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RESEARCH ARTICLE

Use of Traditional Medicines to Fight COVID-19 during the South African Nationwide Lockdown: A Prevalence Study among University Students and Academic Staff

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Abstract:

Introduction:

The coronavirus (COVID-19) pandemic has caused major public respiratory illness worldwide. To date, no specific treatment for COVID-19 has proven effective, thus leading people to rely on diverse measures including the use of traditional medicines.

Aim:

The study aimed at determining the prevalence of traditional medicine use amongst university staff and students, and to examine the association of traditional medicine use with mental status and health parameters.

Methods:

A quantitative descriptive cross-sectional design research method was used in this study. The targeted population was the university staff members and students in one rural-based university.

Results:

A total of 400 individuals in rural-based university responded to the online survey; approximately more than three quarters were students 313 (78.3%) and single (86%). The ages of participants ranged from 17 to 66 years, with a median age of 22 years. The prevalence of the use of traditional medicines to respond to COVID-19 was 30.4%. A significantly higher proportion of use of traditional medicines was by participants with mental health impacts (62% vs. 37%), those who postponed medical appointments (48% vs. 22%) and those who failed to buy prescribed medications (36% vs. 14%).

Conclusion:

A considerable proportion of university staff members and students were found to be using traditional medicines in responding to COVID-19 during the South African nationwide lockdown. Policymakers and researchers are recommended to look more into the health benefits of traditional medicines, including clinical trials, to establish medicinal safety and efficacy.

Keywords: Traditional medicines, COVID-19, Mental health, Medical appointments, Prescribed medications, Academic staff.

Article History

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1. INTRODUCTION

The coronavirus (COVID-19) pandemic continues to be a global health threat. Many people afflicted by the virus develop mild to severe respiratory failure while other organ functions

remain relatively unaffected [1, 2]. Patients who are infected and lucky to survive recover without a universally approved specific treatment. However, the elderly, *i.e.* those 65 years old and above, and those with comorbidities (*e.g.*, hypertension, diabetes, obesity, respiratory disorders, *etc.*), are at the highest risk of death from COVID-19 disease [1 - 4].

To date, there is no approved treatment protocol for

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COVID-19, although globally, scientists and researchers have been making efforts to find effective measures to cure or prevent the disease [5, 6]. Despite vaccines having been rolled out in some regions, new cases of infections and deaths are being recorded on a daily basis. Reports suggest that in addition to the well-known preventative measures, *e.g.* nationwide lockdowns, use of masks, use of hand-sanitisers and steam, and social distancing in some parts of the world, there has been a proliferation in the use of traditional medicines to fight and/or prevent the transmission of the disease [5 - 8].

Countries like China and Tanzania have started encouraging the use of traditional (*e.g.*, *Artemisia annua*) and/or alternative (*e.g.*, *Echinacea purpurea*, *Curcumin longa* and *Cinchona sp.* [5]) medicines to fight against the disease [6, 7, 9]. Traditional medicine is defined as *the sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness* [10]. In contrast, the term complementary medicine or alternative medicine refers to a broad set of health care practices that are not part of that country's own tradition or conventional medicine and are not fully integrated into the dominant healthcare system, and often are used interchangeably with traditional medicine in some countries [10]. In patients with COVID-19 infection, traditional medicines with an immunomodulatory effect could have the potential as a preventive measure and even as a therapeutic agent [11, 12]. However, the beneficial effects of these traditional medicines and their clinical trials have remained unclear [13]. Several reports have also been reported on the use of complementary and alternative medicines in the treatment and management of COVID-19 in South Africa [14, 15]. Equally, there is no information available on the prevalence of traditional medicines use amongst the population in a rural higher education institution.

Control measures, such as nationwide lockdowns, have had an impact on people's livelihoods. This means a restriction to people's social mobility, access to recreational activities, socialising with relatives, friends, and colleagues, and including limited access to health care services. In some cases, due to the heightened fear or anxiety of contracting the illness or corona phobia, people restricted themselves from accessing the health care system to manage other physical and mental health conditions [16]. A study by Koh highlighted that risk factors for mental health include stressful circumstances, social disruption, and risk of illness and fear of spreading the disease to relatives and loved ones [17]. Physical distancing due to the COVID-19 outbreak was reported by Javed *et al.* that it has drastic negative effects on the mental health of the elderly and disabled individuals as it can cause anxiety, distress, and create a traumatic situation for them [18]. In another study by Ahmed, it was reported that due to the COVID-19 outbreak, a reduction in access to healthcare services was noticed [19]. Furthermore, the study found that fear of disease contagion and individuals being diagnosed with COVID-19 discouraged people from seeking healthcare [19]. With some countries having been on lockdowns, people maintaining social distancing and the general public having developed corona phobia, how people

have been managing the disease under these circumstances has not been well documented. In an attempt to assess the proportion of traditional medicines use and to examine the association of traditional medicines use with mental status and health parameters, our study collected and analysed data on university students and staff members.

2. METHODS

This report emanates from a project entitled "*The development of an evidence-based psychological support program based on the impact of COVID-19 pandemic on the University of Limpopo Personnel and Students*". The study used a quantitative descriptive cross-sectional design research method. The targeted population was the university students and staff members based in a rural-based university. The survey questionnaire was developed and circulated during the South African COVID-19 nationwide lockdown level 3 via Google forms, WhatsApp and Facebook platforms to quickly reach a large number of staff and students. Data was collected throughout three weeks (21 June-09 July 2020), upon which the survey questionnaire was blocked electronically to reject any further responses.

The statistical analysis was performed using Statistical Package for the Social Sciences (SPSS) version 26. Categorical variables were presented as frequency and percentages. Clinical and health parameters were compared between traditional medicine use and non-user participants using the Chi-square test. A *p*-value of less than 5% was considered statistically significant.

