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## **Types and availability of ayurvedic medicine in selected areas of Dhaka city, Bangladesh**

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### **Abstract**

Ayurveda is one of the most effective and traditional system globally especially in south Asia. This descriptive type of cross sectional study was conducted to find out types and availability of Ayurvedic medicine in Dhaka city corporation area. 391 respondents were interview. The mean age was  $(38.24 \pm 12.638)$  years. 36.06% of them are in higher secondary school certificate, 76.1% are Muslim, 68.0% are married, and 41.4% are in this profession about 5-10 years. Mean income of the respondents were Tk.  $17171.36 \pm 8923.826$ . About 58.6% of the respondents reported availability of all kinds of Ayurvedic medicine and 89.6% of the respondents got medicine in just time. About 92.3% respondents collect from company. The study found that 43.7% of all classes' people are buying Ayurvedic medicine and 37.6% buys for general weakness. About 45.6% choices as tablets, 69.9% respondent's opinion about the price is reasonable. About 58.6% drugs prescribed by all kinds of practitioners and 89.7% response that Ayurvedic medicine takes long time to heal diseases. Top six classical Ayurvedic drugs are for gastritis (95.4%), skin diseases (92.3%), constipation (99.0%), sexual diseases (93.4%), gout (86.4%) and nutrition (91.8%). 81.8% pharmacies had medicine for gynecological problem, 82.1% for respiratory tract infection, 71.1% for asthma 67.0% for liver diseases. Finding suggests that Ayurvedic medicine availability in Dhaka city corporation area of Bangladesh is satisfactory.

**Keywords:** Ayurvedic medicine, ayurvedic pharmacy, Dhaka City

### **1. Introduction**

The popularity as well as market of Ayurvedic medicines has been increasing day by day. Most of the traditional healers/practitioners are in remote areas where access to modern medical practitioners and/or medicines is limited. In addition to this, most of the manufacturers do not have the knowledge on Good Manufacturing Practice (GMP). Some substandard Ayurvedic medicines might have been brought to the market which is not only decreasing faith to the Ayurvedic medicines but also creating a risk of public health hazard and defaming Ayurvedic physicians and Ayurvedic system as a whole [1]. For primary health care, 80% population of some Asian and African countries, depend on traditional medicine and it is now a recognized system of medical practice in this region and in some communities it has been used for thousands of years [2]. Biologic therapies such as herbal remedies are popular [3] and can broadly be divided into commercialized over-the-counter (OTC) preparations and preparations that are locally sourced and prepared [4].

Consumers of commercially available herbal products need access to reliable and accessible information to ensure safe and appropriate use. This should preferably be in the form of printed material supplied alongside the product, similar to what's available with conventional medications [5]. This is particularly important, as it has been shown that the staff knowledge on the products sold in community pharmacies and health food shops is sub-optimal elsewhere [6]. There are many issues and valid complaints regarding the quality, safety and efficacy of Ayurvedic medicines which may be due to various problems prevalent in their production, storage, prescription and marketing aspects. To manage and regulate this situation, it needs serious multi-dimensional attempts by the different stakeholders [1].

Only a single study and the derived recommendations may not be sufficient to identify and address all the existing problems. To some extent, it has attempted to explore situation of manufacturing practice, the basis of consumption by the people and recommend some possible steps for ascertaining and maintaining quality, safety, efficacy and reliability of Ayurvedic medicines [1].

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This is of critical importance as many unrecognized interactions may occur between herbal remedies and conventional medicines. Similarly, many patients believe that herbal products are safe and devoid of adverse effects [7].

But in our country it is being negligible for some reason. But for patient safety, Ayurvedic medicine is very essential as for its no side effect. Now many top level pharmaceuticals company are going to produce Ayurvedic medicine like ACME Laboratories, Square Pharma, Drug International Ltd, Ibn Sina Pharma, Incepta Pharma and Renata Limited. Few days ago, people thought that Ayurvedic medicine is unhygienic and less effective. But somehow most of the people in Bangladesh are using Ayurvedic medicine till now. In Bangladesh about 89% of people have some knowledge about Alternative medicine [8]. But availability of Ayurvedic medicine and Ayurvedic pharmacy status data are inadequate in Bangladesh.

