**International Journal of Advanced Research and Development**
**ISSN: 2455-4030**
**Impact Factor: RJIF 5.24**
**www.advancedjournal.com**
**Volume 3; Issue 2; March 2018; Page No. 869-877**

# Knowledge, attitude and practice of complementary and alternative medicine (CAM) among selected adult Bangladeshi population

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**Abstract**
Complementary and alternative medicine (CAM) is widely used both as a supplement to conventional or mainstream health care and as part of traditional health care systems and practices. The present work is aimed at studying the knowledge, attitude and practice of CAM by selected adult population living in Bangladesh. A cross-sectional descriptive survey was conducted from September 2016 to March 2017. A total of 300 selected adult population in Gazaria, Munshiganj district. Data were collected by semi structured interviewer administered and pre-tested questionnaire. Among the respondents 153(51%) were male and 147 (49%) were female with mean age of 38.36 years. Mean± SD 38.36±12.548. As regards educational level of the most respondent was 26.7% primary, 23.3%, illiterate, 20.0% SSC, 15% HSC, 10% degree & 5% was masters and above. The study population was 300 among them the highest 90.7% was married and lowest 9.3% was unmarried. The most of the respondents was service holder 30.7%, housewife 20%, farmer 10% and others professional 9.7%. Study result showed that the highest majority family income 44.7% was ranged from BDT20001-BDT30000 taka and lowest 4.7% was BDT50001-BDT60000 taka. Among the study population majority of the respondents, 95.0% did not follow WHO recommended diet chart and 90% did not perform physical exercise. Majority of the respondents lead physically stressed life 75.0%, were mentally stressed 20% and sedentary lifestyle 5%. Among the respondents 95% access TV, 65.3% read newspaper regularly. Among the respondent knowledge level on Complementary and alternative medicine (CAM) showed that about half of the study population 50% had average knowledge, 25% had good knowledge, 15% had poor knowledge, 5% had very poor knowledge 5% had also excellent knowledge on CAM. The study focuses on the awareness of the respondents on CAM. The study showed that highest number of respondents got information's 50.0% from family members, friends or relatives, 26.7% from mass media, 10% from educational academies and 8.3% from others sources. Attitude based statements were presented on a Five-point Likert Scale showed that, This study showed that 30% respondents attitude on scientific basis of CAM were positive, 88.3% were strongly agreed that conventional medicine uses with CAM are beneficial to patient and 80% opined that CAM are easy to access. The majority i.e. 98% strongly agreed to stop unethical practices and 65% suggest to mass media should show awareness raising program on CAM regularly. Overall, there is a positive attitude towards CAM. The study showed that highest number of respondents 97% practices CAM to cure & to prevent various diseases. Among the respondents 35.1% practices traditional healing method. Present study showed that 45.1% practices CAM for lower prices, 45.4% practices for physical debility, 62.1% uses for chronic cases and 39.6% uses CAM from quack like non-qualified practitioners. This study shows that there was statistically significant association between the knowledge level and educational qualification of the study population to CAM.

**Keywords:** complementary and alternative medicine (CAM), Unani medicine, Ayurvedic medicine

## Introduction
Complementary and Alternative Medicine (CAM) is widely used both as a supplement to conventional or mainstream Health care and as part of traditional health care systems and practices [1]. CAM is defined by the National Center for CAM, United States as "a group of diverse medical and health care systems, practices, and products that are not generally considered part of Conventional Medicine." "Complementary Medicine" refers to use of CAM together with conventional medicine. "Alternative Medicine" refers to use of CAM in place of conventional medicine. CAM therapies such as traditional Chinese medicine, chiropractic, homeopathy and Ayurveda are officially identified [2].

The National Centre for Complementary and Alternative Medicine (NCCAM) has defined CAM as a group of diverse medical and health care systems, practices, and products that are not presently considered to belong to conventional medicine. The National Center for CAM, classifies CAM in five major domains: alternative medical systems (e.g. Traditional Chinese Medicine (TCM), ayurveda, homeopathy), mind–body interventions (e.g. imagery, meditation, music therapy), biologically based therapies (e.g., herbals, nutritional supplements), manipulative and body-based methods (e.g. massage, chiropractic, osteopathy), and energy therapies (e.g. Reiki, healing touch, therapeutic touch) [3]. Complementary interventions are health care approaches used in conjunction

