

Research article

A retrospective survey on the relationship between *Prakriti* (body constitution) and mental health

A.B. Dharmarathna* and W.M.S.S.K. Kulathunga

Department of Swasthivritta, Institute of Indigenous Medicine, University of Colombo, Sri Lanka.

*Corresponding author. E-mail: drbuddhika.ad@gmail.com; shanthilec1993@gmail.com.

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ABSTRACT

Prakriti of a person means original creation that is translated as a person's constitution. There are two types of *Prakriti* viz. *Shareerika* and *Manasika* are described in ancient Ayurveda texts. While *Vata*, *Pitta* and *Kapha* determine the characteristics of the body (*Shareere*), the *Sattva*, *Rajas* and *Tamo Guna* are said to influence the attitudes and behaviour of an individual. Mental status can be defined as a comprehensive description or statement of a patient's intellectual capacity, emotional state and general mental health based on the examiner's observations and directed interview including assessment of mood, behaviour, orientation, judgment, memory, problem-solving ability and contact with reality. The present study aims to establish the inter-relationship between *Prakriti* and mental state and to find out the socio-demographic characteristics of the participants. A retrospective survey was conducted on Ayurvedic Medical Officers with the help of Bachelor of Ayurveda Medicine and Surgery graduates. All the participants were between the age group of 20-45 years. Both males and females were included in the training programme at the Institute of Indigenous Medicine, University of Colombo. A self-assessment questionnaire was used for the survey. In the present study, the majority of participants belong to the age group between 31-40 years (92.8%) of which 88% of participants were females. It has been found that the majority of the participants were living in the Suburban area (49.4%) and their education level was recorded till graduation. The present study revealed that 56.6% of participants have *Sathwa Manasika Prakriti* whereas 44.6 participants have *Pitta-Kapha Shareerika Prakriti*. The mental state revealed 81.95% of normal, 13.3% of mild and 4.8% of moderate mental status. The study concludes that there was a significant relationship between *Manasika Prakriti* and mental status ($p = 0.008$) whereas the relationship of *Shareerika Prakriti* with mental status was found insignificant ($p = 0.287$).

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INTRODUCTION

The *Prakriti* of a person is given a lot of importance in Ayurveda which is translated as a person's constitution. The Sanskrit prefix "Pra" means original and "Kriti" means creation (Laursen et al., 2017). *Shareerika* and *Manasika* are the two types of *Prakriti* that have an important role in *Hethu Skandha* (causative factor), *Linga Skandha* (symptom factor) and *Aushdha Skandha* (treatment factor) (Amin and Vyas, 2016). *Prakriti* is a specific composition of humour (*Dosha*) that is permanent throughout life. The term *Prakriti* means the psychosomatic constitution of the body. According to Ayurveda, *Vata*, *Pitta* and *Kapha* determine the characteristics of the body while *Sattva*, *Rajas* and *Tamo Guna* influence the attitudes and behaviour of humans.

Akas (space), Vayu (air), Agni (fire), Jal (water) and Prithvi (earth) are the five basic elements that manifest in the human body as three basic principles or humour, known as *Tridosha*. From the space and air elements, the body's air principle called *Vata* is manifested. Fire and water elements manifest together in the body as a fire

principle called *Pitta*. Earth and water elements manifest as the body's water humour known as *Kapha*. Accordingly, each person is classified as *Vata*, *Pitta* and *Kapha* type. The humour combine with them formed seven types of constitutions viz. *Vata*, *Pitta*, *Kapha*, *Vata-Pitta*, *Vata-Kapha*, *Pitta-Kapha* and *Vata-Pitta-Kapha* (*Sannipatha*). In which one of the humour could be more and the other is less. Among these seven general types, there are innumerable subtle variations that depend upon the percentage of *Vata-Pitta-Kapha* elements in the constitution. According to Ayurveda theory, treatment (*Chikitsa*) depends upon the *Dosha* involved and the physical state of a patient. Hence, a good knowledge of *Prakriti* is highly essential for the treatment and management (Sanmugarajah, 2019).

