

Oral Health Knowledge, Attitude and Behaviour of University Students in Myanmar

Yel Kyaw Thu*

Department of Dental Materials Science, University of Dental Medicine, Mandalay, Myanmar, India

Research Article

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***For correspondence:**

Yel Kyaw Thu, Department of Dental Materials Science, University of Dental Medicine, Mandalay, Myanmar, India

E-mail: yelkyawt@gmail.com

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ABSTRACT

Objective: The aim of this study was to investigate and evaluate the self-reported oral health knowledge, attitude and practice among university students in Myanmar. It was also aimed to provide the data essentials to planning, implementation, evaluation of the services for the prevention, control, treatment and to set up priorities among those services. Furthermore, identifying the need for oral hygiene, awareness programs, policy and strategies for oral health literacy.

Methods: The descriptive cross-sectional study was done among a total number of 611 university students which were selected by using the simple random sampling method from universities around Myanmar. Data were collected by self-administered, online-based structured questionnaire which was distributed through representatives of each including university.

Results: Among 611 participants aged from 16 to 35 years who completed the evaluations, 37.8% and 62.2% were males and females respectively. Result shows that 100% of the participants performed tooth brushing. Regarding the frequency of tooth brushing, the majority of the respondents (79%) performed tooth brushing twice a day, while 13.8% performed once a day and 7.2% performed more than twice a day. 16.2% of the respondents had abnormal oral habits. 52.5% did not know meaning of the dental plaque. Moreover, 44 % of the respondents did not aware the reasons of gum bleeding.

Conclusion: The study concluded that there is a strong need to strengthen

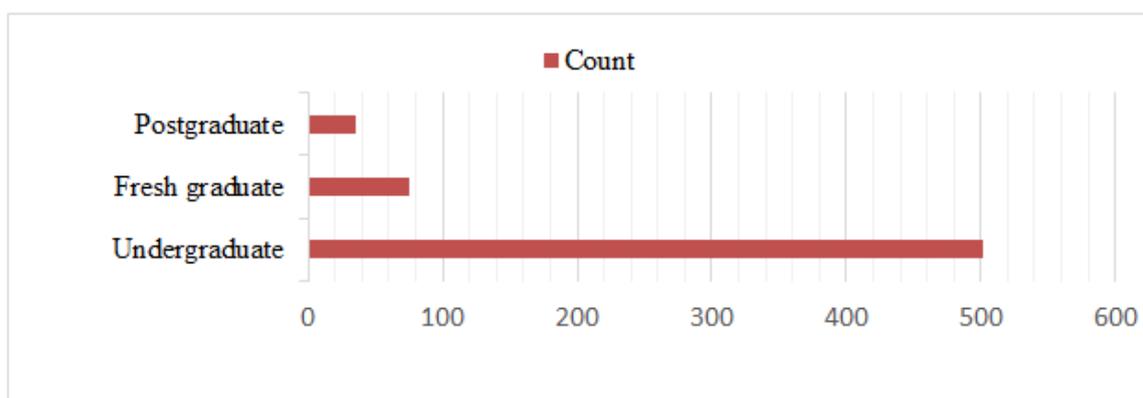
the knowledge, awareness, attitude and behavior of oral health in all professionals' university students. The quality of life of university students need to be improved. It is clear that Myanmar strongly needs an oral health goal, guidelines and policies.

INTRODUCTION

Health is a universal human need for all cultural groups. General health cannot be attained or maintained without oral health. The mouth is regarded as the mirror of the body and the gateway to good health. Good oral health is extremely important for the general well-being and quality of an individual life. Comprehensive health care cannot be achieved unless oral care is included in all health service programs. Oral Health can be described as “the normality and functional efficient of the teeth, supporting structures of the teeth, jaws and structures related to mastication and maxillofacial complex”. It also describes the well-being of oral cavity, including the absence of oral disease, the dentition and its supporting structures in keeping with the optimal functioning of the mouth and its tissues and it is a fact which preserves the highest level of self-esteem and interpersonal relationships. Oral health problem affects the quality of human life. Oral diseases may also be manifestations of systemic diseases. Oral diseases are bi-directionally related with general diseases, and they have been increasing attention in recent year. Dental caries and Periodontal disease, the two foremost oral diseases, still make a significant contribution to the burden of systemic disease, especially in developing countries. And then, the prevalence of oral cancer become high nowadays. Oral health knowledges, oral hygiene awareness, habits and practice and lifestyle contribute to oral diseases. Oral diseases are demonstrated to be significantly improved by changing oral health behaviors. These were attributed to many factors including oral hygiene, dietary factors, effective uses of fluoridated tooth-paste and tooth brush, tooth brushing technique and oral health promotion programs.