with conventional interventions, whereas Alternative Medicines are used in place of conventional medicines [4]. In the past decades, attention and interest in the use of CAM has reawakened globally, although the evolution of conventional medicines has been growing in popularity and getting increased attention and interest [5]. The global situation as reported in World Health Organization (W.H.O) Traditional Medicine Strategy 2002-2005 showed a CAM use prevalence rate of Belgium (31%), China (40%), Colombia (40%), U.S.A (42%), Australia (48%), France (49%), India (65%), Canada (70%) and Chile (71%) (W.H.O, 2002). A study carried out among Malaysian Pharmacy students revealed that more than half (57.8%) of the participants were currently using CAM while 77.6% had used it previously [6]. A study carried out among Indians who reside in Chatsworth, South Africa also revealed a prevalence rate of 38.5% [7]. In Nigeria as noted by the World Health Assembly, Traditional Medicine is partially recognized as forming a part of the National Health Delivery System. Complementary and alternative medicine (CAM) has increasingly become the focus of social scientific research. CAM refers to diverse therapeutic practices that are not presently considered a part of medical training or practice in countries, such as the United States, Canada, and Great Britain, where allopathic medicine forms the basis of the national health care system. Examples include herbs, acupuncture and reiki. The increased use of CAM is accompanied by growth in research and associated literature, with increased evidence-based approaches [8].

Data on the current patterns of use and effectiveness of various CAM treatments being used alone and in combination are inadequate. CAM is used by people for the management of chronic conditions that are costly to society, such as chronic pain and arthritis, and more life-threatening diseases such as heart diseases and cancer [9]. CAM services are often used alongside (and in addition to) conventional medical treatments. Thus, a vast informal and silent healthcare sector exists in all countries, and no comprehensive picture of this sector exists yet in any country. Most estimates of CAM use have not been population-based, particularly in African and Asian countries, where estimates of use range from very low to very high [10].

The question arising is; what are the prevalence, socio-cultural and personal factors (knowledge, beliefs, attitudes, motivations) underlying a person's decision to use CAM? Hence, the present work is aimed at studying the knowledge, attitude and practice of the selected adult people living in Gazaria, Munshiganj, Bangladesh, on CAM.

Knowledge, attitude and practice surveys are representative of a specific population to collect information on what is known, believed and done in relation to a particular topic, and are the most frequently used study tool in health-seeking behavior research. Knowledge is usually assessed in order to see how far community knowledge corresponds to biomedical concepts. Typical questions include knowledge about causes and symptoms of the illness under investigation. People reported knowledge that deviates from biomedical concepts is usually termed as 'beliefs'. Attitude is an evaluation of an attitude object, ranging from extremely negative to extremely positive. This has led to some discussion of whether individual can hold multiple attitudes toward the same object.

Practices in a survey usually enquire about the use of preventive measures or different health care options. Normally, hypothetical questions are asked, therefore it hardly permits statements about actual practices, rather, it yields information on people's behaviors or on what they know should be done.

## Materials & Method

A descriptive cross-sectional study was adopted for this research. The study was conducted in Gazaria, Munshiganjin, Bangladesh. The duration was eight month, from September 2016 to March 2017. Study people aged 18-60 years both female and male of the selected. Sample size was determined with the formula; $n=z^2pq/d^2$. Here, n = sample size, z= standard normal deviation, the value is 1.96 at 95% confidence interval, p= in a study estimated proportion of people's knowledge & practice was found 51%, p=0.51, q= 1-p= 1- 0.51= 0.49, d= degree of precision/allowable error. Here we set it at 5%= 0.05. So, our sample size, $n = [(1.96)^2 \times 0.51 \times 0.49] \div (0.05)^2 = 384$. However, due to practical constraint, 300 samples were included in this study purposively. Data were collected by semi structured interviewer administered questionnaire schedule. The questionnaire was developed according to the objectives of the study. Questionnaire was translated into local language (Bengali). The questionnaire was pre-tested among 10 peoples similar to the study population at Gazaria, Munshiganj. Data were collected by household survey during second week of September and last week of October 2016. Each day, on an average, 3 to 4 respondents were interviewed and about 30 minutes were required to interview each respondent. The entire questionnaires were reviewed for accuracy, consistency and completeness. Then data recorded systematically. Data was entered into SPSS (statistical packages for social sciences) version 16.