According to Acharya Sushruta, the formation of *Prakriti* takes place by the condition of *Tridosha* at the time of union of *Shukra* (sperm) and *Shonita* (ovum) in the *Garbhashaya* (womb) of a mother. The predominance of any one, two or all the three *Dosha* (body humour) viz. *Vata*, *Pitta* and *Kapha* determine the characteristics features of the future child as *Ekdoshaja Prakriti* (*Vataja*,

Pittaja, *Kaphaja*), *Dvandvaja* (*Vatapitta*, *Vatakapha*, *Kaphapitta*), and *Samamishra* (*Vata*, *Pitta* and *Kapha* in equal proportions). Similarly, *Sattva*, *Rajas* and *Tamo Guna* determine the characteristic features of the mental state. Importance of knowing *Prakriti* is in the promotion of health, *Agni* status of the individual, determination *Bala* (strength), susceptibility to disease/ predictive medicine, diagnosis of diseases, the prognosis of diseases, management of diseases/ individualized medicine, determination of drug doses, preventive medicine and genomic medicine. According to Acharya Charaka, *Panchamahabhuta* and *Chetana* (soul) unite to form *Purusha* and the nature of this *Sharira* is known as *Prakriti* (Wani et al., 2017).

According to the unique concept of *Prakriti*, which is genetically determined, the population is categorised into several subgroups based on phenotypic characters like appearance, temperament and habits (Bhalerao et al., 2012). Among three main *Doshas*, *Kapha Dosh* is an anabolic, synthetic *Dosha*, responsible for the growth and maintenance of the structure. The *Pitta Dosh* is the one responsible for metabolism, including digestion in the gut, and cellular or sub-cellular metabolism. *Vata Dosh* is responsible for movement (muscular, nervous, energy, etc.). The disturbance in the equilibrium of these *Doshas* can lead to disease. According to *Prakriti*, a person may develop a disease for example a *Pitta Prakriti* person is more prone to peptic ulcers, hypertension and skin diseases, a *Vata Prakriti* person to backache, joint aches and crackling joints while individuals with *Kapha Prakriti* are prone to obesity, diabetes and atherosclerosis (Dey and Pahwa, 2014).

Mental status is defined as a comprehensive description or statement of a patient's intellectual capacity, emotional state and general mental health based on the examiner's observations and directed interview including assessment of mood, behaviour, orientation, judgment, memory, problem-solving ability and contact with reality (Segen, 2002). There is evidence that the vast majority of people who experience poor mental health in adulthood first experienced difficulties as children, often from a young age. Risk factors for poor mental health include having a parent with mental health difficulties, growing up in prolonged poverty and housing insecurity, experiences of abuse, neglect and bullying, and traumatic experiences during childhood, people with physical disabilities, workplace factors such as bullying, insecurity and a lack of control are major causes of mental ill health among staff and unemployment.

Mental ill health and work-related stress are key issues for the labour market as they affect productivity through absenteeism and presenteeism, and are associated with high economic costs for individuals, employers and the economy at large (Guthrie et al., 2018). The mental status examination is a structured assessment of the patient's behavioural and cognitive functioning. It includes descriptions of the patient's appearance and general behaviour, level of consciousness and attentiveness, motor and speech activity, mood and affects, thought and perception, attitude and insight, the reaction evoked in the examiner and finally, higher cognitive abilities.

There are many different mental disorders with different presentations. They are generally characterized by a combination of abnormal thoughts, perceptions,

emotions, behaviour and relationships with others. Mental disorders include depression, bipolar disorder, schizophrenia and other psychoses, dementia and developmental disorders including autism. Considering the risk factors of mental status, determinants of mental health and mental disorders include not only individual attributes such as the ability to manage one's thoughts, emotions, behaviours and interactions with others, but also social, cultural, economic, political and environmental factors such as national policies, social protection, standards of living, working conditions, and community support. Stress, genetics, nutrition, perinatal infections and exposure to environmental hazards are also contributing factors to mental disorders. The global burden of mental disorders include 264 million cases of depression, 45 million of bipolar disorder, 20 million of schizophrenia and other psychoses whereas 50 million cases belong to dementia (WHO, 2019). A total of 76% to 85% of people with a mental disorder found in low-income countries receive no treatment for their disorders as compared to 35% to 50% of people with mental disorders in high-income countries. South Asian countries comprise one-quarter of the world's population and include countries like India, Pakistan, Nepal, Sri Lanka, Bhutan, Bangladesh, Afghanistan and The Maldives. Marred by high poverty rates approximately 150–200 million people in this region have a diagnosed psychiatric disorder and limited access to mental health. Despite the significant burden of illness, the mental health infrastructure in this region is relatively weak, with less than 1% of the total national budget allocated to it. There is also a shortage of psychiatrists and other mental health professionals, clinical psychologists, as well as social workers (Naveed et al., 2020).