The Republic of Union of Myanmar (Burma), one of the ASEAN countries, is one of the developing countries in the world. Oral hygiene awareness and practice are still weak and poor among Myanmar people. The oral health status among Myanmar people is not very good. Knowledge, attitude and practice of oral health are poor and moderate. The prevalence of dental caries and periodontal disease is high in all ages of population in Myanmar. Prevalence of these diseases increase with age due to the absence of care. The prevalence of dental caries for 12 years old is 37%, 69% for the 35-44 age group and 91.6% for the 65-74 age group. The prevalence of periodontal diseases in the 65-74-year age group is about 89.78%. In addition, 95% of 12 years old have supra-gingival calculus according to the regional survey (Figure 1) [1]. 0.03% to 8% of all cancers are found to be oral cancer in Myanmar. According to the National Oral Health Survey (2017), the prevalence of untreated caries in 15-18 age group was 40.7%.

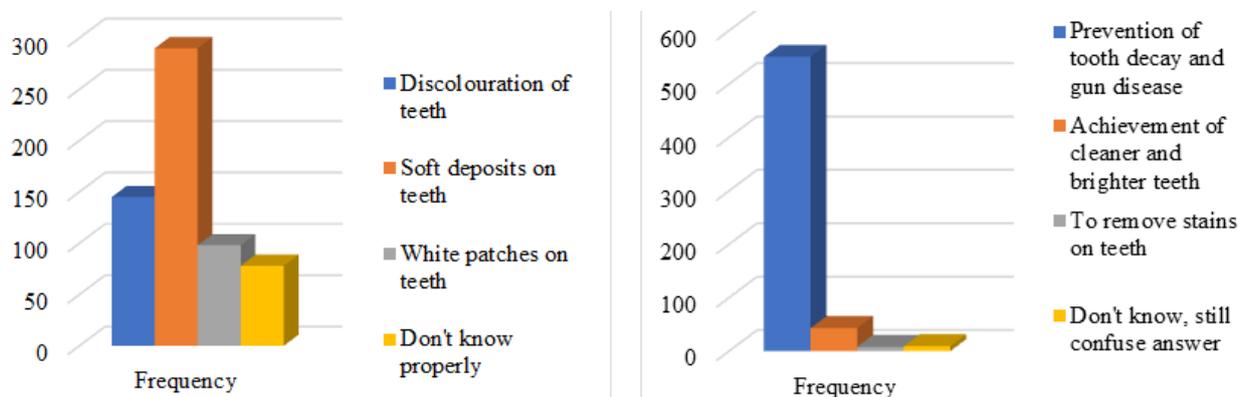
Figure 1. Education Level of participants.



As “The youths of today are the leader of tomorrow”, the knowledges, practices, awareness and lifestyles of youths in Myanmar are important for future Myanmar and next generations. There are total 163 universities including

professional and non-professional universities in Myanmar. About 6.3% (3.6 millions) of the whole population in Myanmar are university students (Figure 2). Although that population is less to represent the whole population in Myanmar, the data from them are important for further planning, implementation and evaluation of oral health care program.

Figure 2. Main purpose of tooth brushing and meaning of dental plaque.