## Results

**Table 1:** Distribution of study participants by demographics status (n=300)

| Variable | Frequency | Percentage |
|---|---|---|
| **Age** | | |
| 18-27 | 73 | 24.3 |
| 28-37 | 78 | 26.0 |
| 38-47 | 65 | 21.7 |
| 48-57 | 55 | 18.3 |
| 58-67 | 29 | 9.7 |
| Mean± SD 38.36±12.548 | | |

| | | |
|---|---|---|
| Sex | | |
| Male | 153 | 51.0 |
| Female | 147 | 49.0 |
| Marital status | | |
| Married | 272 | 90.7 |
| Unmarried | 28 | 9.3 |
| Widow | 0 | 0 |
| Religion | | |
| Islam | 270 | 90.0 |
| Hindu | 30 | 10.0 |
| Christian | 0 | 0 |
| Housing condition | | |
| Building | 89 | 29.7 |
| Semi building | 119 | 39.7 |
| Tin shed | 92 | 30.6 |
| Types of family | | |
| Nuclear family | 150 | 50.0 |
| Extended family | 150 | 50.0 |

In the above table, Out of total 300 participants the majority of the respondent's ages were age group 28-37(26.0%), followed by 18-27 years old 24.3%, 38-47 years old 21.7%, 48-57 years old 18.3% and 58-67 years old 9.7%. Within total 300 respondents (51%, n=153) were male and 49%, n=147) were female. The maximum, i.e. (n=119, 39.7%) respondent were lived in semi building residence followed by (n=92, 30.7%) respondent were lived in tin shed residence and rest of (n=89, 29.7%) respondent were lived in building. The majority of the respondents (n=270, 90.0 %) were Muslim followed by Hindu (n=30, 10.0%). The majority of the respondents (n=272, 90.7%) were married and rest of the respondents (n-28, 9.3%) were unmarried. Among the respondents (n=150, 50%) were live in nuclear family and (n=150, 50%) were lived in extended family.

**Table 2:** Distribution of study participants by socio economic status (n=300)

| Variable | Frequency | Percentage |
|---|---|---|
| Education | | |
| Degree | 30 | 10.0 |
| HSC | 45 | 15.0 |
| Illiterate | 70 | 23.3 |
| Masters | 15 | 5.0 |
| Primary | 80 | 26.7 |
| SSC | 60 | 20.0 |
| Monthly family income | | |
| 10000-20000 | 31 | 10.3 |
| 20001-30000 | 134 | 44.7 |
| 30001-40000 | 69 | 23.0 |
| 40001-50000 | 52 | 17.3 |
| 50001-60000 | 14 | 4.7 |
| Mean± SD 31000±9.939 | | |
| Occupation | | |
| Businessman | 29 | 9.7 |
| Farmer | 60 | 20.0 |
| Housewife | 60 | 20.0 |
| Other | 30 | 10.0 |
| Service holder | 92 | 30.7 |
| Student | 29 | 9.7 |

In the above table illustrates that the majority of the respondents (n=80, 26.7%) had completed Primary level followed by (n=70, 23.3%) were illiterate, (n=60, 20%) were completed S.S.C, (n=45, 15%) were HSC, another (n=30, 10%) were completed graduation and only (n=15,5%) had completed masters & above level of educations. The above tabel4.2 indicates the distribution of the respondents by their income. The respondents in this study were asked their monthly family income. It was observed that the income of the participants was different according to their occupational status. This table illustrates that majority of the respondents (n=134, 44.7%) monthly income were BDT20001-30000 taka, followed by (n=69, 23%) of the respondent's income level were BDT30001-40000 taka. Also (n=52, 17.3%) of the respondent's income level were BDT40001-50000 taka, (=31, 10.3%) respondent's income level were BDT10001-20000 taka and rest of (n=14, 4.7%) respondent's monthly family income were BDT50001-60000 taka. The table indicates that (n=92, 30.7%) respondent were service holder followed by (n=60, 20%) respondent were housewives and another (n=60, 20%) respondent were farmer. Others occupations were( n=30, 10%), another (n=29, 9.7% ) were student & and rest of the (n=29, 9.7%) respondent were business profession.

