A Survey to Determine the Prevalence of Use and Perceived Effectiveness of Complementary Medicines for Colds and Influenza

By

Tasmin Fourie

ABSTRACT

Common colds and influenza are usually self-limiting upper respiratory tract illnesses with mild to moderately severe symptoms. Colds and influenza substantially impact university students, negatively affecting their health, academic and work performance. The common cold and influenza are often treated using both conventional and/or complementary medication. Rest and hydrations are the standard treatment protocol. Undesirable side effects are often associated with conventional medication. The aim of this study is to determine the prevalence of use and perceived effectiveness of complementary medicine in the treatment of colds and influenza by Health Sciences’ students at the University of Johannesburg. This will be evaluated by means of a survey. A quantitative-descriptive, survey design study was used and four hundred (400) questionnaires were distributed by the researcher on the Doornfontein Campus. Majority of students used conventional medicine to treat their cold/s and influenza. It was reported that Complementary medicine was used because it is cost effective, has no side effects and is easily and readily available over-the-counter in most health shops and pharmacies. Students agreed (57.7%) that CM is effective for colds and influenza however they were unsure (46.7%) whether Complementary medicine worked well in conjunction with conventional medicine and if complementary medicine had side effects. However, it was noted that there was a general lack of knowledge and understanding of complementary medicine and it was frequently used on the basis of self-medication and self-diagnosis.

Introduction

Upper respiratory tract illnesses such as the common cold and influenza are a major cause of morbidity, substantially impacting university students, negatively affecting their health, academic and work performance (Perry, 2010). Diagnosis is made on clinical presentation as
both the common cold and influenza present with very similar symptoms, including nasal congestion or rhinorrhea and a scratchy throat. The main differentiating characteristics are fever, malaise and body aches which are present in influenza and rarely occur in a cold (Beers et al., 2011).

The common cold and influenza are usually self-limiting but are often managed using both conventional and/or complementary medicine (CM). The average person has 1-3 common cold bouts annually, whereas influenza affects 5-10% of the adult population globally per year (Drugs, 2016; WHO, 2014). Standard treatment protocol includes rest and hydration. Antihistamines, decongestants and steroid nasal sprays are used for symptomatic relief; however, side effects are often associated with these drugs (Beers et al., 2011). Antiviral drugs are only used in high risk cases and antibiotics should only be used for secondary bacterial infections and/or complications. Many doctors often prescribe antibiotics for the common cold to prevent secondary bacterial infection; however, there is an increasing concern over the resistance to commonly used antibiotics (Arroll and Kenealy 2002). Thus, antibiotics are not appropriate for first line treatment of colds and influenza (CDC, 2015b). CM can be used as an effective and individualised form of treatment in these conditions. CM has become an increasingly popular choice of treatment by students for the general maintenance of health and for the treatment of minor illnesses, like colds and influenza. CM is a popular treatment choice for students as it is perceived to be safe; however, certain CM products may be habit forming, have adverse effects and drug-herb interactions, which could affect general wellbeing (Management Science for Health, 2012).

There is no data currently available assessing the prevalence of use and perceived effectiveness of CM for colds and influenza by Health Sciences’ students at the University of Johannesburg.

Although conventional medicine is the primary system of health care in South Africa, much of the general public use and/or want to use CM modalities (Management Science for Health, 2012). It is thus important that healthcare consumers be well informed and educated about all available treatment options, in order for themselves and their family members to receive the most appropriate and effective treatment. By assessing the prevalence of use and perceived effectiveness of CM among Health Sciences’ students, areas may be identified where further
education is required as these individuals will be educating and informing the healthcare consumers on treatment options once graduated.

**Materials and methods**

A quantitative-descriptive, survey design was used. Four hundred (400) questionnaires were distributed by the researcher on the Doornfontein Campus at the University of Johannesburg with the relevant permission. Permission was attained from the Division for Institutional Planning, Evaluation and Monitoring on approval from the Research Ethics Committee (REC) as well as the Higher Degrees Committee (HDC), as participants are registered Health Sciences’ students at the UJ.

The target group for this survey was registered Health Sciences’ students at the UJ of both genders, assessing their prevalence of use and perceived effectiveness for colds and influenza. Faculty of Health Sciences’ students were selected due to the similarity of the courses, which include both practical and theoretical components, and are all in Health Sciences’ education. The Faculty of Health Sciences at UJ consists of the following departments: Biomedical Technology, Chiropractic, Emergency Medical Care, Environmental Health, Homoeopathy, Medical Imaging and Radiation Sciences, Nursing, Optometry, Podiatry, Somatology, and Sport and Movement Studies (UJ, 2017a).