Health education, one of the primary oral health care programs is essential in prevention of oral diseases and its related disease. Health Education attempts to change behavior by altering an individual's knowledge, attitude, behavior, practice and lifestyle about oral health matters. Not only education of general public but also education of primary, middle, high school students, college and university students is an integral part of a preventive oriented approach to oral health and disease problem. Health education can help to increase knowledge and life standard of the individual. It is often assumed that knowledge determines attitude. Attitude naturally reflect their own experiences, cultural perceptions, customs, familial beliefs and other life situations and have a strong influence on oral health behavior. Habits reflect their practice of adapting the various method of oral hygiene in routine day to day life. Awareness will reflect how much they are aware of oral health today. The education level and awareness to oral hygiene of university student is higher than basic education level student. Therefore, the level of their own oral health knowledge and behavior can serve as positive models for their friends, family members and community mostly medical, dental and allied medical students. There were some reports and studies about knowledge, awareness, attituded and behavior of oral health among university students in other countries, but not in Myanmar. So, this study became an interesting topic for oral hygiene awareness implementation and evaluation for further studies and oral health care program. Evaluation process is almost nil in oral health promotion activities in Myanmar. It is therefore uncertain whether the current on-going activities are effective or efficient to have good achievements. Oral health care for the young adult has potential to contribute to the well-being of both children and family. Development of information, education, communication about oral health and school based and community (public) based oral health promotion activities are important for development of oral health situation in Myanmar. Primary prevention is currently frail in Myanmar although secondary and tertiary prevention were performing extensively.

Despite the facts that oral hygiene awareness, practice and oral health educational programs are very important, there is a need for systematic study on assessing oral health knowledge, attitude and practice of university students. To my knowledge, this current article is assessing the oral health knowledge, attitude and behavior among university students in Myanmar in order to provide basic data for oral health education for university students, furthermore processes and identifying the needs.

MATERIALS AND METHOD

Study subjects and sample size determination

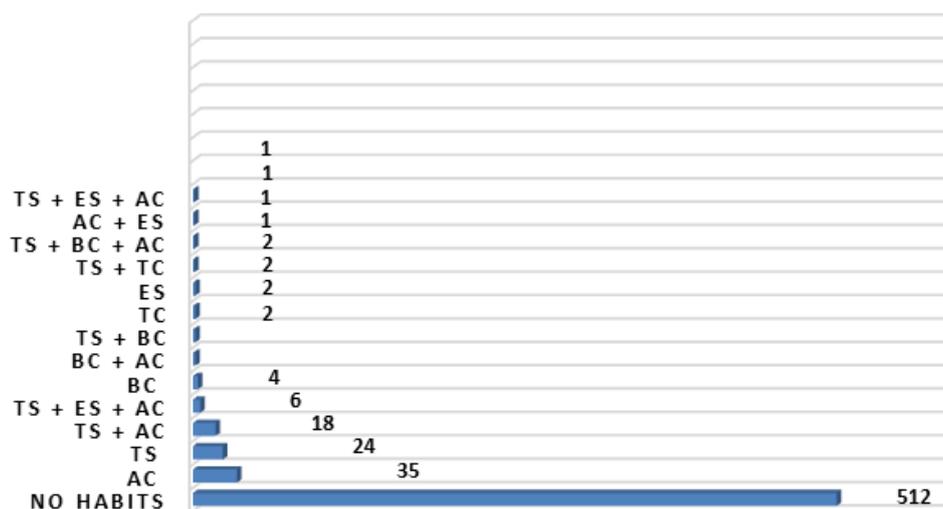
This cross-sectional study was performed at April 2020. The target population for this study was university students from different universities around Myanmar. There were about 3.6 millions of university students including undergraduate and postgraduate studies in Myanmar. To obtain representative sample population of students from different universities, a simple random sampling approach was used. The students included in this study were from Medical, Dental, Allied medical, Information Technological, Engineering, Arts and Science, Foreign languages, Computer, Tourism and Business Management, Education, Economic and Private universities. Total samples

included in this cross-sectional study were (611) students, in which (231) males and (380) females participated (Figure 3) [2].

Development of questionnaire and data collection

Questionnaire used in this study was developed by using Google Form and designed in both English and Myanmar languages.

Figure 3. Oral habits of the university students.



Abbreviation for Figure 3. represents

- AC = Alcohol consumption
- TS = Tobacco smoking
- TC = Tobacco chewing
- BC = Betel quid chewing
- ES = E-smoking

The questionnaire had three sections. Section one consisted of personal data such as age, gender, education level (undergraduate or postgraduate) and name of university. Section two consisted of knowledge and awareness-based questions and section three consisted of attitude and behavior-based questions.

