd and ladies-fingers in their diet to boost immunity[16]. These dietary habits reflect the belief that nutrition plays a significant role in enhancing the body's resistance to illness, especially during the pandemic. The consumption of these foods often aligns with recommendations made by healthcare professionals for general well-being, but in this context, they are being consumed with the specific intent of preventing Covid-19 infection. A significant number of individuals reported the use of medicinal plants like *Adathoda vasica*[18], *Aegle marmelos*, and *Zingiber officinale* for steaming, suggesting a widespread belief in the healing powers of nature. Additionally, a smaller portion of participants reported using small fish (21.30%) and other

immune-boosting food materials to enhance their overall health[15].

Present study was conducted in a semi-urban area of Colombo district revealed that most participants, predominantly aged 51–60 years, adhered well to government-imposed Covid-19 precautions like wearing surgical masks (51.16%), using alcohol-based sanitizers (68.83%), and maintaining physical distance (86.40%). It has showed that the old age is often associated with a decline in cognitive abilities that are important for maintaining functional independence, such as learning new skills and practices[19]. This suggests that the elderly population, compared to middle-aged individuals, may have been less inclined to adopt newly introduced precautions due to cognitive and functional challenges associated with aging. Vaccination uptake increased during the second wave, with Sino-pharm being the most common vaccine (66.18%), though hesitancy remained among younger participants due to health concerns. Alternative practices, such as Ayurveda remedies like *Suwa dharani* (63.11%) and steaming with herbal fumes (51.95%), were widely used alongside government measures, reflecting a blend of traditional and modern approaches to disease prevention.

Conclusion

The findings of this study indicate that the level of awareness and knowledge regarding Covid-19 among the studied population was adequate. Participants demonstrated satisfactory adherence to the basic precautionary measures, mask-wearing, hand hygiene, and social distancing, critical for mitigating the virus's spread. With a positive attitude towards these precautions, coupled with updated knowledge about Covid-19, participants also embraced additional protective methods. Prominent practices included herbal steaming, the intake of boiled herbal medicines such as coriander seeds (*Coriandrum sativum*), yellow vine bark (*Coscinium fenestratum*), and *Suwa dharani* powder.

All participants reported practicing alternative medical methods alongside the universally accepted precautions, reflecting a holistic approach to disease prevention. Although vaccination uptake was initially low during the first wave, the majority of participants received both doses during and after the second wave, highlighting the growing acceptance of vaccination as a key preventive strategy. The study emphasizes the multifaceted ways in which individuals engaged in both modern and traditional health practices. This integration of alternative medicine and cultural practices with evidence-based approaches highlights the importance of respecting cultural beliefs in public health initiatives. It also underscores the need for a balanced approach that incorporates both traditional and scientific methods for more effective disease prevention.

Recommendations

Further studies should be conducted in other regions of Colombo district and across the country. Additionally, the scientific validity of these alternative practices can be explored through chemical analyses and observational studies to assess their potential for future use in disease prevention. Moving forward, it is essential for public health officials to acknowledge and respect the role of alternative medical systems like Ayurveda, traditional medicine, and cultural beliefs in shaping health behaviors, while ensuring access to accurate, evidence-based information. Implementing these precautionary measures is vital to mitigating the risk of respiratory infections which could potentially pose serious public health threats in the future.

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