Of the 400 questionnaires distributed, 350 participants completed the questionnaire. The sample size was calculated using the sample size table used by Krejcie and Morgan (The Research Advisors, 2006). Students were recruited by contacting each year’s class representatives of the respective Health Sciences’ departments. Due to the poor response, the Head of Department Human Anatomy and Physiology was contacted to assist with recruitment, as all Health Sciences’ students are required to complete modules within this domain. Each Anatomy and Physiology lecturer was contacted individually to make provisions to see the students during their allocated lecture time. The objectives and methods of the survey were explained by the researcher to the students during these lectures on the UJ Doornfontein campus.

All students that agreed to participate in the study were given the information leaflet and consent form by the researcher, explaining the purpose and procedure of the study before completing the questionnaire. Participants were given the questionnaire and a place where they
were able to complete it privately, had they wished so. Once the questionnaire was completed, it was placed in an envelope and sealed and deposited into a locked box. The locked box was kept in the file room at the UJ Health Training Centre which has restricted access. Only the researcher, supervisor and statistician had access to this information. All responses were treated as strictly confidential and participation was completely voluntary. No identifying information such as names or ID/student numbers was requested. Any questions asked by the participants were answered by the researcher to the best of her ability.

The completed questionnaires’ data was captured by the researcher on SPSS (Statistical Package for Social Sciences). The raw data file was submitted to Statkon for assistance in analysing the data. The analysis plan included frequencies and custom tables (Kuhudzai, 2016).

All participants completed the survey on a voluntary basis. Participants were free to withdraw from the study at any time without any consequences. Any questions that the participants had regarding the study were answered to the best of the researcher’s ability. No identifying information such as names or ID/student numbers was requested, therefore anonymity was ensured. A private setting was provided for participants to complete the questionnaire had s/he preferred that. The locked box was kept in the file room at the UJ Health Training Centre which has restricted access. Only the researcher, supervisor and statistician had access to the content in the locked box. Feedback on the results was provided to the participants after completion of the study, on request. There were no expected risks involved in the participation of the study.

RESULTS

In total 400 questionnaires were distributed by the researcher in lecture halls on the Doornfontein Campus of UJ, in August 2016. The last surveys were collected at the beginning of September 2016, of which 393 were completed in total. Upon further analysis, it was found that three of the questionnaires were insufficiently completed, leaving a total of 390 questionnaires from which to obtain relevant data.

The race distributions for the sample of 390 participants was as follows: 57.7% (n = 225) were Black, 3.3% (n = 13) were Coloured, 9.7% (n = 38) were Indian/Asian and 29.2% (n = 114) were White. Majority (75.9%) (n = 296) of the participants were female and 24.1% (n = 94) were male. The age distribution of the respondents was as follows: 86.7% (n = 338) were
aged 18-24 years, 10.3% (n = 40) were aged 25-34 years, 2.8% (n = 11) were aged 35-44 years and 0.3% (n = 1) were aged 45-54 years of age. Around 47.9% (n = 187) of respondents stated that their monthly household income was between R0-R4,999, 14.9% (n = 58) earned R5,000-R9,999, 7.7% (n = 30) earned R10,000-R14,999, 4.9% (n = 19) earned R15,000-19,999 and 24.6% (n = 96) earned more than R20,000 per month, as indicated in Table 4.4.

As seen in the Table below the respondents’ department distribution was as follows: 6.9% (n = 27) Biomedical Technology, 11.5% (n = 45) Environmental Health, 14.6% (n = 57) Chiropractic, 3.3% (n = 13) Emergency Medical Care, 10.8% (n = 42) Nursing, 23.6% (n = 92) Homoeopathy, 4.6% (n = 18) Optometry, 5.1% (n = 20) Sports and Movement Studies, 8.7% (n = 34) Podiatry and 10.8% (n = 42) Somatology. None of the respondents were from Medical Imaging and Radiation Sciences.

Participants were asked to rate their general health; 1% (n = 4) of respondents rated their general health as poor, 13.3% (n = 52) as fair, 36.7% (n = 143) as good, 33.1% (n = 129) as very good and 15.9% (n = 62).

Participants were asked to state which cold and influenza symptoms they had experienced when they had a bout of a common cold or influenza. This question could have multiple answers.

All 390 participants answered this question obtaining 2017 responses of which 79.7% (n = 311) of participants stated that they had experienced sneezing, 79.5% (n = 310) experienced a runny nose, 63.1% (n = 246) experienced nasal congestion, 74.1% (n = 289) experienced a sore throat, 24.1% (n = 94) experienced a fever below 38 degrees Celsius, 22.6% (n = 88) experienced a fever above 38 degrees Celsius, 67.2% (n = 262) experienced fatigue, 52.1% (n = 203) experienced body aches, and 54.9% (n = 214) experienced a cough.