Data was collected by online-based Google Form using self-administered structure questionnaire after taking informed consent. Questionnaire and informed consent were explained by using local language (Myanmar language) to eliminate misunderstanding so as to establish least errors. Before actual data collection, a pilot study was done on 15 students from different universities to check the needs and correct misunderstanding questions and words. Google Form was distributed to university students from representatives of each university. Within the limitation of this study, clinical examination was not performed on the participants.

All the filled questionnaires were entered into Google Sheets and Microsoft Excel Sheet of Microsoft Excel for Mac. Descriptive statistics computed frequency and percentages of each variable.

RESULTS

The questionnaire was considered to be easily understandable, and all the items were considered to be essential. The purpose of this descriptive study was to investigate knowledge, awareness, attitude and behavior of oral hygiene among university students as well as to identify the need of oral hygiene awareness programs. For this purpose, data were collected from 611 university students.

Out of the 611 students, 37.8% were males and 62.2% were females. There were 575 students with mean age of 20.5 + 4.5 years and 36 students with mean age of 30 + 5 years. In this descriptive study, 82% undergraduate students, 12.3% fresh graduates and 5.7% postgraduate students participated.

They all responded 13 knowledge-based questions and 18 attitude and behavior-based questions. Results show that 494 out of 611 respondents (80.8%) responded “spicy foods, tobacco chewing and smoking”, while 2.8% responded “Calcium deficiency”, 2.5% responded “Vitamin C deficiency” and 13.9% responded “Don’t know clearly” in “Reasons of Oral Cancer”. In addition, express about the importance of natural teeth.

Attitude and practice of the respondents showed that 100% of the participants perform tooth brushing. In response to a question about frequency of tooth brushing per day, majority of the respondents (79%) performed tooth brushing twice a day, while 13.8% performed once a day and 7.2% performed more than twice a day.

Results show that 99.8% of the respondents used “toothbrush and fluoridated toothpaste” for tooth brushing while 0.2% used other materials such as charcoal, salts, finger and wooden stick etc. Fluoride may inhibit plaque formation and bacterial colonization. So, it plays an important role in prevention of dental caries.

DISCUSSION

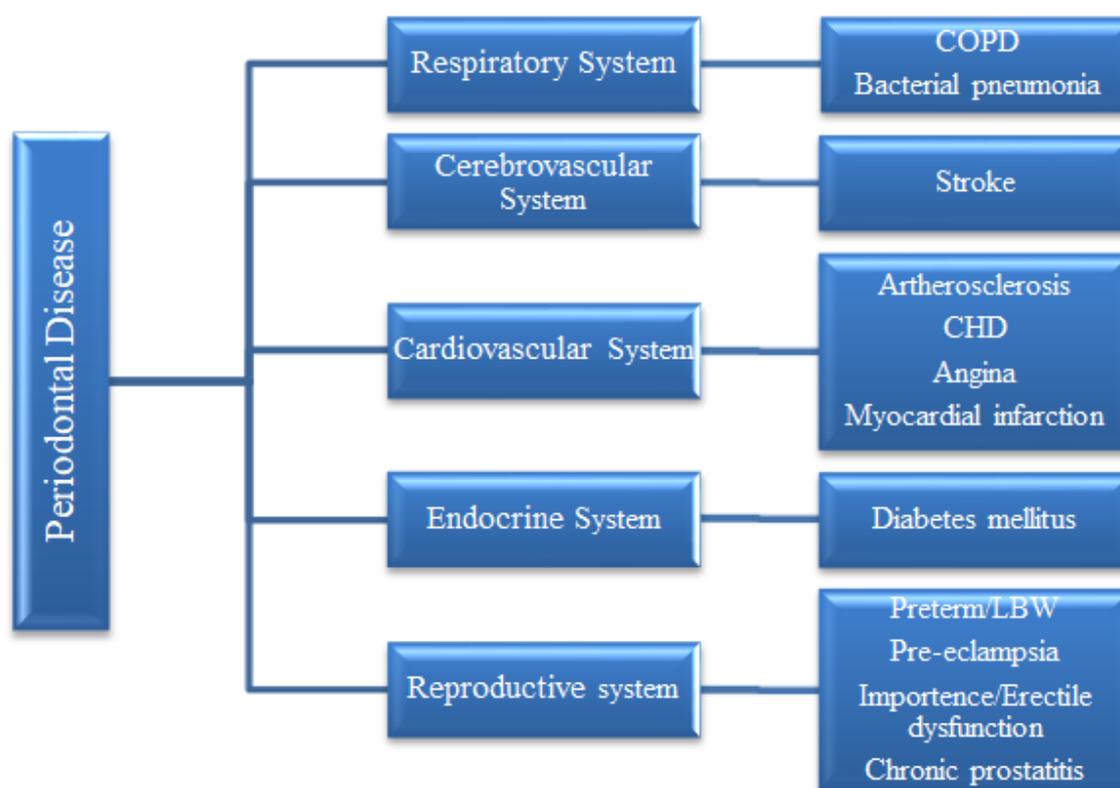
Oral health literacy programs play an important role in providing knowledge and awareness about oral health and controlling oral diseases. Therefore, the present cross-sectional descriptive study was conducted in order to investigate about knowledge, attitude and practice of oral hygiene among university students in Myanmar and implementation and evaluation of the data from this study for further purposes. Surely clinical oral examination would provide more precise data on the oral health status. Anyway, some authors found strong correlation between self-administered oral health and objective findings. University students belong to the youth oral health target and will play a leading part in the future, so it is helpful a lot to seek for development direction of oral health care in future society that examine their oral health concerned. The level of knowledge, awareness, attitude and behavior about oral health importance among different professional university students might be different due to different education level, the curriculums of their studies and the gaps in knowledge about the oral health. A lack of knowledge and negative attitudes might constitute potential barriers to effectively controlling and preventing of oral diseases (such as dental caries, periodontal disease, oral cancer and related general diseases).

