



International Journal of Advanced Community Medicine

E-ISSN: 2616-3594
P-ISSN: 2616-3586
<https://www.comedjournal.com>
IJACM 2024; 7(1): 136-141
Received: 08-02-2024
Accepted: 13-03-2024

Muntaha Jabr Sarhid
Southern Technical University,
Collage of Health and Medical
Technologies in Basrah,
Department of Community
Health Technologies, Iraq

Jabbar Tarish Ahmed
Southern Technical University,
Collage of Health and Medical
Technologies in Basrah,
Department of Community
Health Technologies, Iraq

Wisam Abdul Ameer Farid
Southern Technical University,
Collage of Health and Medical
Technologies in Basrah,
Department of Community
Health Technologies, Iraq

Corresponding Author:
Muntaha Jabr Sarhid
Southern Technical University,
Collage of Health and Medical
Technologies in Basrah,
Department of Community
Health Technologies, Iraq

Prevalence and attitudes of hookah smoking among southern technical University Students Basrah, Iraq

Muntaha Jabr Sarhid, Jabbar Tarish Ahmed and Wisam Abdul Ameer Farid

DOI: <https://doi.org/10.33545/comed.2024.v7.i1b.302>

Abstract

Background: In recent years, water pipe smoking has become more common among younger people, which has increased its harmful impact on health. The aim of study to find out prevalence and attitudes of hookah smoking among southern technical university students.

Materials and Methods: This cross-sectional study was conducted at Southern Technical University / Basrah. The estimated sample size was 400 students were selected randomly (By simple random sampling technique) from Southern Technical University students. This study includes students for both sexes of the morning and evening study. The data collect started from October 2023 till the February 2024.

Results: The results of this study indicate that the prevalence of hookah smoking among students was 25.0% smokers. Of 100 smokers, the prevalence is higher in males (61.8%) than females (38.2%). In addition, 72.0% of participants with a family smoker were smokers, compared to 48.3% of non-smokers ($p < 0.001$). The results found that smokers had significantly lower positive attitudes (58.0%) than non-smokers (97.7%), p -value < 0.001 .

Conclusions: The study found that a quarter of the participating students were hookah smokers, and their positive attitudes were lower compared to non-smokers. The results of the study suggest creating regulations aimed at stopping the spread of hookah smoking by introducing preventative measures like including hookah smoking education in university curricula and funding hookah smoking research.

Keywords: Smoking, hookah, cardiac diseases, university students, Iraq

Introduction

In the world, smoking is one of the main causes of avoidable and early deaths. The illnesses brought on by tobacco smoking claim the lives of over eight million people worldwide each year, costing the economy 1.4 billion dollars ^[1]. The traditional smoking method known as a hookah has grown in popularity among students and is presently on the rise ^[2]. There are a number of misunderstandings about hookah that frequently minimize the hazards associated with smoking, including the use of flavorings in tobacco products and the unfounded belief that hookah is healthful because the water inside the tank filters out the harmful substances in the tobacco ^[3]. However, when it comes to the risk of developing chronic lung illnesses, cardiovascular diseases, respiratory and gastrointestinal problems, and cancer, hookah is comparable to cigarettes ^[4, 5]. Additionally, continuous hookah smoking may result in nicotine dependence ^[6].

The popularity of hookah smoking among youngsters has recently increased. The terms shisha, water pipe, hubble-bubble, narghile, and argihile are other names for hookahs. The components of the hookah include a pipe, a water-filled basin, a hose, and a head for preparing tobacco. To heat the tobacco, which is frequently flavored (apple, grape, mint, etc.), a hot coal is put over the head. Hot air carrying tobacco compounds travels through the pipe and is cooled by the water in the basin before being transferred through the hose to the smoker's lungs when they inhale through the hose ^[7, 8].

Between 2011 and 2015, there was a notable increase in the use of hookah (4.1–7.2%) among high school students in the United States (US) ^[9, 10]. Males were more likely than females to have ever used a hookah and to be doing so now, according to another US research ^[11].

Many students who are hooked to hookah think that they can quit smoking hookah whenever they want to and that it's safer and less addictive than smoking cigarettes. The majority of young people believe that smoking hookah has no negative health impacts and do not view it

as a tobacco product [12].