**Table 3:** Distribution of study participants by their lifestyle (n=300)

| Lifestyle | | |
|---|---|---|
| Mental effort | 60 | 20.0 |
| Physical effort | 225 | 75.0 |
| Sedentary | 15 | 5.0 |
| Physical exercise | | |
| No | 270 | 90.0 |
| Yes | 30 | 10.0 |
| WHO recommended diet chart follow | | |
| No | 285 | 95.0 |
| Yes | 15 | 5.0 |
| TV access | | |
| Yes | 285 | 95.0 |
| No | 15 | 5.0 |
| Newspaper access | | |
| Yes | 196 | 65.3 |
| No | 104 | 34.7 |

The majority of the respondents (n=225,75%) were lead with

physical stress followed by (n=60, 20 %) respondents were with physical stress and rest of (n=15,5%) respondents were sedentary lifestyle. The majority of the respondents (n=270, 90%) did not do physical exercise. The majority of the respondents (n=285, 95%) did not maintain WHO recommended diet chart. The study revealed that majority of the respondents (n=285, 95%) were access TV regularly whereas (n=196, 65.3%) were access newspaper regularly.

**Table 4:** Distribution of respondent according to knowledge on CAM (n=300)

| Category | Frequency (n) | Percent (%) |
|---|---|---|
| Very Poor | 15 | 5.0 |
| Poor | 45 | 15.0 |
| Average | 150 | 50.0 |
| Good | 75 | 25.0 |
| Excellent | 15 | 5.0 |
| Total | 300 | 100 |

Table 3 about assessment the level of knowledge to the respondents about CAM, this table shows majority of the respondents had average knowledge (n=150, 50.5%) followed by one fourth of the respondents (n=75, 25.5%) had good knowledge and very negligible number of respondent had excellent knowledge (n=15, 5%) on Complementary and Alternative Medicine (CAM). Among the respondents (n=45, 15%) had poor knowledge and rest of the respondents (n=15, 5%) had very poor knowledge on CAM.

**Table 5:** Distribution of respondent according to awareness on CAM (n=300)

| Category | Frequency (n) | Percent (%) |
|---|---|---|
| Source of CAM | | |
| Mass Media | 80 | 26.7 |
| Family member, friends or relatives | 150 | 50.0 |
| Educational Academy | 30 | 10.0 |
| Internet or promotional websites | 15 | 5.0 |
| Others | 25 | 8.3 |
| Which medicine is CAM | | |
| Unani Medicine | 40 | 13.4 |
| Ayurvedic Medicine | 35 | 11.6 |
| Homeopathic Medicine | 42 | 14.0 |
| Traditional healing method | 69 | 23.0 |
| Acupuncture | 4 | 1.3 |
| Medicinal plants (herbs) | 53 | 17.7 |
| Aroma therapy | 15 | 5.0 |
| TCM | 5 | 1.7 |
| Honey & black seed products | 11 | 3.7 |
| Others | 26 | 8.6 |
| Which types of CAM) products are available(n=300) | | |
| Medicinal plants (Herbs) | 60 | 20.0 |
| Poly Herbal Drug | 130 | 43.4 |
| Oil massages | 10 | 3.3 |
| Holy water | 52 | 17.3 |
| Others therapy | 48 | 16.0 |
| Which degree recognize CAM(n=300) | | |
| BAMS | 30 | 10.0 |
| BUMS | 45 | 15.0 |
| BHMS | 60 | 20.0 |
| DAMS | 20 | 6.6 |
| DUMS | 50 | 16.7 |
| DHMS | 67 | 22.3 |
| Do not know | 28 | 9.4 |
| Which types of academic systems for (CAM) are available(n=300) | | |
| Bachelor degree | 130 | 43.4 |
| Diploma degree | 125 | 41.6 |
| Do not know | 45 | 15.0 |
| Total | 300 | 100 |

Table 5 about assessment the level of awareness to the respondents about CAM. This table shows majority of the respondents were heard about CAM (n=150, 50.0%) from family member, friends or relatives. Among the respondents

(n=69, 23.0%) were aware about Traditional healing method followed by medicinal plants (herbs) 17.7%, homeopathic medicine 14%, unani medicine 13% and ayurvedic medicine 11%. Respondents also had aware about Bachelor degree 43.4% and about Diploma degree 41.6%. A good number of respondents also aware about various recognize degree of CAM like DHMS 22.3%, BHMS 20%, DUMS 16.7%, BUMS 15% and BAMS 10%.