The presence study was conducted to access oral hygiene related knowledge, attitude and behavior among university students in Myanmar. Among these students, 67.43% of the respondents knew the correct answer while 32.57% did not know the answer in the question “Number of dentitions set in individual life. 80.36% of the participated students knew that there are 20 teeth in deciduous dentition and 32 teeth in permanent dentition while 19.64% not. Although majority of the participants (90.2%) knew the main purpose of tooth brushing (Figure. 4), majority of the participants (52.5%) did not know meaning of the dental plaque. And then, 44 % of the respondents did not aware the reasons of gum bleeding. Majority of the participants (93.8%) knew that oral health has a relationship to the systemic health. Oral diseases (dental caries, periodontal disease, oral cancer, etc.) are involved in non-communicable disease because of sharing common risk factors. As oral disease related with general health, general health care should be acknowledged as part of the oral health education. For instance, exceeding consumption of sugar may lead not only to risk of dental caries but also to obesity and diabetes mellitus. Dental caries is multi-factorial infectious disease. Dietary control plays a role in caries prevention by food modification and maintaining the frequency of between meal snacks. The following chart expresses the relationship between periodontal disease and systemic diseases.

According to their response, 37.6% thought natural teeth are important only for speaking and 36.8% answered for aesthetics. Majority of the participants (95.6%) answered for mastication. But the natural teeth are importance for speaking, aesthetics and mastication in actual. Moreover, majority of the respondents (59%) did not know that people should visit dental clinic every 6 months for check-up and oral screening.

In response to questions about attitude and behavior of oral hygiene section, 65.8% of the participants have experience on professional dental treatment and 26.4% of the respondents did not visit to the dental clinic even they had to feel any dental problems. Most of the population felt the dental pain and the dental problems but they didn't visit to the dental clinic (both public and private sector) due to the fear of dental visit and costs of dental treatment are expensive for them. Most of the population in Myanmar don't know that there is a strong relationship between oral and systemic health. So, some of them think dental problems are not life threatening. 53 out of 611 (8.7%) received orthodontic treatment to treat malocclusion. Since malocclusion affects a larger segment of the population, it is considered to be a public health problem. Nowadays, most people aware on malocclusion problem which disturb their aesthetics, physical and psycho-social functions. Epidemiology studies of malocclusion were carried out in different parts of the world revealed that prevalence of malocclusion was estimated to be higher in developed countries as compared to developing countries. Preventive orthodontic procedures (education to patient and parent, caries control, care of deciduous dentition, check-up for oral habits, serial extraction of teeth, space maintenance, etc.) are aimed at elimination of factors that may lead to malocclusion [3].

Figure 4. Relationship between periodontal disease and systemic diseases.