Materials and methods

Study design and setting

This cross-sectional study was conducted at Southern Technical University/ Basrah (Basra Technical Institute, College of Engineering Technology, College of Administrative Technology, College of Health and Medical Technologies). The data collect started from October 2023 till the February 2024.

Sample Size

The sample was determined by using the EPI info program version 7.2 based on population size (9673), expected rate of 50%, the confidence interval of 95% margin of error (0.05). The estimated sample size was 370 students in Southern Technical University. We selected 400 students to strengthen the study. As explained in Table 1.

Sampling Technique

The number of randomly selected (By simple random sampling technique) students in Southern Technical University is 400 students distributed in 4 colleges or institutes. Of 400 students, 220 belonging to Basra Technical Institute, 95 belonging to the College of Engineering Technology, 57 belonging to the College of Administrative Technology, and 28 belonging to the College of Health and Medical Technologies.

Inclusion criteria

This study includes students for both sexes of the morning and evening study at the Southern Technical University in Basra who are enrolled in the four university formations mentioned previously.

Ethical consideration

The study was conducted with the ethical principles. It was carried out with students' verbal approval before sample was taken. The study protocol and the subject information and consent form were reviewed and approved by the ethics committee in Southern Technical University according to the document number 7/27/1258 (including the number and the date in 25/07/2023) to get this approval.

Data collection technique

After acquiring an official agreement. The data was collected by direct interviews with the participants after translating the questionnaire to the local language (Arabic) by using closed-ended questions was taken to every student. After explaining the objectives of the study and assuring them that the data taken will be reserved confidentially. The data were collected through interviews with participant by utilizing a structured questionnaire filled by the researcher, and questions were asked using a clear Arabic language. Each interview took approximately 15-20 minutes.

Variables and measurement

Dependent variable total attitudes score and independent variables: demographic variables; age, gender, scientific level, residence while studying, there anyone in the family who smokes.

Scoring Criteria

In positive phrases, the scale of the five levels was rated on the 3 points (Likert respondent scale) it was scored as a scoring of agreed about by assigning a score of (3) for "Agree", (2) for "I don't know", score of (1) for "Disagree". In negative phrases, the scale of the five levels was rated on the 3 points (Likert respondent scale) it was scored as a scoring of agreed about by assigning a score of (1) for "Agree", (2) for "I don't know", score of (3) for "Disagree". Regarding overall assessment score for attitude of students, were 11 items so the Minimum Score= 11, Maximum Score= 33, and the Median Score = 22. A score of more than 75% was considered positive attitudes (>27 score), 50-75% Neutral/ Fair (22-27 score), and less than 50% was taken as Negative attitudes (<22 score) [13].

Statistical Analysis

The data through the questionnaire, the information for each question was transferred to code sheets, the data was entered into the personal computer, and then the data was analyzed by the statistical package available from IBM-SPSS-27 (Software Company). Data were showed in simple measures of frequency, percentage, mean, standard deviation, and range (minimum and maximum values). The significance of the difference for different percentages (qualitative data) was tested using the Pearson Chi-square test (χ^2 -test). Statistical significance was taken into account when the P-value was equal to or less than 0.05.

Results

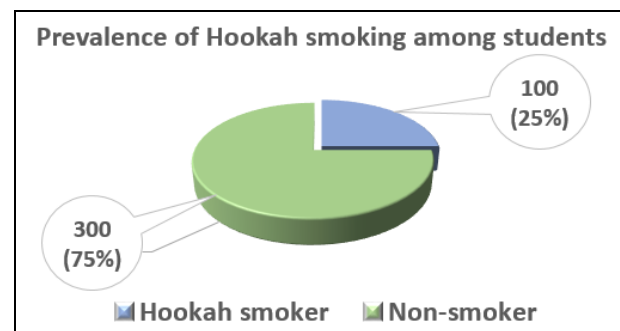


Fig 1: Pie chart illustrate the distribution of participants according to hookah smoking status

In Figure 1, the results of this study indicate that 300 (75.0%) of the students were non-smokers, while 100 (25.0%) of them were smokers.

In table 2, the results reveal that smokers were more prevalent among 18-22-year-olds (72.0%) than non-smokers (83.0%), but the difference was not statistically significant ($p=0.075$). Regarding gender, 98.0% of males smoke hookah, compared to 2.0% among females ($p<0.001$). Scientific level and residence during study did not significantly affect smoking prevalence ($p=0.641$ and $p=0.366$). However, those with smoking family members (72.0%) are more likely to smoke than those without (28.0%) ($p<0.001$).

