IMPACT: International Journal of Research in Applied, Natural and Social Sciences (IMPACT: IJRANSS)
ISSN (P): 2347-4580; ISSN (E): 2321-8851
Vol. 6, Issue 4, Apr 2018, 1-6

DOES TREATMENT CHOICE VARY WITH DISEASE? AN ANALYSIS OF DEMOGRAPHIC FACTORS AND DISEASE BURDEN

PraheliDhar Chowdhuri[1]&Dr. Suman Meyur[2]

[1]Research Scholar,Department of Business Management, Indian Institute of Social Welfare & Business Management, Kolkata, India

[2]MD Postgraduate Trainee, Institute of PostgraduateMedical Education and Research, Kolkata, India

Received: 13 Apr 2018 **Accepted:** 18 Apr 2018 **Published:** 23 Apr 2018

ABSTRACT

Treatment modality is broadly diverged into Complementary Alternative Medicine (CAM) and Conventional Medicine, comparable situation of which exists in India, resulting into choice practice by the patients and their relatives.However, while measuring preferenceof a treatment modality, itsdisease-specific dominance often remains unexplored. Especially there is a severe dearth of such data in the eastern Indian region. This study aims to explore whether treatment choice vary disease-wise among the population of Kolkata and its surrounding area and if the disease burden of self and family determine the choice of treatment modality.The study finds that CAM is preferred by 35.3% and used by 64.7% in last 12 months. People with Low Disease Burden($p=0.043$) and those who make a decision in Group ($p<0.001$) tend to choose CAM. Higher Socio-Economic status and Higher Education Level ($p<0.001$) are significant Demographic Factors determininghigher level of CAM user. In contrast to most established studies, it is observed that Male gender($p= 0.026$) has higher levels of CAM usage. City dwellers prefer and use Conventional medicine more than villagers or Suburbans. The study considers 6broad classifications of disease covering the majority of WHO ICD 10 chapters and finds that preference for conventional medicine is high for Infectious, Heart and Mental and Neurological disease (p -value <.001) and preference for CAM is high for Metabolic, Arthritis and Skin diseaseand Chronic Pain.

KEYWORDS:*Disease Burden, CAM, Treatment Decision, Preference and Usage*

INTRODUCTION

Conventional medicine uses the science of basic principles of physics, chemistry and biology and uses drugs made of chemical ingredients, radiation and surgery. It is colloquially termed as 'Allopathy'. On the other hand, Complementary and Alternative medicine(CAM) is consisted with a variety of medical treatment modalities,i.e. Ayurveda, Homeopathy, Chiropractic, Reiki, Acupuncture, Kampo, Traditional Chinese Medicine, etc., each having separate principles of treatment and is not an integral part of Conventional medical practice (Weir M., 2005). A traditional healthcare practice of indigenous people pertaining to human health is termed as Ethnomedicine(Vedavathy, 2003).The broadly used Complementary and Alternative medicine (CAM) in India is acronymed as 'AYUSH' and stands for Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy, of which Ayurveda and Homeopathy are prevalent in terms of user preference, usage, number of education, training centers and research centers. In India, there are 2,860 CAM hospitals, with a total of 45,720 beds and 5.88 lakh registered CAM practitioners, in comparison to 9.36 lakh MCI approved

conventional medical practitioners. Despite the pervasiveness, power, and promise of contemporary medical science, large segments of humanity either cannot access its benefits or choose not to do so (Debas et al, 2006). Hence, it is observed that Preference and prevalence of CAM are significantly high all over the world and not limited to developing countries only,but also having huge acceptability in developed countries where modern healthcare system has been widely and aptly delivered (Harris et al, 2012).However, only limited data are available regarding such usage and preference. USA has a systemic data as reviewed in the National Health Statistics report, which shows an estimated 38% of American adults reported using a form of CAM in the past 12 months as of 2007(Barnes et al., 2008). Similar UK data are also available, but most other countries, including India, have poor and non-contemporary demographic details of preference and usage pattern of CAM and Conventional Medicine. Moreover, none of these studies have established relationship between disease burden and choice of treatment modality. Also, no such studies have yet been conducted in the eastern region of India.