Participants were asked to provide the number of episodes of colds/influenza they experienced per a year on average (an episode is defined as an incident of ill health that interferes with their daily activities). Forty-seven-point four percent (n = 185) had one episode of a cold/influenza a year on average, 46.9% (n = 183) a few episodes a year on average, 3.6% (n = 14) had an episode every month on average, 1.8% (n = 7) had an episode every other month on average and 0.3% (n = 1) had episodes all the time.
Participants were requested to state what form of treatment they used to treat their colds/influenza. As shown in the Table below, 20.8% (n = 81) used CM as their treatment option, 42.8% (n = 167) used conventional medicine (Western Medicine) and 36.2% (n = 141) used a combination of both. One participant stated that they use neither CM nor conventional medicine to treat his/her colds and influenza.

Table: Treatment Utilised for colds/influenza

<table>
<thead>
<tr>
<th>Treatment Option</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neither</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>Complementary medicine</td>
<td>81</td>
<td>20.8</td>
</tr>
<tr>
<td>Conventional medicine (Western medicine)</td>
<td>167</td>
<td>42.8</td>
</tr>
<tr>
<td>Both</td>
<td>141</td>
<td>36.2</td>
</tr>
<tr>
<td>Totals</td>
<td>390</td>
<td>100</td>
</tr>
</tbody>
</table>

This was an open-ended question and participants were only required to answer this question if they answered in the previous question that they use CM. Participants were requested to indicate which form of CM they used to treat their colds/influenza.

Of the 390 Participants, 222 stated in the previous question that they used CM to treat their colds/influenza. However only 143 participants of the 222 participants that used CM for their colds/influenza completed this question, of which there were 203 comments/responses. In total, in order from most used to least used, 48.3% (n = 69) reported to use homoeopathy to treat their colds/influenza, 25.9% (n = 37) home remedies 25.2% (n = 36) vitamins and/or supplements, 22.4% (n = 32) herbals, 13.3% (n = 19) Unani-Tibb and 4.9% (n = 7) aromatherapy. Acupuncture, yoga and meditation each only had one response.

Participants were asked to state the reason why they choose CM to treat their colds and influenza. Only 182 participants of the 390 participants completed this question, of which there were 266 comments/responses. Thirteen-point seven percent (13.7%) (n = 25) use CM to treat their colds/influenza because it is cost effective, 10.4% (n = 19) it is easily accessible, 1.1% (n = 2) has no addiction, 48.9% (n = 89) for its effectiveness, 29.7% (n = 54) because it is natural, 3.8% (n = 7) as conventional medicine doesn’t help them, 28% (n = 51) for the fewer/no side effects and is safer, and 10.4% (n = 19) because it boosts the immune system.
Participants were asked as to whether they had consulted with a CM practitioner: 69.7% (n = 272) of respondents stated that they had not consulted with a CM practitioner, while 30.3% (n = 118) had.

Participants were asked to indicate to what extent they thought CM was effective in the treatment of colds/influenza and 4.17, 5.4% (n = 21) strongly disagreed/disagreed, 36.9% (n = 144) were unsure and 57.7% (n = 225) agreed/strongly agreed that CM is effective for colds/influenza. The mean value was 3.76 and the standard deviation 0.948.

Participants were asked to indicate to what extent they thought CM worked well in conjunction with conventional medicine for colds/influenza and 10.5% (n = 41) strongly disagreed/disagreed; 46.7% (n = 182) were unsure and 42.8% (n = 167) agreed/strongly agreed that CM works well in conjunction with conventional medicine (western medicine) for colds/influenza. The mean value was 3.41 and the standard deviation 0.981.

Participants were asked to indicate to what extent they thought CM had no side effects and 21.5% (n = 84) strongly disagreed/disagreed, 45.1% (n = 176) were unsure and 33.3% (n = 130) agreed/strongly agreed that CM has no side effects. The mean value was 3.21 and the standard deviation 1.084.

Participants were asked to indicate to what extent they were comfortable informing their pharmacist/doctor about any CM products they use and 11.3% (n = 44) strongly disagreed/disagreed, 27.9% (n = 109) were unsure and 60.8% (n = 237) agreed/strongly agreed that they felt comfortable informing their pharmacist/doctor about any the CM products they use. The mean value was 3.73 and the standard deviation 1.069.

**DISCUSSION**

The typical population of Health Science students was determined by demographical and basic information provided by participants, such as: race, gender, age, monthly household income. The proposed results indicated the typical Health Science participant was an African (57.7%) female (75.9%) between the age of 18-24 years (86.7%), and with a monthly household income of between R0 – R4,999. According to information obtained from the Higher Education Data
Analysis for UJ (HEDA, 2016) the typical student at UJ in the 2015 Faculty profile for the Faculty of Health Sciences’ was an African, female between the age of 21 and 24 years. This demographic data obtained correlates with gender, age and race found in this study. In Faculty of Health Sciences’ there were 3,694 registered students in the year 2015, of which 69% were African females, 66% were under the age of 24 years. Hence the findings of this study correlate to that of the typical Health Sciences’ data analysis at UJ (HEDA, 2016).