Table 2: Comparison between smokers and non-smokers according to Socio-demographic characteristics

Socio-demographic characteristics		Smokers		Non-Smokers		P. value
		No.	%	No.	%	
		Age groups	18-22 years	72	72.0	
23-27 years	23		23.0	44	14.7	
28-32 years	4		4.0	4	1.3	
33-37 years	1		1.0	3	1.0	
Gender	Female	2	2.0	151	50.3	<0.001
	Male	98	98.0	149	49.7	
Scientific level	Diploma student	53	53.0	167	55.7	0.642
	Bachelor's degree student	47	47.0	133	44.3	
Residence while studying	In the family home	91	91.0	263	87.7	0.366
	Shared with my colleagues	9	9.0	37	12.3	
Is there anyone in the family who smokes	Yes	72	72.0	145	48.3	<0.001
	No	28	28.0	155	51.7	

In table 3, smokers and non-smokers did not differ in the belief that hookah-smoking youth have more friends ($p = 0.400$). Hookah smoking's effects on appearance, health, and comparison to cigarettes vary widely. Smokers thought hookah smoking made people look happy and energetic ($p < 0.001$), while non-smokers thought it was unhealthy. Smokers also thought hookah smoking was healthier than cigarettes ($p < 0.001$). A significant relationship was found between feeling unconcerned about hookah health risks

(65.0%) and p -value of < 0.001 . Similarly, 58.0% believed scientific evidence about hookah harm is exaggerated ($p < 0.001$). With a p -value of 0.027, 72.0% disagreed that hookah health damage can be reversed by quitting early. Hookah was liked by 63.0% of respondents, p -value < 0.001 . According to a p -value of 0.004, 57.0% agreed that quitting was difficult, while 48.0% agreed that they could quit at any time.

Table 3: Comparison between smokers and non-smokers according to their opinions, attitudes and beliefs and the level of awareness of the danger of smoking

Beliefs and Attitudes		Hookah Smoking Status						P. value
		Smokers		Non-Smokers		Total		
		No.	%	No.	%	No.	%	
I think that young people who smoke hookah have more friends	Agree	36	36.0	81	27.0	117	29.3	0.200
	I don't know	25	25.0	94	31.3	119	29.8	
	Disagree	39	39.0	125	41.7	164	41.0	
I think that smoking a hookah makes a person look more cheerful and energetic	Agree	35	35.0	33	11.0	68	17.0	<0.001
	I don't know	22	22.0	65	21.7	87	21.8	
	Disagree	43	43.0	202	67.3	245	61.3	
I think that young people are harming themselves by smoking hookah	Agree	71	71.0	270	90.0	341	85.3	<0.001
	I don't know	9	9.0	14	4.7	23	5.8	
	Disagree	20	20.0	16	5.3	36	9.0	
I believe that smoking a hookah for a year or two does not harm health	Agree	36	36.0	25	8.3	61	15.3	<0.001
	I don't know	11	11.0	44	14.7	55	13.8	
	Disagree	53	53.0	231	77.0	284	71.0	
I believe that smoking a hookah is less harmful to health than smoking cigarettes	Agree	43	43.0	49	16.3	92	23.0	<0.001
	I don't know	15	15.0	69	23.0	84	21.0	
	Disagree	42	42.0	182	60.7	224	56.0	
I do not feel concerned about the health harm that may occur to me from smoking a hookah	Agree	65	65.0	19	6.3	84	21.0	<0.001
	I don't know	10	10.0	68	22.7	78	19.5	
	Disagree	25	25.0	213	71.0	238	59.5	
I think that the scientific evidence about how harmful the hookah is to health is greatly exaggerated	Agree	58	58.0	57	19.0	115	28.7	<0.001
	I don't know	19	19.0	66	22.0	85	21.3	
	Disagree	23	23.0	177	59.0	200	50.0	
I believe that if I quit smoking hookah early, the health damage resulting from it can go away	Agree	72	72.0	174	58.0	246	61.5	0.027
	I don't know	15	15.0	82	27.3	97	24.3	
	Disagree	13	13.0	44	14.7	57	14.2	
I consider myself fond of smoking hookah	Agree	63	63.0	4	1.3	67	16.8	<0.001
	I don't know	8	8.0	15	5.0	23	5.8	
	Disagree	29	29.0	281	93.7	310	77.5	
I feel that quitting hookah smoking is difficult	Agree	57	57.0	114	38.0	171	42.8	0.004
	I don't know	10	10.0	47	15.7	57	14.2	
	Disagree	33	33.0	139	46.3	172	43.0	
I feel that I can quit smoking hookah at any time	Agree	48	48.0	140	46.7	188	47.0	<0.001
	I don't know	7	7.0	79	26.3	86	21.5	
	Disagree	45	45.0	81	27.0	126	31.5	