2.1. Ethical Consideration

Ethical approval was obtained from the University of Limpopo Research Ethics Committee (TREC/102/2020: PG).

3. RESULTS

A total of 400 individuals in rural-based university responded to the online survey; approximately more than three quarters were students 313 (78.3%) and single (86%). The ages of participants ranged from 17 to 66 years, with a median age of 22 years. Of the sample, 80% were aged between 17 and 30 years and 54% were female, as indicated in Table 1.

The overall prevalence of the use of traditional medicines to fight COVID-19 amongst respondents in the rural-based university was 30.4%. As displayed in Table 2, the prevalence of the use of traditional medicines to fight COVID-19 varied according to mental health status, healthcare system overload, medical appointments postponed, unable to buy prescription medication and physical health affected. Participants who reported that their overall mental health has suffered or gotten worse (62% *vs.* 37%), medical appointments postponed/canceled (48% *vs.* 22%), and those not able to buy their usual prescription medication (36% *vs.* 14%), showed a significantly higher prevalence of traditional medicines use as compared to non-traditional medicines users (*p*-value < 0.05). A higher proportion of non-traditional medicines users among the participants reported that their physical health had not been affected at all (56% *vs.* 46%, *p* < 0.05), and the healthcare system is not over-loaded at all (62% *vs.* 42%, *p* < 0.05), as compared to the case with traditional medicine users.

Table 1. Demographic characteristics of the respondents (n = 400).

Characteristic	-	Frequency	%
Position Held in the university	Academic	59	14.8
	Support Staff	28	7.0
	Student	313	78.3
Gender	Male	186	46.5
	Female	214	53.5
Marital Status	Single	344	86.0
	Married	48	12.0
	Divorced	3	0.8
	Widowed	3	0.8
	Separated	2	0.5
Age (years)	17-20	105	26
	21-30	216	54
	31-40	44	11
	41-50	15	4
-	51-66	20	5

Table 2. Association of sociodemographic characteristics with the use of traditional medicine to fight COVID-19 amongst respondents in a rural-based university.

Characteristic	Frequency	Traditional Medicine Use		P-value
		No (69.3%) N (%)	Yes (30.4%) N (%)	
-	-	-	-	-
Position Held in the university	-	-	-	0.793
University staff	88	62 (29)	26 (27)	-
Student	312	216 (78)	96 (79)	-
Because of COVID-19, my overall mental health has suffered or gotten worse				<0.001*
Not at all	87	75 (27)	12 (10)	-
Very little	136	102 (37)	34 (28)	-
Somewhat	113	63 (23)	50 (41)	-
To a great extent	64	38 (14)	26 (21)	-
Because of COVID-19, my healthcare system has become over-loaded				<0.001*
Not at all	224	173 (62)	51 (42)	-
Very little	67	41 (15)	26 (21)	-
Somewhat	59	39 (14)	20 (16)	-
To a great extent	50	25 (9)	25 (20)	-
Medical appointments postponed				<0.001*
No	284	217 (78)	67 (52)	-
Yes	116	61 (22)	55 (48)	-
Unable to buy prescription medication				<0.001*
No	308	240 (86)	68 (64)	-
Yes	92	38 (14)	54 (36)	-
Because of COVID-19, my physical health has been affected				0.010*
Not at all	212	156 (56)	56 (46)	-
Very little	72	54 (19)	18 (15)	-
Somewhat	59	31 (11)	28 (23)	-
To a great extent	57	37 (13)	20 (16)	-

*Statistical significant (p-value < 0.05).

4. DISCUSSION

To our knowledge, this is the first study in Limpopo to assess the prevalence of the use of traditional medicines to fight against COVID-19. Our findings showed that the prevalence of the use of traditional medicines was 30.4%

amongst university staff and students. We further established a high prevalence of the use of traditional medicines by participants with mental health impacts. In the same vein, postponement of medical appointments was found prevalent in participants who endorsed high use of traditional medicines. These findings suggest that, for participants who suffered from

mental health impacts, in particular anxiety of disease contagion, in order to protect themselves, they might have chosen to cancel scheduled medical appointments [16]. The mental health impacts of COVID-19 are the most documented among patients, health professionals, members of academics and students, and the general population [16, 18 - 21]. More pronounced is the experience of intense fear and anxiety of disease contagion [22] and avoidant behaviour concerning going out to social spaces, including using the health care system where human contact is imminent [20]. With the disease being an obstacle to health access, to boost or fight the disease, the most anxious and fearful might be relying on herbal medicines. This is inferred because despite the country having been on Alert level 3 of the lockdown, the rules did not prohibit people from accessing the health care system.

More support to our postulation comes from a finding which also showed that those participants who failed to buy prescription medications were also found to have used traditional medicine. Whether for the management of ordinary illnesses or the COVID-19 itself, this cannot be ascertained in the present study. More studies are needed to lend further support to the use of traditional medicines during the COVID-19 pandemic in the general population.

CONCLUSION

This study provides a reference on the use of traditional medicines for university staff and students. In our study, a considerable proportion of the participants reported the use of traditional medicines in response to the COVID-19 fear during the South African nationwide lockdown. Governments and researchers are recommended to conduct clinical trials to identify the types, safety, and efficacy of medicinal herbs used in the fight against COVID-19.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical approval was obtained from the Research Ethics Committee of the University of Limpopo, South Africa (TREC/102/2020: PG).

HUMAN AND ANIMAL RIGHTS

No Animals were used in this research. All human research procedures were followed in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

CONSENT FOR PUBLICATION

Written informed consent was obtained from each participant.

STANDARDS OF REPORTING

STROBE guidelines and methodology were followed.

AVAILABILITY OF DATA AND MATERIALS

Not applicable.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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