**Table 6:** Distribution of respondents based on their attitude towards CAM (n=300)

| Attitudinal item | Strongly disagree; N (%) | Disagree; N (%) | Neutral; N (%) | Agree; N (%) | Strongly agree; N (%) |
|---|---|---|---|---|---|
| All types of CAM are scientific | 45 (15.0) | 40 (13.3) | 125 (41.7) | 75 (25) | 15 (5.0) |
| CAM is easy to access. | 1 (0.3) | 9 (3.0) | 52 (17.3) | 78(26.0) | 160(53.3) |
| CAM has no side effects. | 20 (6.7) | 38 (12.6) | 82 (27.3) | 125 (41.7) | 35 (11.7) |
| Conventional medicine uses with CAM are beneficial to patient. | 3 (1.0) | 7 (2.3) | 25 (8.3) | 90 (30.0) | 175 (58.3) |
| CAM should not market by hawker. | 1 (0.3) | 4 (1.3) | 5 (1.7) | 65 (21.7) | 225 (75.0) |
| All types of indecent poster on CAM should stop to publish. | 0 (.0) | 0 (.0) | 10 (3.3) | 40 (13.3) | 250 (83.3) |
| All unethical practice on CAM should be stopped. | 0 (.0) | 2 (0.7) | 3 (1.0) | 20 (6.7) | 275 (91.6) |
| Mass media should show awareness build up program on CAM. | 5 (1.7) | 20 (6.7) | 140 (46.6) | 105 (35.0) | 30(10.0) |
| Patients should not hesitate to discuss about CAM with your physician. | 3 (1.0) | 27 (9) | 120 (40) | 90 (30) | 60 (20) |

This above table shows that, majority of the respondents 275(91.6%) attitude towards CAM were to stop all unethical practice on CAM as early as possible followed by 250 (83.3%) respondents attitude were to stop publish all types of indecent poster on CAM. Among the respondents 175(58.3%) were strongly agreed to practice CAM with conventional medicine. Most of the respondents 160 (53.3%) were strongly agreed that CAM are easy to access.

**Table 7:** Distribution of respondent according to CAM practice (n=300)

| Category | Frequency (n) | Percent (%) |
|---|---|---|
| Practices CAM | | |
| Do Practice CAM | 291 | 97.0 |
| Do not Practice CAM | 9 | 3.0 |

The table shows that Majority of the respondents 291 (97%) practices CAM and only 9 (3%) do not practice CAM.

**Table 8:** Distribution of respondent according to types of CAM practice (n=291)

| Category | Frequency (n) | Percent (%) |
|---|---|---|
| Types of CAM practice | | |
| Unani Medicine | 46 | 15.8 |
| Ayurvedic Medicine | 33 | 11.3 |
| Homeopathic Medicine | 54 | 18.6 |
| Traditional healing method | 102 | 35.1 |
| Others method | 56 | 19.2 |

This table shows majority of the respondents were practices Traditional healing method 35.1% followed by others method 19.2%, homeopathic medicine 18.6%, Unani medicine 15.8% and Ayurvedic medicine 11.3%.

**Table 9:** Distribution of respondent according to CAM practices for which disease (n=291)

| Category | Frequency (n) | Percent (%) |
|---|---|---|
| Practices CAM for which debility | | |
| Physical debility | 132 | 45.4 |
| Mental debility | 49 | 16.8 |
| Sexual debility | 56 | 19.2 |
| Other debility | 54 | 18.6 |

The table shows that majority of the respondents 45.4% practice CAM for physical debility, for sexual debility 19.2% uses CAM, for others debility 18.6% uses CAM and rest of the respondents 16.8% practices CAM for mental debility.

**Table 10:** Distribution of respondent according to practices CAM for which causes (n=291)

| Category | Frequency (n) | Percent (%) |
|---|---|---|
| Causes of practicing CAM | | |
| For safety | 20 | 6.9 |
| For effectiveness | 26 | 8.9 |
| For faith | 92 | 31.7 |
| For low price | 131 | 45.0 |
| Other causes | 22 | 7.5 |

The above table shows that majority of the respondents 45.0% practice CAM due to lower price than conventional medicine, 31.7% respondents for their faith, 8.9% practices CAM for effectiveness, 7.5% practices CAM for others causes.

**Table 11:** Distribution of respondent according to CAM practices frequency (n=291)

| Category | Frequency (n) | Percent (%) |
|---|---|---|
| Frequency of CAM practice | | |
| Regularly | 192 | 66.0 |
| Usually | 90 | 31.0 |
| Sometimes | 9 | 3.0 |

The above table shows that majority of the respondents 66.0% practices CAM regular basis followed by 31% practices CAM usually and rest of 3% practices CAM according to their needs.