Results show that 80% of the respondents performed tooth brushing before having breakfast in the morning while 20% performed after having breakfast. Results show that 39% respondents brushed their teeth with “Vertical Stroke Technique”, 7.2% brushed their teeth with “Horizontal Stroke Technique” while 53.8% used combined technique. Most of the participants did not aware on correct tooth brushing techniques. Incorrect tooth brushing technique may lead to development of abrasion of teeth, one of the wasting dental problems. The efficiency of tooth brushing may be more important than frequency. But some studies showed that the more the frequency of brushing tends to better plaque control and improved gingival health [4].

In response to the question, 47.3% felt bleeding from gum when performing tooth brushing. Many reasons can relate for that problem, such as excessive force of tooth brushing, mild or moderate gingival inflammation, calculus on teeth, hard bristles of tooth-brush, etc. Majority of the respondents (73%) never used dental floss as an interdental aid in their daily life due to unaware on how to use the floss. 48.6% participants never used mouthwash while 2.1% used daily, 9.3% often used and 40% used sometimes. Chemical mouthwash has bactericidal or

bacteriostatic effect, anti-inflammatory action and changing oral pH level. It should be used as supplement for prevention of dental caries and periodontal disease.

In results, 512 out of 611 respondents had no negative oral habits such as alcohol consumption, tobacco smoking and chewing, e-smoking and betel quid chewing. Some respondents had more than one negative oral habits. These negative oral habits may lead to development of incidence of oral cancer. 8% of all the cancers are found to be oral cancer in Myanmar.

As most of oral diseases are preventable, early detection is necessary for early prevention in early age. The Oral Health Unit of the Department of Health, under the Ministry of Health and Sports, Myanmar takes the responsibility for delivering routine oral health care services in the country through state and region of oral health section. Public oral health care services are run based on the national oral health strategies with an emphasis on: (i) strengthening primary oral health care services for rural and remote communities (focusing on the oral health promotion and education, disease prevention and provision of basic and emergency oral health care), (ii) the fluoride project (including prevention of dental fluorosis in endemic areas together with Occupational Health Division to perform testing of fluoride content in drinking water resources, and the promotion of affordable fluoride toothpaste and (iii) delivering quality routine oral health care services at hospitals, urban health centers and dental schools. As public oral health sector is limited, the private sector becomes the leading provider of oral health care services and a large population of the population paying out-of-pocket for these services. Quality health insurance is not well developed in our country, Myanmar.

According to the National Health Plans, school-based and community-based oral health promotion programs by instructing correct tooth brushing technique, oral health education, dental screening, basic and emergency dental treatments, oral health survey projects, oral cancer awareness program and oral health care activities around States and Regions are introduced in Myanmar. After lunch tooth brushing drills was introduced in primary school activity. Charity dental clinics were opened with affordable costs and effective dental treatments to the low- and middle-income populations. Primary Oral Health Care field trip, Oral Health Survey and Oral Health Promotion programs are conducted as the curriculum activities for dental students by Department of Preventive and Community Dentistry, University of Dental Medicine, Mandalay and Yangon.

Although there are many dental research contributions in Myanmar, yet there is still a significant gap in knowledge of population oral health. Many studies were mainly focusing on the targeted groups. The studies focusing on out of the targeted groups were less seen. Nowadays, oral health knowledge and awareness will be improved by various ways such as social media, video blog, telephone message, digital platform, message through influencer, television channel and pamphlets, etc. Oral health education is an effective means to promote oral health by providing information to improve oral health knowledge and attitudes ^[5].

CONCLUSION

As a proverb "Prevention is better than cure", health education is need in deed for all level of prevention. The results might not be generalized to all population of university students in Myanmar but it revealed very important results. According to the results from this study, knowledge and awareness level of university students was moderate and attitude and behavior level did not get the expected results. Awareness raising programs should be arranged at college and university. To strengthen the knowledge and awareness of oral health, incorporate basic knowledge about oral health care in university (for example; workshop, oral health education campaign, symposia) during their university study.

The study concluded that there is a strong need to strengthen the knowledge, awareness, attitude and behavior of oral health in all professionals' university students. Quality of life of university students need to be improved. It is clear that Myanmar strongly needs an oral health goal, guidelines and policies.

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