The aim of the present study was to determine and explore the availability of Ayurvedic medicine and Ayurvedic pharmacy status in Bangladesh. The study will help the policy maker about the availability of Ayurvedic medicine and they can take necessary steps to increase the availability of Ayurvedic medicine in Bangladesh especially in urban area.

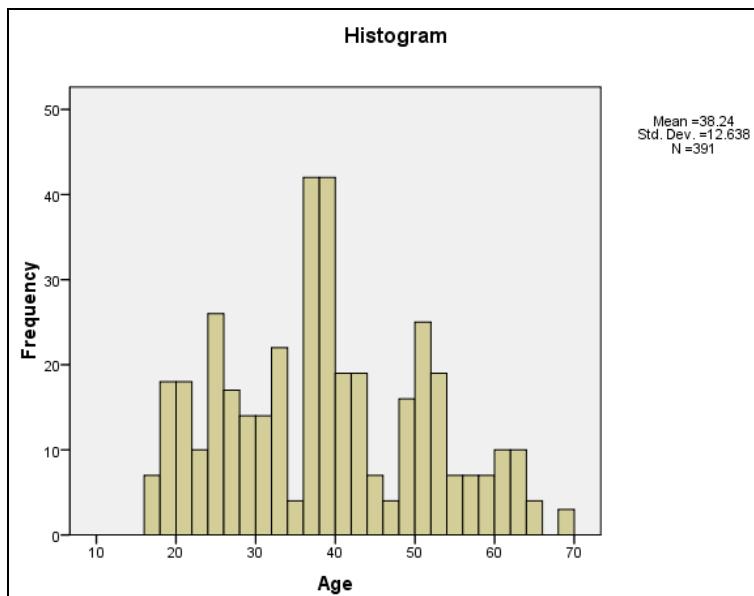
## 2. Materials and Methods

A descriptive cross sectional study was done for finding of categories and availability of Ayurvedic medicine. Study place was Dhaka north/south city corporation area especially

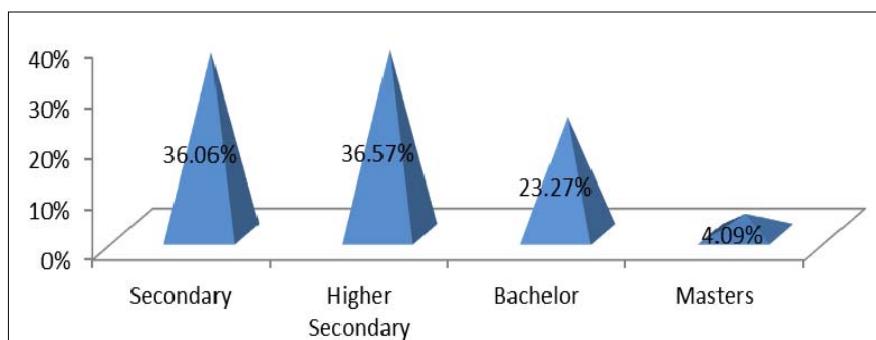
in Mirpur, Shamoli and Nilkhat. The study had been started from May 2016 to August 2016. Study populations were Pharmacist and sells man in pharmacy who were interested to answer the question and participate to fill the questionnaire. Sample size for a given population based on a .05 level of significance is 384 for over 100,000 populations. A total number 391 Pharmacist and counter cells man were interviewed for the study. Purposively sampling technique was applied to sample. Three areas of Dhaka City Corporation are considered as primary sampling. The areas were Mirpur, Shamoli and Nilkhat. In that areas randomly selected pharmacies and took interview in Mirpur area 152 respondents, Shamoli area 95 respondents and in Nilkhat area 144 respondents. A semi structure questionnaire was used for data collection tool. Data collection was done by face to face interview with the pharmacist and sells man in pharmacy. Two male interviewers and researcher herself were involved in data collection. The interviewers were trained up before the beginning of data collection. Data was analyzed by using the software SPSS 16.0 version. And data are presented in tables, graphs, charts and bars.

## 3. Results

This cross sectional study was conducted by face to face interview with pharmacist and sells man in the pharmacies of Dhaka city. A total number of 391 pharmacist and sells man were interviewed. The mean age was 38.24 years and standard deviation was 12.638 years.