The study of Coelho et al. (2010) shows that women, university educated respondents, people with anxiety, people with poorer mental health and lower levels of perceived social support are more prone to use CAM. According to Barnes PM, (2007); Sasagawa, (2008) women are more prone to CAM usage. In another research, Astin (1998) shows that high education level, chronic painful disease acts as a significant independent component of decision making towards alternative medicine. Whereas,Miller (1997) shows that CAM usage was disproportionately high among women, people who had received higher education, and people in the age range 25–64 years and MacLennan (1995) opines that the CAM users were more likely to be perimenopausal females, better educated. The study of Vimal Singh (2004) however, concludes that none of the demographic factors like age, sex, marital status, religion, level of education and income influence CAM usage. When usage of both conventional medicine and CAM at a time is observed (Coelho et al, 2010), some studies also show that people choose a different treatment modality for different kind of diseases (Astin, 1998; Singh, Vimal et al, 2004) and usage of CAM is observed to be higher among people suffering from some specific diseases (Ryan and Johnson, 2002; Egede et al, 2002). To explore if individual's treatment choice is disease- specific, this study is conducted on six specific diseases, chosen as per the International Classification of Diseases (ICD), which is an international "standard diagnostic tool for epidemiology, health management and clinical purposes" and is maintained by the World Health Organization (WHO).

The objective of this study is to conduct a demographic analysis alongwith disease burden, to understand the CAM preference and prevalence among the population of Kolkata and its surrounding area and to observe if the choice of treatment modality varies with diseases. This shall be the first of its kind study in the city of Kolkata.

METHODOLOGY

The study follows exploratory and descriptive research design. Primary data was collected through convenient sampling method from the rural and urban settings of Kolkata and its 25 km surrounding area. Data are collected between the months of December 2016 to May 2017. The sample size is 300 and all respondents belong to a socially adult age group,i.e. above 18 years of age and have a basic idea of CAM and conventional medicine. The pretested questionnaire haditems with both nominal and dichotomous scales. Initially, a Pilot Study has been conducted on 50 samples to measurethe validity of the study.For demographic analysis, data are collected on age, gender, education level, occupation, income,alocation of residence. The socioeconomic status has been measured through modified Kuppuswamy Scale. The

disease burden score has been calculated on the basis of three variables. These are 1) suffering from the chronic disease for more than 30 days in last 12 months, 2) suffering from any serious/ acute/ fatal illness 3) intermittent suffering from non-serious/seasonal illnesses by self or family member. The maximum possible cumulative disease burden score was 6 and the minimum was 0. From the score three categories were formulated, i.e. high, medium and low level of disease burden. From the 22 chapters of ICD 10 classification of disease, six broad subclassifications have been done to cover the majority of chapters with maximum global disease burden and prevalence. The six chosen diseases are Infectious disease, Endocrine and Metabolic disease, Mental and Neurologic disease, Heart disease, Skin Disease and Chronic Pain (Musculoskeletal).The results are analyzed in IBM SPSS ver. 23.0.

RESULT

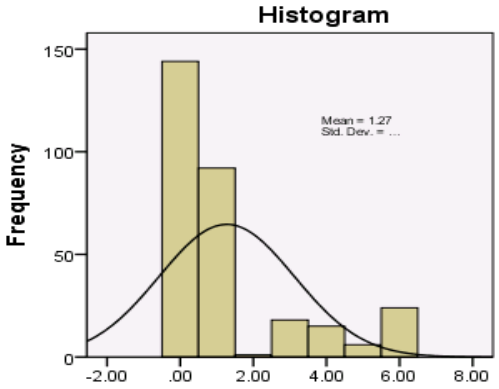

Figure 1

It is observed that 40.3% people prefer CAM, while 51.3% people have actually used it in last 12 months. It is also observed that 31.3% people have not only used Complementary and Alternative Medicine but have used it more than conventional medicine. Such preference and prevalence are significantly correlated (Spearman**rho = 0.461, *p*=<0.001**). Most of the responders have low disease burden (48%) and only 15% responders have high disease burden. (Table 1, Figure 1)