**Table 12:** Distribution of respondent according to practices form of CAM (n=291)

| Category | Frequency (n) | Percent (%) |
|---|---|---|
| **Form of CAM practice** | | |
| Medicinal plants (Herbs) | 93 | 31.9 |
| Poly Herbal Drug | 80 | 27.6 |
| Oil massages | 36 | 12.3 |
| Holy water | 40 | 13.8 |
| Others therapy | 42 | 14.4 |

The above table shows that majority of the respondents 31.9% practices medicinal plants (Herbs) followed by 27.6% respondents practices poly herbal drug, 14.4% respondents practices others therapy,13.8% respondents practices holy water and 12.3% respondents practices oil massages therapy.

**Table 13:** Distribution of respondent according to duration of practice CAM (n=291)

| Category | Frequency (n) | Percent (%) |
|---|---|---|
| Duration of practices CAM | | |
| Acute Cases | 70 | 24.1 |
| Chronic cases | 181 | 62.1 |
| Other | 40 | 13.8 |

The above table shows that majority of the respondents 62.1% respondents practices CAM for chronic cases followed by 24.1% respondents practices CAM for acute and 13.8% respondents practices CAM for other cases.

**Table 14:** Distribution of respondent according to Sources of CAM use (n=291)

| Category | Frequency (n) | Percent (%) |
|---|---|---|
| **Sources of CAM use** | | |
| Government Hospital | 103 | 35.3 |
| Private practitioner | 73 | 25.1 |
| Quack like other practitioner | 115 | 39.6 |

The above table shows that majority of the respondents 39.6% respondent's practices CAM from quack like other practitioner followed by 35.3% respondent's practices CAM from government hospital and 25.1% respondents practices CAM from privet practitioner.

**Table 15:** Association between knowledge level and educational qualification of the respondent (n=300)

| Qualification | Knowledge level | | | | | Total | P Value |
|---|---|---|---|---|---|---|---|
| | Very Poor | Poor | Average | Good | Excellent | | |
| Illiterate | 5 | 15 | 47 | 3 | 0 | 70 | 0.001 |
| | 7.1% | 21.4% | 67.2% | 4.3% | .0% | 100.0% | |
| Primary | 6 | 17 | 38 | 19 | 0 | 80 | |
| | 7.5% | 21.2% | 47.5% | 23.8% | .0% | 100.0% | |
| SSC | 3 | 7 | 30 | 20 | 0 | 60 | |
| | 5.0% | 11.7% | 50.0% | 33.3% | .0% | 100.0% | |
| HSC | 1 | 6 | 24 | 14 | 0 | 45 | |
| | 2.2% | 13.3% | 53.3% | 31.2% | .0% | 100.0% | |
| Degree | 0 | 0 | 8 | 13 | 9 | 30 | |
| | .0% | .0% | 26.7% | 43.3% | 30.0% | 100.0% | |
| Masters and above | 0 | 0 | 3 | 6 | 6 | 15 | |
| | .0% | .0% | 20.0% | 40.0% | 40.0% | 100.0% | |

*Significant (The level of significance is 0.05)

The above table shows that among the respondents with average knowledge 67.2%,qualifications were illiterate followed by 43.3% were degree level of education and 40.0% respondents excellent knowledge on CAM educational qualifications were Masters and above. There was statistically significant association between the knowledge level and educational qualification of the respondents on CAM.

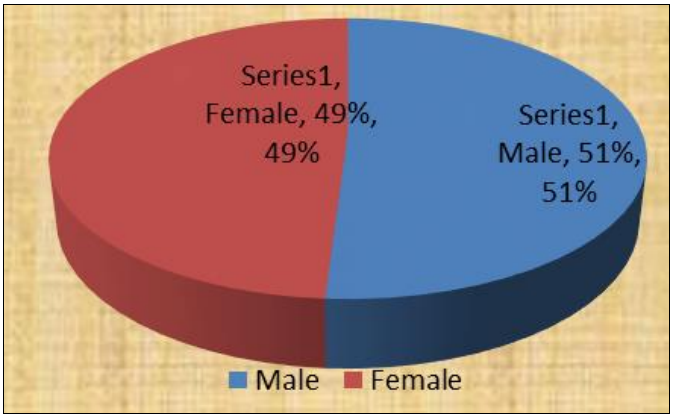


**Fig 1:** Distribution of respondent according to Sex (n=300)

This graph shows that within 300 respondents, the majority i.e. 51% were male and 49% were female.