**Fig 1:** Distribution of the respondents according to age



**Fig 2:** Distribution of the respondents by education

Regarding educational status, majority 36.6% of them are in higher secondary school certificate where only 4.1% respondents were master's degree holder. About 36.1% respondents had complete secondary school certificate and 23.3% respondents were found bachelor degree.

The majority 76.0% of respondents were Muslim in contest of that only 0.8% were found Buddhist. About 21.7% respondents were found Hindu and 1.5% was found Christian. Among the respondents, majority 68.0% were married in contest of that 32.0% were unmarried. Most of them (41.4%) are working in this profession about 5-10 years where only 17.6% have an experience of working in the pharmacies about 11-20 years. About 22.3% have an experience in this profession about 0-4 years and 18.07% respondents have an experience in pharmacies more than 20 years.

**Table 1:** Distribution of the respondents by religion, marital status and professional experience (n=391)

Variables	Frequency	Percentage
Religion		
Muslim	297	76.0
Hindu	85	21.7
Christian	6	1.5
Buddhist	3	.8
Marital status		
Married	266	68.0
Unmarried	125	32.0
Professional experience		
0-4 years	87	22.3
5-10 years	162	41.4
11-20 years	69	17.6
More than 20 years	73	18.7

The study investigated the monthly income of the respondents. Mean income of the respondents were Tk.  $17171.36 \pm 8923.826$ . More than seven-tenth of the respondents (74.7%) were earned Tk. 5000-20,000 in a month. While only 4.1% of the respondents' monthly income was Tk. 36000-50000 and 21.2% of them had monthly income was Tk. 21000-35000. Most of the respondents (32.5%) came in this profession only for earning money and 28.4% respondent's background was family profession 28.6 respondents came for curiosity. In contest of that only 10.5% respondents came as for the study.

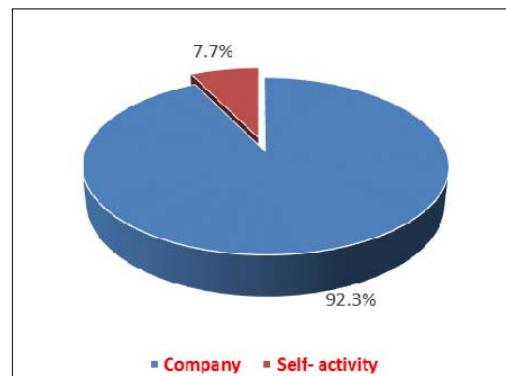
**Table 2:** Distribution of the respondents by monthly income and background of profession. (n=391)

Variables	Frequency	Percentage
Monthly income		
Tk. 5000-20000	292	74.7
Tk. 21000-35000	83	21.2
Tk. 36000-50000	16	4.1
Mean =Tk. 17171.36, SD= Tk. 8923.826		
Background of profession		
Family profession	111	28.4
Curiosity	112	28.6
As for Study	41	10.5
for earning money	127	32.5

### 3.1 Types of Ayurvedic Medicine

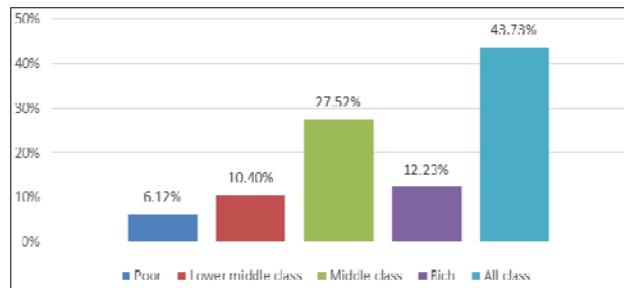
58.6% of the respondents had available of all kinds of Ayurvedic medicine and 89.6% of the respondents get medicine in just time. Most of pharmacies (92.3%) collect

from company while 7.7% of the respondents collect by their self- activity.