In table 4, the results of this study indicate that smokers had significantly lower positive attitudes (58.0%) than non-

smokers (97.7%), p -value <0.001 . Non-smokers had 12.0% fewer negative attitudes than smokers.

Table 4: Comparison between smokers and non-smokers according to the total attitudes score

		Hookah Smoking Status						P. value
		Smokers		Non-Smokers		Total		
		No.	%	No.	%	No.	%	
Total Beliefs and Attitudes Score	Negative attitudes (<22 score)	12	12.0	0	.0	12	3.0	<0.001
	Neutral Attitudes (22-27 score)	30	30.0	7	2.3	37	9.3	
	Positive Attitudes (>27 score)	58	58.0	293	97.7	351	87.8	

Discussion

The results of this study indicate that the prevalence of hookah smoking was 25.0% among the students. These results agreed with the study findings conducted by [14] which found that the prevalence of hookah smoking is 4% to 34% worldwide. In Erbil, Iraq [15] which found that the prevalence of smoking among university students was 33.1%. Also, a study reported by [16] in Jordanian male high school students found the prevalence of hookah smoking was 24%. However, in Iraq, Hookah smoking was 46.1% among male high school students in the past 30 days [17]. This rate is higher than [18] which was 15%, [19] which was 21%, [20] which was 20.75%. This rate of HS was lower than that reported in a Qatari study (40%) [21]. Similarly, it is lower than that found in other countries of the region, such as Lebanon, Syria, and Jordan, yet higher than that in Saudi Arabia, Iran, Egypt, and a previous Iraqi study [22, 23]. The differences in results may be due to methodological differences, such as student characteristics. One possibility is that the difference is due to the gradual increase among university students of a certain age.

In this study, the results found that 98.0% of males smoke hookah, compared to 2.0% among females ($p < 0.001$). These results are consistent with the previous studies [23, 18, 24, 25] which reported that smoking was positively related to males gender compared to females. Also, in Nasiriya City, Iraq [26] which found that most of the Nargile smokers were males. These results can explain that several socio-cultural, psychological, and biological factors may explain why male university students smoke more than females. Traditional gender stereotypes and social norms have portrayed smoking as more acceptable or desirable among men, making it a symbol of masculinity or independence. Smoking-related physiological differences like nicotine metabolism and neurobiological responses may also increase male addiction rates. Stressors and coping mechanisms may also affect smoking behavior by gender.

The present results reveal that those with smoking family members (72.0%) are more likely to smoke than those without (28.0%) ($p < 0.001$). These results are similar to findings of the previous studies [17, 21, 27] which found that the presence of a family member or a friend who smokes were significantly associated with hookah smoking. The positive correlation between smoking and having smoking family members among university students has several causes. First, familial smoking behavior can normalize or support smoking in the home, which can impact an individual's smoking habits. Home smoking may enhance tobacco product availability and lower perceived obstacles to smoking beginning or continuance. Sharing genetic predispositions or environmental conditions within families may also increase the risk of smoking transmission. Thus, university students with smoking family members are more

likely to smoke.