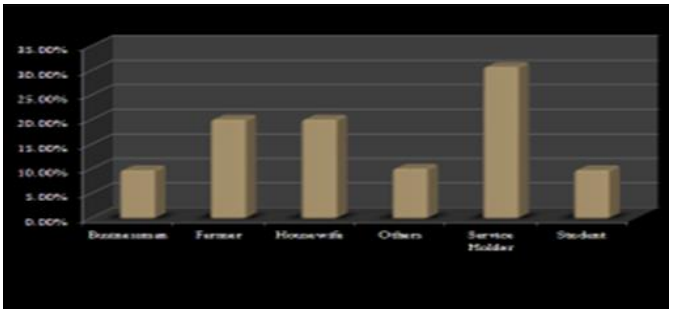

**Fig 2:** Distribution of respondent according to occupation (n=300)

The above graph shows that 30.7% respondent were service holder, 20.0% were farmer, 20.0% were housewife, 10% were student, 9.7% were business and 9.7% were others occupation.

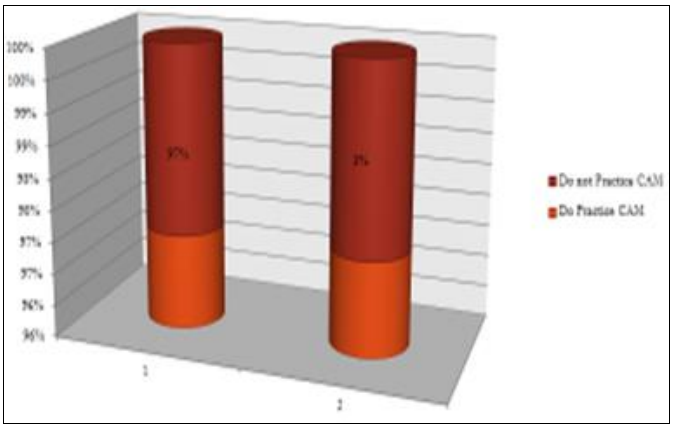

**Fig 3:** Distribution of respondent according to practice of CAM (n=300)

The above graph shows that Majority of the respondents 97% practices CAM and only 3% do not practice CAM.

## Discussion

The study was designed to assess the knowledge, attitude and practices of selected adult population regarding Complementary and Alternative Medicine (CAM). This study was descriptive cross sectional in nature, conducted in selected area of Gazaria, Munshiganj district of Bangladesh. The target respondents were selected adult population who were living in selected area of Gazaria, Munshiganj. Therefore, the total numbers of respondents were considered as those who were living in selected areas. Due to practical constraint and according to selection criteria, 300-selected adult population were interviewed which was less than calculated sample size (384).

This chapter specially deals with the discussion over the result findings in chapter four and their relation with various literatures.

Among the respondents, (n=153, 51%) were male and (n=147, 49%) were female with mean age of 38.36 years. Educational level of the majority respondent (n=75, 25%) were primary level, followed by (n=60, 20%) were SSC. Majority of respondents (n=272, 90.7%) were married followed by (n=28, 9.3%) were unmarried. Majority of the respondents (n=92, 30.7%) occupation were service holder followed by (n=60, 20%) were housewives and same number of respondents were farmer. Majority of the respondents (n=134, 44.7%) monthly family income were BDT20001-BDT30000 taka followed by (n=69, 23%) were30001 to 40000, 17.3% (52) had Tk.40001 to 50000, 10.3% (31) had Tk. 10000 to 20000 and only 4.7% (14) had Tk. 50001 to 60000 as monthly family income. In respect of family, 150 (50%) were extended family and 150(50%) were in nuclear family. Majority of the respondents i.e. 285(95%) did not follow WHO recommended diet chart and 270(90%) did not perform physical exercise regularly. In respect of lifestyle related variable, the majority i.e. 225(75%) were physically stressed, 60 (20%) were mentally stressed and rest of 15 (5%) lifestyle were sedentary. The study estimated that the majority i.e. 285(95%) access TV and 196 (65.3%) read newspaper regularly.

In a previous study in Saudi Arabia [11] CAM use increased with increasing age. This has also been reported by Miller [12]. Adams *et al*. [13] and Al-Fariset *et al*. [11] While the results of some studies in USA found that CAM use increased in middle aged groups [14-16].