Sri Lanka has a pluralistic mental health system resulting from the complex interplay of indigenous, Ayurvedic and Western medical models (Minas et al., 2017). The publically funded mental health system is based on Western and Ayurvedic medicine, indigenous principles practices have a strong continuing presence in the non-government and private sectors. In Sri Lanka, the prevalence rate of mental disorders is 40.9% in which depression is more common in elderly women (30.8%) than elderly men (24.0%). Women are particularly vulnerable to mental health problems as a result of increased alcohol consumption among men and high rates of domestic violence. Sri Lanka had very high suicide rates in the 1990s.

The first Mental Health Policy of Sri Lanka 2005–2015, adopted in 2005, aimed to develop a comprehensive network of services at the community level. The national mental health action plan, developed by the Mental Health Directorate, the NIMH and the Sri Lankan College of Psychiatrists in 2005 and revised in 2010, was the framework for implementing the mental health policy. The key components of the plan included timelines and funding allocation for the implementation of the mental health policy, a particular focus on the urgent need to strengthen human resources for mental health and a clear shift in focus from mental hospital-based treatment to substantially increased community-based services and integration of mental health services into primary care (Minas et al., 2017).

The objectives of the present study are to find out the relationship of *Shareerika* and *Manasika Prakriti* with

mental state and to find out the socio-demographic characteristics of the participants. The hypothesis of the study is either no relationship (H_0) or relationship (H_1) between *Prakriti* and mental status.

MATERIALS AND METHODS

A retrospective survey was conducted on Ayurvedic Medical Officers under the Bachelor of Ayurveda Medicine and Surgery (BAMS). They were between the age group of 20-45 years in which both male and female were included in the training programme at the Institute of Indigenous Medicine, University of Colombo. A self-assessment questionnaire was used for the survey. The questionnaire has been already validated by the authors. Mental status was assessed using the questionnaire from Park's textbook of preventive and social medicine (Park, 2017). The questionnaire was designed based on one's own mental health pulse by William C. Menninger who was a Psychiatrist and President of the Menninger Foundation, Topeka, Kansas, United States of America. The conditions chartered in his questions are the major warning signals of poor mental health in one degree or another. If the answer to any of these questions is "yes", it was grading according to the sum of "yes" answer as 0-2 (normal mental status), 3-4 (mild impairment of mental status), 5-7 (moderate impairment of mental status) and above 8 (severe impairment of mental status) (Pfeiffer, 1975).

Prakriti was assessed using a questionnaire that was designed based on Ayurveda texts comprising 23 objective questions related to the person's physical characteristics, psychological make-up and physiological habits. Each of the questions had three options to choose from referring to a property attributed to *Vata* (V), *Pitta* (P) or *Kapha* (K). The score obtained for a person for answers in the V, P and K domain were summed up and the person was identified as having a specific *Prakriti* depending on scores obtained. When a participant scored $\geq 50\%$ on a particular *Dosha* that was considered as predominant *Dosha* whereas a score between 25% and 35% was categorised as secondary *Dosha*. For example, when a participant scored 12 (52%) for the *Pitta Dosha* and 10 (43%) for the *Kapha Dosha*, he was categorised as a *Pitta-Kapha Prakriti*. On the other hand, if the score was 12 (52%) for *Kapha Dosha* and 10 (43%) for *Pitta Dosha*, he was categorised as *Kapha-Pitta Prakriti*.