The results of this study indicate that smokers had significantly lower positive attitudes (58.0%) than non-smokers (97.7%), p -value <0.001 . These results agreed with the study findings done by [28] which found that same the results. In addition, a study by [17] reported that of the students, 70.6% believe that smoking a water pipe is more socially acceptable. Also, a study in Riyadh, Saudi Arabia [8] which found that found that 157 (44.4%) believed hookah use to be more socially acceptable. While [29] reported that hookah-related beliefs about the physical, mental, recreational, and cultural benefits of water pipe tobacco smoking are positively correlated with attitudes, while beliefs about the negative health consequences have a negative relationship with attitudes. According to previous study, students have a favorable view about water pipe tobacco use, and their positive attitudes influence their intentions [30]. Several variables explain the positive correlation between smoking and negative attitudes among university students. First, smoking stigma may cause peers to judge smokers, causing them to defend their conduct. Smokers may also feel cognitive dissonance, when their conduct contrasts with societal standards, leading them to excuse their activities with more negative responses to people or non-smoking issues. Smoking's addiction may also cause guilt and humiliation, which can lead to self-criticism and projection onto others.

Conclusions and Recommendations

The study found that a quarter of the participating students were hookah smokers, and their positive attitudes were lower compared to non-smokers. Also, the results reveal that there was no significant relationship between smokers and non-smokers regarding age, residence, and scientific level. The study recommends creating regulations aimed at stopping the spread of hookah smoking by introducing preventative measures like including hookah smoking education in university curricula and funding hookah smoking research.

Competing interests

The authors declare no competing interest.

Authors' contributions

All authors coordinated in the preparation of data, and participated in the preparation and writing of the manuscript. The author read and approved the final version of the manuscript.

Acknowledgment

The authors would like to express their gratitude to the individuals who generously agreed to participate in this study.