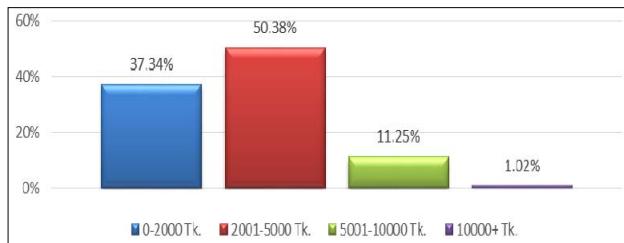
**Fig 3:** Distribution of the respondents according to Ayurvedic Medicine collection

The study investigated that 43.7% of all classes' people are buying Ayurvedic medicine while only 6.1% poor people are buying. The study found that 27.5% of middle classes people are buying while 10.4% lower middle classes and 12.2% rich people are the customers of Ayurvedic medicine.



**Fig 4:** Distribution of the respondents according to customers of Ayurvedic medicine

About 50.4% respondents were whose transactions are 2000-5000 Tk. per day. In contest of that only 1.02% respondents found whose transactions is more than 10000 Tk. per day. 37.3% respondents found whose transactions are below 2000 Tk. while 11.3% respondent's transactions were 5000-10000 Tk. per day.



**Fig 5:** Distribution of the respondents according to transactions of Ayurvedic medicine per day

Finding of the study, 58.7% drugs uses prescribed by all practitioners. In contest of that only 3.1% prescriptions are done by Homeopathic doctors. About 20.4% respondents' acquired prescriptions from Ayurvedic doctors and 17.8% respondents' received prescriptions from Allopathic doctors.

**Table 3:** Distribution of the respondents according to types of practitioners prescribe Ayurvedic medicine (n=391)

Variables	Frequency	Percentage
Practitioners		
Allopathic	63	17.8
Haemopathic	11	3.1
Ayurvedic	72	20.4
All types of practitioners	207	58.7

### 3.2 Availability of Ayurvedic Medicine

Among the respondents response, all pharmacies had available medicine for gastritis 95.4% and skin diseases 92.3%. in the contest 86.2% pharmacies had no medicine for eye diseases. 99.0% pharmacies had available medicine for constipation. In the contest 70.1% pharmacies had no medicine for ear diseases. About 93.4% pharmacies had available medicine for sexual diseases. In the contest 70.1% pharmacies had no medicine for ear diseases. About 86.4% pharmacies had available medicine for gout. In the contest 68.5% pharmacies had no medicine for spleen diseases. About 91.8% pharmacies had available medicine for nutrition. In the contest 63.2% pharmacies had no medicine for jaundice. About 81.8% pharmacies had available medicine for female diseases and respiratory tract infections. In the contest 52.7% pharmacies had no medicine for renal system. About 82.1% pharmacies had available medicine for respiratory tract infection (RTI) and 51.7% pharmacies had available medicine for central nervous system. About 71.1% pharmacies had available medicine for asthma 55.8% pharmacies had available medicine for diabetes. About 67.0% pharmacies had available medicine for liver diseases 58.1% pharmacies had available medicine for cardio vascular system.

**Table 4:** Distribution of the respondents according to availability of Ayurvedic medicine (n=391)

Diseases Condition	Frequency	Percentage
Medicine for asthma	278	71.1
Medicine for constipation	387	99.0
Medicine for gastritis	373	95.4
Medicine for nutrition	359	91.8
Medicine for RTI	321	82.1
Medicine for sexual diseases	365	93.4
Medicine for skin diseases	361	92.3

### 4. Discussion

Ayurveda has its historical roots in India, but has also been internationalized, partly via migration and partly through an increased interest in alternative medicine in the West, where studies point toward increased use [9]. Ayurveda has always been preserved by the people of India as a codified traditional health care system despite increasing adoption of western medical system during recent time. Ayurveda is now statutory, recognized medical system of health care like other medical systems existing in India [10]. Modern Ayurveda is a complex phenomenon that is both practiced as a whole system of medicine, and as various forms of self-care, including Ayurvedic massage, diet, yoga, etc. This is remarkable from an international perspective, since Ayurveda is one of the largest expressions of Complementary and Alternative Medicine (CAM) globally [11]. Ayurveda is based upon practical knowledge that has been systematized and developed for long periods of time in South Asia. Treatises that date from the centuries before the Common Era are often referred to as paradigmatic [12]. The association of globalized Ayurveda with the Euro-American self-care culture implies a trend in downplaying the role of medication and emphasizing

life style advice [13]. This includes actively taking different courses, therapies and diets, but also actively reading books and educating oneself [9]. The World Health Organization traditional medicines strategy of 2002 [11] also highlighted the need for reliable information as a key item to enable the safe and effective use of traditional medicines.