A cross sectional study was conducted among the undergraduate students of Delta State University, Abraka Campus from 24th of March 2013 through April 2013. Where Most of the participants agreed that CAM is cheaper (159, 27.09%) than conventional medicines, followed by the reason that CAM is more effective (150, 25.55%), more accessible (146, 24.87%) and possess less side effects (132, 22.49%) than conventional medicines.

In This present study, most of the participants agreed that CAM practices due to the causes of for lower price 45%, for faith 31.7%, for effectiveness 8.9% and for safety 6.7% than conventional medicine that was higher than the previous study was done.

This data was lower than the previous study was conducted. A cross-sectional pre- and post-design study was conducted among 65 medical undergraduates' students of Majmaah University in the KSA 2012-2013. Though costs of CAM therapies not explored in that study, there is converge evidence that they are highly cost-effective and cost saving, and therefore, the treatment costs are relatively low.

In This present study 45% of the respondents agreed that CAM was cheap, highly cost effective & cost saving. This

was also co-relating with the previous study done.

There was statistically significant association between the knowledge level and educational qualification of the study population to CAM. That were in agreement with study in Australia, where CAM use was associated with increased levels of education [16].

This association may be related to include different CAM practices used in Australia and other western countries (acupuncture, homeopathy, chiropractic, etc) from those used in the Bangladesh medicinal herbs, prayer, honey and bee products, holy water & oil massages etc. This was in agreement with Al-Faris *et al*. who found that Quran, honey and black seeds were the most frequent CAM practices [14] this might be related to habits and beliefs among the Saudi population and religious background. However, the use of medical herbs was high compared with the results of Kofman (2002) in USA, where medical herbs were used by 12-14% of the population in 1997 and 2.5% in 1990 [17]. Kofman related this to increased public and world interest in CAM. Al-Awamy (2001) found that cauterization was the most common used CAM practice, followed by Hijama and herbs [18].

In USA; naturopathy, relaxation, meditation, chiropractic and Yoga were the most common CAM practices in addition to religious practices [19]. About 95% of participants agreed that there is need for CAM practices, regulations for CAM, health education about CAM and special centers or clinics providing CAM services.

In this study (table 12) shows that among the respondents 31% practiced medicinal plants (Herbs), 27.6% practiced compound poly herbal drugs, 14.4% practiced other therapy, like; worship, stone, astrology, ring, hydro therapy, cupping therapy, black seed oil, honey products, beautifications products etc. Another 13.8% practiced holy water and rest of 12.3%practiced Oil massages therapy. This was mostly agreement with the previous study done.

In the present study the majority i.e. 66% practice CAM regularly, 31% practiced usually and 3% practice sometimes.

## Conclusions

In conclusion, Knowledge level about Complementary and Alternative Medicine (CAM) is average 150 (50.0%). About 75 (25.0%) had good knowledge and very negligible number of respondents 15 (5.0%) had excellent knowledge on CAM.

Among the respondents 41% respondent were neutral on scientific basis of CAM, 53.3% were strongly agree that CAM are easy to access. Regarding no side effects of CAM 41.7% attitude were agree. 58.3% attitude was strongly agreed that conventional medicine uses with CAM are beneficial to patient. 91% respondent attitude was strongly agreed to stop unethical practices to CAM, 85% respondents attitude was strongly agreed to stop hanging indecent poster to CAM and 75% attitude was strongly agreed to stop marketing CAM by hawkers.

Majority of the respondents 291 (97%) practices CAM and only 9 (3%) do not practice CAM. Majority of the respondents were practices Traditional healing method 35.1% followed by others method 19.2%, homeopathic medicine 18.6%, Unani medicine 15.8% and Ayurvedic medicine 11.3%. Among the respondents 45.4% practice CAM for physical debility, for sexual debility 19.2% uses CAM, for others debility 18.6% uses CAM and rest of the respondents 16.8% practices CAM for mental debility. 45.0% practice CAM due to lower price than conventional medicine, 31.7% respondents for their faith, 8.9% practices CAM for effectiveness, 7.5% practices CAM for others causes. 66.0% practices CAM regular basis followed by 31% practices CAM usually and rest of 3% practices CAM according to their needs.

There was no statistically significant association ($p<0.05$) between the knowledge level and age and qualification of the respondents.

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