Statistical analysis

The data was expressed by the Chi-Square test and was analysed using SPSS Statistical Method (16.0 version). The level of significance for all analyses was taken as $p < 0.05$.

Inclusion and exclusion criteria

All the Government recruited Ayurvedic doctors within 2 weeks, age group between 20-45 years and both genders were included in the present study. However, age below 20 years and above 45 years, intern Medical officers, Government recruited Ayurvedic doctors before 2 weeks were excluded from the present study.

RESULTS

In the present study, the majority of participants belong to the age group between 31-40 years (92.8%) in which females participants were higher than males. The religious data showed that Buddhist and Sinhalese were recorded as maximum in which most of the participants were married (73.5%) with a monthly income of below 60000 Sri Lankan Rupees. Most of these participants belong to the Suburban area (49.4%) and their education level was found up to graduation (Table 1).

Table 1. Frequency distribution of socio-demographic characteristics in the study group

Socio-demographic characteristics		Frequency	Percentage
Age group	20-30 years	02	2.4
	31-40 years	77	92.8
	41-45 years	04	04.8
Living area	Urban	32	38.6
	Suburban	41	49.4
	Rural	10	12.0
Gender	Male	10	12.0
	Female	73	88.0
Having children	No Children	33	39.8
	Age <1 year	02	02.4
	Age 1-5 year	45	54.2
	Age >5 years	03	03.6
Civil status	Married	61	73.5
	Unmarried	15	18.1
	Divorced	01	01.2
	Widowed	06	07.2
Ethnicity	Sinhala	83	100.0
Religion	Buddhist	81	97.6
	Catholic	02	02.4
Monthly income	Rs <60000	59	71.1
	Rs 60000-100000	16	19.3
	Rs >100000	08	09.6
Education	Graduate	78	94.2
	Post-Graduate	04	04.8

According to the *Manasika Prakriti* analysis, a total of 60.2% of cases belonged to *Sathwa Prakriti* whereas as in the case of *Shareerika Prakriti* analysis, most of the cases (44.6%) belonged to *Pitta Kapha Prakriti*. However, there was no one in *Vata-Kapha Prakriti* (Table 2).

Table 2. Frequency distribution of *Manasika* and *Shareerika Prakriti* in the study group

<i>Prakriti</i>	Frequency	Percent
<i>Manasika Prakriti</i>		
<i>Sathwa Rajas</i>	50	60.2
<i>Tridosha</i>	33	39.8
Total	83	100.0
<i>Shareerika Prakriti</i>		
<i>Vatha</i>	02	2.4
<i>Pitta</i>	06	7.2

<i>Kapha</i>	02	2.4
<i>Vatha Pitta</i>	14	16.9
<i>Pitta Kapha</i>	37	44.6
<i>Thridhoshaja</i>	22	26.5
Total	83	100.0

The mental state of the participants revealed that most of them were normal (81.95%) while 13.3% were mild and 4.8% were moderate in mental status impairment. There was no participant with severe mental status impairment in the study group (Table 3).

Table 3. Frequency distribution of mental status

Mental status	Frequency	Percent
Normal mental status (0-2)	68	81.9
Mild mental status impairment (3-4)	11	13.3
Moderate mental status impairment (5-7)	04	04.8
Total	83	100.0

According to the *Manasika Prakriti*, *Sathwa Guna* was decreased with increasing mental status impairment (Fig. 1 and Table 4).