Table 1: The Disease Burden of Responders

Score	Frequency	Percent
0	144	48.0
1	92	30.7
2	1	.3
3	18	6.0
4	15	5.0
5	6	2.0
6	24	8.0

Category	f	Percent
Mild	144	48.0
Moderate	111	37.0
High	45	15.0

A demographic study of Preference and Usage of Conventional medicine and CAM are done through Chi-Square and Correlation. In contrast to most of the established studies, it is observed that Male gender (**p= 0.026**) have higher

levelsof CAM usage.Preference pattern is independent of age, but the usage pattern significantly varies with age. People with Low self or family Disease Burden (**p=0.043**) and those who make decisions In Group (**p<0.001**) tend to chooseCAM. Higher Socio-Economic status and Higher Education Level **(p<0.001**) are significant Demographic Factors associated with higher levels of CAM user. It is also observed that City dwellers prefer and use Conventional medicine more than villagers or Suburbans. (Table 2)

Out of 6 categories of diseases taken in the study, in case of first 3 diseases, i.e. Infectious disease, Heart disease, Mentaland Neurological disease, people are preferring conventional medicine (p- value <.001). However, in case of the other three diseases, i.e. and Metabolic disease, Chronic Pain and Arthritis, Skin disease, preference towards Complementary & alternativemedicine is significant.This difference is measured on the basis of Expected Count of overall CAM and Conventional medicine preference (Table 3). Egede et al (2002) found individuals with diabetes were 1.6 times more likely to use CAM than individuals without diabetes. A study by Lee 2004 shows CAM use in Asian patients is prevalent and associated with the 'chronic disease triad' (of arthritis, musculoskeletal disorders and stroke), satisfaction with care and cultural beliefs. The present study is also showing results congruent with the aforesaid.

Table 2: The Demographics of Preference and Usage

Characteristics of the Sample	Total		Preferred CAM		Preferred Conventio			Used CAM in last 12 months		Didn't use CAM in last 12 months		
Variable	n	%	n	%	n	%	P value	n	%	n	%	P value
Age												
18-29	92	31	41	44.6	51	55		44	47.8	48	52.2	
30-49	110	37	44	40	66	60		70	63.6	40	36.4	
50-59	17	5.7	8	47.1	9	53		9	52.9	8	47.1	
60 and above	81	27	28	34.6	53	45		31	38.3	50	61.7	
							0.546					0.005
							0.227					0.236
Gender												
Female	177	59	57	32.2	120	68		81	45.8	96	54.2	
Male	123	41	64	52	59	73		73	59.3	50	40.7	
							0.001					0.026
Education Level												
Illiterate	4	1.3	2	50	2	50		4	100	0	0	
Primary School (class-IV)	0	0	0	0	0	0		0	0	0	0	
Middle School	24	8	8	33.3	16	67		13	54.2	11	45.8	
High School (class- X)	29	9.7	10	34.5	19	66		6	20.7	23	79.3	
Post High School (class- XII)	58	19	14	24.1	44	76		21	36.2	37	63.8	
Graduate or Post Graduate	109	36	51	46.8	58	53		57	52.3	52	47.7	
Profession or Honors	76	25	36	47.4	40	53		53	69.7	23	30.3	
							0.055	<.001				
							0.017*	<.001				
Socio-Economic Status												
Upper	41	14	15	36.6	26	63.4		31	75.6	10	24.4	
Upper Middle	233	78	96	41.2	137	58.8		115	49.4	118	50.6	
Lower Middle	24	8	9	37.5	15	62.5		6	25	18	75	
Upper Lower	2	0.7	1	50	1	50		2	100	0	0	
Lower	0	0	0	0	0	0		0	0	0	0	
							0.925					0.017
							0.761					0.022
Residing at												
Village	40	13	23	57.5	17	42.5		14	35	26	19.5	
Suburb	119	40	60	50.4	59	49.6		80	67.2	39	57.9	
City	141	47	38	27	103	23		60	42.6	81	68.6	
												<.001
Disease Burden in family												
Low	144	48	80	55.6	64	44.4		76	52.8	68	47.2	
Moderate	110	37	40	36.4	70	63.6		62	56.4	48	43.6	
High	46	15	1	2.2	45	97.8		16	34.8	30	65.2	
							<.001					0.043
							<.001					0.212
Decision												
Solely	121	40	34	28.1	87	71.9		35	28.9	85	71.1	
In a group	179	60	87	48.6	92	51.4		119	66.5	60	33.5	
							0.001					<0.001