Modern biomedicine, while wildly successful in some areas, cannot fully address the growing epidemics of chronic illnesses [14]. Empirical and evidence based research on Ayurveda may offer useful knowledge as a complement to biomedicine, that can be used in integrative care, as Ayurveda pays attention to nutrition, daily routines, exercise, and mental harmony [9]. Ayurveda relies on humoral diagnostics and therapeutics including a combination of internal medicine, herbal remedies, and rejuvenation programs [15]. Practitioners of Ayurveda point out that primary, secondary, and tertiary prevention, patient self-empowerment, and self-efficacy play crucial roles in the Ayurvedic approach to healing [16]. It is also often claimed that Ayurveda employs a personalized, multi-factorial approach to health care and cure, as opposed to the generalized and single target strategy of biomedicine [17]. In Sri Lanka, complementary remedies were used by 76% [18] in India by 67% [19] and in Malaysia by 48%<sup>3</sup> of diabetes patients. In the western countries the prevalence of use varied between 30% and 57% [20]. In Sri Lanka, all the patients studied continued to use their conventional medications together with herbal use [18]. Also, Ayurvedic pharmacology, which is based on natural products, may offer an effective and well-tolerated means to managing certain diseases [21]. The World Health Organization has urged that the safe and effective use of traditional medicine by regulating, researching and integrating traditional medicine products, practitioners and practice into health systems, be promoted where appropriate [22].

The main purpose is the study to find out the status of Ayurvedic medicines in Dhaka city corporation area. A large number of Ayurvedic medicines have been being used in Bangladesh since the time immemorial. But, there is no mechanism for standardization and monitoring system developed so far to control the quality of these medicines within the country. There are many issues regarding the quality, safety and efficacy of these medicines which may be due to various problems prevalent in their production, prescription and marketing practices. Hence, substandard Ayurvedic medicines might have been brought to the market which is not only decreasing faith to the Ayurvedic medicines but also creating a risk of public health hazard and defaming Ayurvedic physicians and indigenous system as a whole. This study was designed to explore status of Ayurvedic medicines available in the Dhaka city corporation area markets and to suggest possible steps for controlling and assuring the quality of these medicines. Criteria for sample selection were simple and judgment.

The main objectives of the proposed study was to compile information on Ayurvedic and other Traditional medicines herbal formulations prescribed by the practitioners of these systems in Dhaka city corporation area for primary health care as well as for treatment/ prevention of some of the chronic diseases. The study found so many variations regarding the prescription and marketing of Ayurvedic medicines, they are still popular in the Bangladeshi markets as well as global markets. The efficacy and popularity of these medicines can be further increased if the quality and safety measures are assured through the development and adoption of standardization and quality control mechanisms.

Discussion of qualitative results our participants mainly recounted an interest in Ayurveda that arose due to an interest in holistic and individualized treatment, and understanding and treating the underlying cause of illness or imbalance.

## 5. Conclusions

A list of the Ayurvedic medicines available in Dhaka city corporation area market has been prepared and among them common medicines has been identified and their current status has been explored. The medicines are available in various forms. Most of the medicines are in the form of syrup, tablet, and capsule form. Most of them are for internal use. Bangladeshi and Indian Ayurvedic medicines are available in Dhaka city corporation area markets. Similarly, classical items are more in number but patent items are dominant in the market. Most of the Ayurvedic medicines are sold on demand of consumers and the prescription of registered physicians. There are so many issues regarding the production, prescription and marketing of Ayurvedic medicines, they are popular in Bangladesh as well as in global market. The efficacy and popularity of these medicines will further be increased if the quality and safety measures are assured. Therefore, it needs serious attempts to standardize and control the quality of Ayurvedic medicines by concerned authorities so that quality of the medicines as well as the effective health services can be assured. Further research is recommended to develop standard parameters for quality assurance of Ayurvedic medicines. Modern technologies should also be applied as and when required.

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