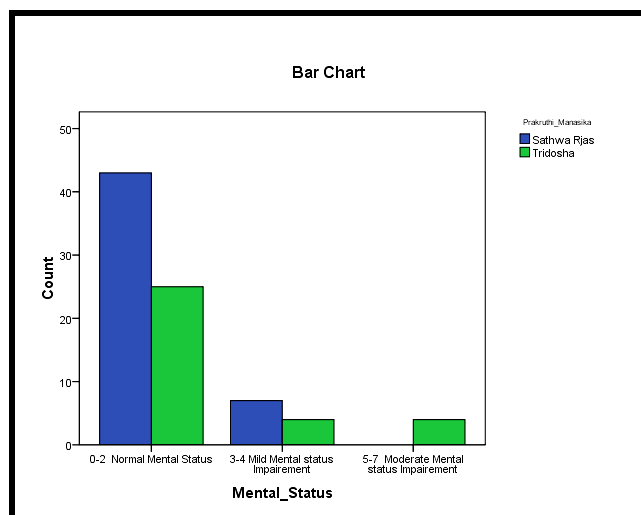


Fig. 1. Relationship between *Manasika Prakriti* and mental status

Table 4. Chi-Square test of *Manasika Prakriti* and mental status habits

Mental status	<i>Manasika Prakriti</i>		Total
	<i>Satwa Rajas</i>	<i>Tridosha</i>	
Normal mental status (0-2)	42	26	68
Mild mental status impairment (3-4)	7	4	11
Moderate mental status impairment (5-7)	0	4	4
Total	49	34	83
Chi-Square Tests			
Test	Value	df	Asymp. Sig. (2-sided)

Pearson Chi-Square	6.368 ^a	2	0.041
Likelihood ratio	7.689	2	0.021
Linear-by-linear association	3.599	1	0.058
N of valid cases	83	-	-

Considering the *Shareerika Prakriti* and mental status, there were *Pitta* and *Vatta Doshas* increased with mental status impairment (Fig. 2). It has been found that *Shareerika Prakriti* was not significant with the mental status of the study group ($p = 0.287$) (Table 5).

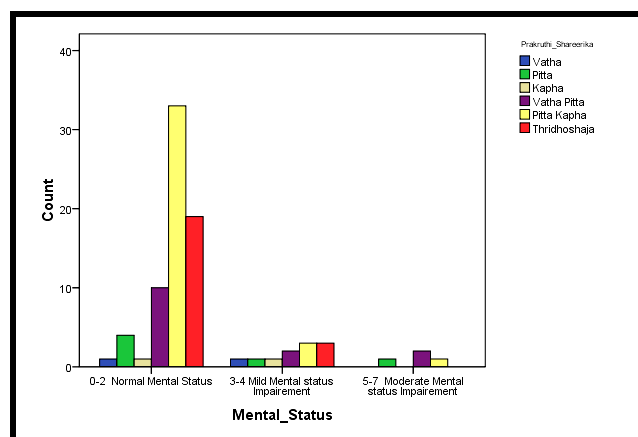


Fig.2. Relationship between the *Shareerika Prakriti* and mental status

Table 5. Chi-square test of *Shareerika Prakriti* and mental status habits

Mental status	<i>Shareerika Prakriti</i>						Total
	V	P	K	VP	PK	T	
Normal mental status (0-2)	1	4	1	10	33	19	68
Mild mental status impairment (3-4)	1	1	1	02	03	03	11
Moderate mental status impairment (5-7)	0	1	0	02	01	00	04
Total	2	6	2	14	37	22	83
Chi-Square Tests							
Test	Value		df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	11.976 ^a		10	0.287			
Likelihood Ratio	10.206		10	0.423			
Linear-by-Linear Association	5.704		01	0.017			
N of Valid Cases	83		-	-			

Abbr.: V (*Vatha*), P (*Pitta*), K (*Kapha*), VP (*Vatha Pitta*), PK (*Pitta Kapha*), T (*Thridhoshaja*)

DISCUSSION

The present study reflected that majority of the participants were included in the age group between 31-40 years (92.8%) while female participants were more than male. Buddhist and Sinhalese were the most common of

which 73.5% of participants were married. The study also found that the monthly income of more than 70% of participants was below 60000 Sri Lankan Rupees. Liu et al. (2020) included 58.5% females and 41.5% males for an online mental health survey in a medical college in China during the COVID-19 outbreak. Among the female students of depression, 26% had symptoms of mild depression and 12% were found with the symptoms of moderate depression. Interestingly, no student was found with severe depression symptoms. On the other hand, 22% of male students were found with mild depression symptoms, 6% with moderate depression symptoms whereas 1% of students were found with severe depression symptoms. In our study, 81.9% of participants were found in normal mental status, 13.3% in mild impairment of mental status, 4.8% in moderate impairment of mental status whereas no one in severe impairment of mental status.