Conflict of Interest

Not available

Financial Support

Not available

References

- World Health Organization. WHO report on the global tobacco epidemic 2021: addressing new and emerging products; c2021.
- Aboaziza E, Eissenberg T. Waterpipe tobacco smoking: what is the evidence that it supports nicotine/tobacco dependence? *Tob Control*. 2015;24(1):i44-53.
- Babaie J, Ahmadi A, Abdollahi G, Doshmangir L. Preventing and controlling water pipe smoking: A systematic review of management interventions. *BMC Public Health*. 2021;21:01-12.
- Travers MJ, Rivard C, Sharma E, Retzky S, Yucesoy B, Goniewicz ML, *et al*. Biomarkers of exposure among USA adult hookah users: results from Wave 1 of the Population Assessment of Tobacco and Health (PATH) Study (2013–2014). *Int. J Environ Res Public Health*. 2020;17(17):6403.
- Aghdam FB, Alizadeh N, Nadrian H, Augner C, Mohammadpoorasl A. Effects of a multi-level intervention on hookah smoking frequency and duration among Iranian adolescents and adults: an application of socio-ecological model. *BMC Public Health*. 2021;21:01-09.
- Osibogun O, Odukoya OO, Odusolu YO, Osibogun A. Knowledge and risk perception of e-cigarettes and hookah amongst youths in Lagos State, Nigeria: An exploratory study. *Niger Postgrad Med J*. 2020;27(4):384-390.
- Jacob III P, Abu Raddaha AH, Dempsey D, Havel C, Peng M, Yu L, *et al*. Comparison of nicotine and carcinogen exposure with water pipe and cigarette smoking. *Cancer Epidemiol biomarkers Prev*. 2013;22(5):765-772.
- Allohidan F, Alanazi AK, Azzahrani MK, Alrashoud MR, Alanazi AK. Knowledge, practice, and attitudes regarding hookah (water pipe) smoking among college students studying health sciences in Riyadh, Saudi Arabia. *Int. J Acad. Sci. Res*. 2017;5(1):54-65.
- Singh T. Tobacco use among middle and high school students - United States, 2011–2015. *MMWR Morb. Mortal Wkly Rep.*, 2016, 65.
- Arrazola RA, Dube SR, King BA. Tobacco product use among middle and high school students - United States, 2011 and 2012. *Morb. Mortal Wkly Rep*. 2013;62(45):893.
- Majeed BA, Sterling KL, Weaver SR, Pechacek TF, Eriksen MP. Prevalence and harm perceptions of hookah smoking among US adults, 2014–2015. *Addict Behav*. 2017;69:78-86.
- Fevrier B, Nabors L, Vidourek RA, King KA. Hookah use among college students: recent use, knowledge of health risks, attitude and reasons for use. *J Community Health*. 2018;43:1037-1043.
- Shareef RH, Al-Sarray AAM. COVID-19 Vaccination Knowledge among a Sample of Healthcare Providers in Karbala Governorate. *NeuroQuantology*. 2022;20(6):4539.
- Kalan ME, Bahelah R, Bursac Z, Taleb Z Ben, DiFranza JR, Tleis M, *et al*. Predictors of nicotine dependence among adolescent waterpipe and cigarette smokers: A 6-year longitudinal analysis. *Drug Alcohol Depend*. 2020;217:108346.
- Salim Younus M, Ahmed K, Tahir Lak R. The Smoking Prevalence among University Students in Erbil City/Iraq. *Eurasian J Sci. Eng*. 2023, 9(1).
- Alzyoud S, Weglicki LS, Kheirallah KA, Haddad L, Alhawamdeh KA. Waterpipe smoking among middle and high school Jordanian students: patterns and predictors. *Int. J Environ Res Public Health*. 2013;10(12):7068–7082.
- Al-Delaimy AK, Al-Ani WAT. Prevalence of hookah smoking and associated factors among male high school students in Iraq. *BMC Public Health*. 2021;21:01-09.
- Ahmed LA, Verlinden M, Alobeidli MA, Alahbabi RH, AlKatheeri R, Saddik B, *et al*. Patterns of tobacco smoking and nicotine vaping among university students in the United Arab Emirates: A cross-sectional study. *Int. J Environ. Res. Public Health*. 2021;18(14):7652.
- Yasso FS, Yaso SS, Petra SY, Isam VD. Prevalence of cigarette smoking among medical Iraqi students. *Am J Public Heal Res*. 2014;2(215):10-12.
- Al-Kubaisy W, Abdullah NN, Al-Nuaimy H, Kahn SM, Halawany G, Kurdy S. Factors associated with smoking behaviour among university students in Syria. *Procedia-Social Behav Sci*. 2012;38:59-65.
- Al-Jayyousi GF, Kurdi R, Islam N, Alhussaini NWZ, Awada S, Abdul Rahim H. Factors affecting waterpipe tobacco smoking among university students in Qatar. *Subst Use Misuse*. 2022;57(3):392-401.
- Jawad M, Charide R, Waziry R, Darzi A, Ballout RA, Akl EA. The prevalence and trends of waterpipe tobacco smoking: A systematic review. *PLoS One*. 2018;13(2):e0192191.
- Mousawi A Al. The prevalence of smoking among Karbala/Iraq university students in Iraq in 2005. *Tob use insights*. 2014;7:TUI-S12238.
- Nasser AMA, Geng Y, Al-Wesabi SA. The prevalence of smoking (cigarette and waterpipe) among university students in some Arab countries: A systematic review. *Asian Pacific J cancer Prev. APJCP*. 2020;21(3):583.
- Hossain S, Hossain S, Ahmed F, Islam R, Sikder T, Rahman A. Prevalence of tobacco smoking and factors associated with the initiation of smoking among university students in Dhaka, Bangladesh. *Cent Asian J Glob Heal*. 2017;6(1).
- Anwer ZM, Shubbar HAH. The Popularity of Nargile in Nasiriya City, Iraq. *Univ. Thi-Qar J Med*. 2020;20(2):173-84.
- Abbood SK, Abd Alridha AM, Al-Gburi KM, Mohsin NA, Ismael AS, Ali AB, *et al*. Prevalence and Epidemiological Characteristics Associated with Hookah Smoking and Alcohol Consumption among Medical Students in Najaf, Iraq. *Med J Babylon*. 2023;20(1):143-153.
- Thapa N, Ghimire B, Upadhyay HP. Practice Regarding Hookah Smoking Among Nursing Students in Chitwan, Nepal: A Cross sectional Study. *JNHLS*. 2022;1(1):26-29.
- Martinasek MP, Haddad LG, Wheldon CW, Barnett TE. Beliefs and attitudes associated with hookah smoking among a United States college population.

- Respir Care. 2017;62(3):370379.
30. Barnett TE, Smith T, He Y, Soule EK, Curbow BA, Tomar SL, *et al.* Evidence of emerging hookah use among university students: A cross-sectional comparison between hookah and cigarette use. *BMC Public Health.* 2013;13:01-07.

How to Cite This Article

Sarhid MJ, Ahmed JT, Farid WAA. Prevalence and attitudes of hookah smoking among southern technical University Students Basrah, Iraq. *International Journal of Advanced Community Medicine* 2024; 7(1): 136-141.

Creative Commons (CC) License

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.