Table 3: Disease Specific Preference

			Decision CONV	CAM	Chi Square	P value
Disease	Infectious	Count	261	39	93.13	<.001
		Expected Count	179	121		
	Heart	Count	285	15	155.63	<.001
		Expected Count	179	121		
	Mental	Count	250	50	69.82	<.001
		Expected Count	179	121		
	Metabolic	Count	161	139	4.49	0.034
		Expected Count	179	121		
	Chronic Pain	Count	138	162	23.28	<.001
		Expected Count	179	121		
	Skin Disease	Count	124	176	41.9	<.001
		Expected Count	179	121		

CONCLUSIONS

This study shows there is a significant usage of CAM and in some cases preferred over conventional medicine by the people of this part of India. Also, disease burden plays an important role in this specific pattern. People also choose differently for different kind of diseases they suffer. This study might help in expanding the knowledge related to the choice oftreatment modality and can be extended as a national survey to build a proper database.

REFERENCES

1. *Astin, J. A. (1998). Why patients use alternative medicine: results of a national study. Jama, 279(19), 1548-1553.*
2. *Barnes, P. M., Bloom, B., &Nahin, R. L. (2008). Complementary and alternative medicine use among adults and children; United States, 2007.*
3. *Coelho, H. F., Hunt, K. J., Wider, B., Perry, R., Hung, S. K., Terry, R., & Ernst, E. (2010). Complementary and alternative medicine use in England: results from a national survey. International journal of clinical practice, 64(11), 1496-1502.*
4. *Debas, H. T., Laxminarayan, R., & Straus, S. E. (2006) Complementary and Alternative Medicine. Disease Control Priorities in Developing Countries, 1281.*
5. *Egede, L. E., Ye, X., Zheng, D., & Silverstein, M. D. (2002). The prevalence and pattern of complementary and alternative medicine use in individuals with diabetes. Diabetes care, 25(2), 324-329.*
6. *Harris, P. E., Cooper, K. L., Relton, C., & Thomas, K. J.(2012). Prevalence of complementary and alternative medicine (CAM) use by the general population: a systematic review and update. International journal of clinical practice, 66(10), 924-939.*
7. *MacLennan, A. H., Wilson, D. H., & Taylor, A. W. (1996). Prevalence and cost of alternative medicine in Australia. The Lancet, 347(9001), 569-573.*
8. *Millar, W. J. (1997). Use of alternative health care practitioners by Canadians. Can J Public Health, 88(3), 154-58.*

9. *Ryan, M., & Johnson, M. S. (2002). Use of alternative medications in patients with neurologic disorders. Annals of Pharmacotherapy, 36(10), 1540-1545.*

10. *Singh, V., Raidoo, D. M., & Harries, C. S. (2004). The prevalence, patterns of usage and people's attitude towards complementary and alternative medicine (CAM) among the Indian community in Chatsworth, South Africa. BMC Complementary and Alternative Medicine, 4(1), 3.*

11. *Vedavathy, S. (2003). Scope and importance of traditional medicine. Indian Journal of Traditional Knowledge, 2(3), 236-239.*

12. *Weir, M. (2005). What is complementary and alternative medicine?Law papers, 65.*