The psychological characters of *Kapha Prakriti* people include never get angry or very depressed. They are tolerant of hardships, patient and hardworking. They can easily forgive people. They are matured, polite and decent people. They have good sleeping habits. However, the psychological characters of *Pitta Prakriti* people are included brave, mighty and radiant. They are not defeated easily. They are fearless, short-tempered, unsparing to the bad people whereas soft-hearted towards good people. These people have very high intellect. On the other hand, *Vata Prakriti* people are mentally unstable, jealous, hotheaded and violent. The people of *Vata Prakriti* experience emotions like anger, fear, and irritability quicker. They tend to sleep less and the sleep pattern is not very good.

A person rarely has one *Dosha Prakriti*. People generally have dual *Dosha Prakriti*. In the present study, most of the participants were found with *Pitta Kapha Prakriti*. So, they have psychosomatic characters of both *Dosha*. One *Dosha* remains dominant in dual *Dosha Prakriti*. The dominant *Dosha* has more influence on the physical and psychological qualities of a person. People with *Sama Prakriti*/ *Sannipatha Prakriti* have mixed types of characteristics.

People with the dominance of *Kapha* are mentally strong. Their patient, tolerant and hardworking nature makes them confident to handle difficult situations. When people have *Kapha Dosha* dominant in their constitution, they can handle stress very well. Good sleeping patterns also help them to maintain their hormone levels so that they remain calm and less stressed. *Pitta Dosha* dominant people are fearless, brave and intelligent. Their intelligence and bravery give them the confidence to get through the challenges. *Vata Dosha* dominant people are mentally unstable, irritable and coward. Due to these psychological factors, people with *Vata* dominant *Prakriti* find stress handling difficult. But if a person has *Pitta* dominant *Vata-Pitta Prakriti*, the person gets benefits of *Pitta* (Giri et al., 2018). In the present study, moderate mental impairment in *Vata* and *Pitta Prakriti* was observed.

Manasik Prakriti has a definite role in mental health problems. It shows that *Satva* quality is responsible for mental goodness and health while *Rajas* and *Tamas* take the authority of various mental frustrations (Mehra et al., 2020). Therefore, assessment of *Prakriti* analysis does not only help in understanding the physical and mental

constitution of a patient but also determine the management of a disease condition. One more study describes the concept of *Prakriti* in ageing stating that the *Pitta* predominance *Prakriti* type individuals have high basal metabolic rate and energy consumption leading to tissue destruction and premature ageing and average life span, while *Kapha* predominance *Prakriti* type tend delayed manifestation of ageing and longer life span.

Acharya Charaka mentioned three types of *Manasa Prakriti* as *Satvika Prakriti*, *Rajasika Prakriti* and *Tamasika Prakriti*. Advantages of assessing *Manasa Prakriti* in an individual help in the promotion of individual development, interpersonal promotion of individual development, interpersonal skill and development of leadership qualities. *Prakriti* is of two types namely *Sharira Prakriti* (physical constitution of the body) which is again subdivided into 7 types namely *Vataja*, *Pittaja*, *Kaphaja*, *Vata-Pittaja*, *Vata-Kaphaja*, *Pitta-Kaphaja* and *Sannipataja* and *Manas Prakriti* (Psychic constitution of the body) mainly classified into three types i.e. *Sattvika*, *Rajasika* and *Tamasika Prakriti* (Bagali and Baragi, 2016).

CONCLUSION AND SUGGESTIONS

Prakriti is an important concept in Ayurveda to understand mental status. This study suggests the importance of association of the ancient concepts of *Prakriti* and mental status. The study showed that the mental state of most of the cases (81.95%) was found normal whereas only 13.3% in mild mental status impairment and 4.8% in moderate mental status impairment. *Manasika Prakriti* was significantly associated with the mental status of the newly recruited Ayurvedic doctors.

The present study suggested that during the training programme of newly recruited Ayurvedic doctors, there should introduce yoga and relaxation at the beginning to improve mental status. Stress management, as well as counselling, should also be introduced in Training Module. Moreover, a specific food pattern should be included in the training programme to develop *Sathwa guna* in the mind.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

DECLARATION

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