The departmental affiliation (4.2.6) showed that majority of participants were from the Department of Homoeopathy (23.6%). This resulted in a sample bias and may be due to the fact that the researcher herself is a registered homeopathy student and therefore recruiting this group of participants was easier than from other departments. They may have been more eager to participate due to the fact that there was a greater understanding as they too will have to complete a dissertation at the end of their studies. As a result, this may not be a true reflection of departmental representation within the Faculty of Health Sciences at UJ. There were no responses from the Department of Medical Imagining and Radiation Science. Despite this, it can be assumed that there was overall representation of most departments in the Faculty of Health Sciences.

The most common symptoms reported were: sneezing (79.7%), runny nose (79.5%) and a sore throat (74.1%), while the least reported symptoms where: fever less than thirty-eight degrees Celsius (24.1%) and a fever of greater than thirty-eight degrees Celsius (22.6%). In a double-blind control study conducted at UJ in 2012, on the efficacy of Linctagon® Forte capsules on the symptoms of colds and influenza in female resident students, it was found that 89.3% of participants experienced sneezing, 82.1% runny nose, 75% nasal congestion, 78.6% sore throat, 75% fever, 50% fatigue, 46.4% body aches and 71.4% experienced a cough (Motsamai, 2012). These results correlate to that of this study.

The use of conventional medicine (Western medicine) was seen in 42.8% of participants while CM was only used by 20.8% of participants to treat their colds and influenza. Those participants that made use of CM for their colds and influenza were asked to write down the products that they used. Only 143 of the 390 participants responded to this question with a total of 203 responses. The researcher herself tallied up all the responses and placed them into formal categorises of medicine products. Medical herbal data searches categorised the products reported into the following sub categories for CM: vitamins/supplements, herbals,
aromatherapy, homoeopathy, Unani-Tibb, acupuncture, home remedies, yoga and meditation. *Echinacea purpurea*, indicated homoeopathic remedies and/or tinctures, along with *Aconite napellus* and *Belladonna*. Septogard, vitamin C and ginger honey tea, were some of the listed products used by participants. The majority (48.3%) of responses fell into the homoeopathy group; again the results may have been influenced by the fact that majority of participants were from the Department of Homoeopathy and thus homoeopathy may have been favoured. However, vitamin/supplements (25.2%), herbals (22.4%) and home remedies where among the other common responses. In a study conducted on 20,127 patients it found that the use of upper respiratory infection (URI) drugs showed no significant difference in recovery and therefore patients may resort to using other forms of medicines (Stergachis et al., 1990). In recent years, there has been an increase in use of CM in many industrialised nations. The demand for herbal and homoeopathic remedies as well as aromatherapy oils increased by 41% between 1992 and 1996 in the UK (Ernst, 2000).

Nearly half (48.9%) of the responses stated that they used CM because they found it to be effective in treating their colds and influenza, while 29.7% of responses were because they like the fact that it was natural and 28% believed that it has less or no side effects deeming CM safe. Some participants used CM because it was cost effective (cheap) (13.7%) and they liked the fact that they did not have to go to a doctor and/or get a prescription, but could go to most pharmacies and/or health shops and buy the medication off the shelf (10.4%). A study done by the German Association of Pharmaceutical Manufacturers, showed that the overall prevalence of use of CM was 65% in 1996. Women more frequently used CM than men and only 3% of the population said they rely exclusively on CM for their illness. Only 22% of participants reported getting CM with a prescription from their practitioner. The participants reported using CM as they had doubts about Western medicine, and 16% reported CM to have a lower risk of adverse effects (Ernst, 2000).

All the statements were answered on an opinion whether they had used CM before or not. More than half the participants (57.7%) were of the opinion that CM is an effective treatment for colds and influenza. While 46.7% of participants stated that they were unsure if CM works well in conjunction with conventional medicine for colds and influenza, 42.8% of participants agreed that CM did work well in conjunction with conventional medicine. There was some uncertainty regarding whether CM has side effects as the majority (45.1%) of participants were unsure, but 33.3% agreed and 21.5% disagreed with that statement. It was shown that 60.8%
of participants agreed that they felt comfortable telling their GP and/or pharmacist about any CM products in which they use.

There is a general lack of knowledge and understanding of CM as well as a confusion between the terms ‘conventional medicine’ and ‘complementary medicine’ thus students were unsure how to classify products in each discipline, and the use and perceived effectiveness was reported as relatively low.

**REFERENCES**


Kuhudzai, A. (2016). *Statkon*. Personal conversation on 16th May 2016. akuhudzai@uj.ac.za, 20 Chiselhurst Ave, Kingsway Campus, (011) 559 4407.


