

## Therapeutic lifestyle strategies taught in Nigerian pharmacy schools

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### ABSTRACT

**Background:** Therapeutic lifestyle modifications are the basis of treatment and prevention of numerous chronic diseases.

**Objective:** To describe the therapeutic lifestyle modifications taught in Nigerian pharmacy schools.

**Methods:** A short self-administered online questionnaire (using Google Form), to ascertain the curricular coverage of therapeutic lifestyle modification in undergraduate pharmacy training programs was sent to the Deans of all accredited schools of pharmacy in Nigeria (n = 20). The collected data were summarized using descriptive statistics.

**Results:** Thirteen schools of pharmacy participated in the study. All the schools taught at least one of the 10 specified therapeutic lifestyle strategies. Less than a third taught smoking cessation (2.0, 15.4%), lifestyle modifications for pregnant women (2.0, 15.4%) and patients with mental health issues (1.0, 7.7%).

**Conclusion:** There are variations in the content of teaching of therapeutic lifestyle approaches in Nigerian pharmacy schools. To enhance therapeutic lifestyles, it is essential to improve the content and teaching of therapeutic lifestyle strategies in Nigerian pharmacy schools. All schools should do more to ensure that they are providing adequate training to enable students to be prepared for delivering support to all patients (including pregnant women and mental health patients) on therapeutic lifestyles.

**Keywords:** Pharmacy education, lifestyle modifications, health outcome, public health, Nigeria

## Stratégies thérapeutiques de style de vie enseignées dans les écoles de pharmacie nigérianes

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### RÉSUMÉ

**Contexte** : Les modifications thérapeutiques du mode de vie sont à la base du traitement et de la prévention de nombreuses maladies chroniques.

**Objectifs** : Décrire les modifications thérapeutiques du mode de vie enseignées dans les écoles de pharmacie nigérianes.

**Méthodes** : Un court questionnaire en ligne auto-administré (à l'aide de Google Form), visant à déterminer la couverture curriculaire de la modification thérapeutique du mode de vie dans les programmes de formation en pharmacie de premier cycle, a été envoyé aux doyens de toutes les écoles de pharmacie accréditées au Nigeria (n = 20). Les données recueillies ont été résumées à l'aide de statistiques descriptives.

**Résultats** : Treize écoles de pharmacie ont participé à l'étude. Toutes les écoles enseignaient au moins une des 10 stratégies thérapeutiques de style de vie spécifiées. Moins d'un tiers ont enseigné le sevrage tabagique (2,0 ; 15,4 %), les modifications du mode de vie pour les femmes enceintes (2,0 ; 15,4 %) et les patients souffrant de problèmes de santé mentale (1,0 ; 7,7 %).

**Conclusion** : Il existe des variations dans le contenu de l'enseignement des approches thérapeutiques axées sur le mode de vie dans les écoles de pharmacie nigérianes. Pour améliorer les modes de vie thérapeutiques, il est essentiel d'améliorer le contenu et l'enseignement des stratégies de mode de vie thérapeutique dans les écoles de pharmacie nigérianes. Toutes les écoles devraient faire davantage pour s'assurer qu'elles offrent une formation adéquate permettant aux étudiants d'être préparés à apporter un soutien à tous les patients (y compris les femmes enceintes et les patients souffrant de troubles mentaux) sur les modes de vie thérapeutiques.

**Mots-clés** : éducation en pharmacie, modifications du mode de vie, résultats pour la santé, santé publique, Nigeria

## INTRODUCTION

Therapeutic lifestyle modifications (including appropriate nutrition, regular physical activity, weight management, modest alcohol consumption and cessation of tobacco smoking) are the basis of treatment and prevention of numerous chronic diseases.<sup>1</sup> It is well-documented that the health of the populace can be significantly improved by preventing diseases rather than focusing on a curative approach, which is not cost-effective.<sup>2</sup> It is important for healthcare professionals, including pharmacists, to get involved in public health advocacy through health promotion, education and disease prevention initiatives to understand patients' non-medication lifestyle habits.<sup>3,4</sup>

In Nigeria, there is an increase in lifestyles such as tobacco smoking and eating of processed food. This may be attributed to the rise in social and economic status among Nigerians.<sup>5</sup> In recent decades, this trend of increased consumption of processed food has accelerated the prevalence of overweight, obesity, and non-communicable diseases such as hypertension and diabetes mellitus.<sup>6,7</sup> A number of evidence-based studies have indicated much-needed impacts of pharmacists in smoking cessation, lipid management, obesity and weight reduction, identifying risk factors for coronary heart disease and drug misuse among others.<sup>8</sup> Therefore, it is essential to ensure that future pharmacists are adequately trained in therapeutic lifestyle strategies because it provides an opportunity to expand their roles in providing counselling to patients.<sup>4</sup>

This study aimed to understand the therapeutic lifestyle modifications that are being taught, and the total number of hours dedicated to the teaching in Nigerian pharmacy schools.

## METHODS

### Study design and population

All accredited Nigerian pharmacy schools with an undergraduate program (n = 20) were invited to participate in the survey. The survey instruments, a short self-administered online survey (using Google Form), was sent to the Deans of the pharmacy schools. The study was conducted between August 2019 and December 2019. A personalized email containing a link to the survey was sent with an explanation of the study. For pharmacy schools where the Deans did not fill the

survey, a suitable staff member (e.g., programme director, Head of Department of clinical pharmacy or pharmacology or other persons in charge of curriculum development) was identified by the Dean to fill the form. Two reminders were sent via email for non-responder on Days 10 and 20.

### Data collection instrument: questionnaire

The study questionnaire was designed and developed by the investigators after an extensive review of related studies.<sup>1,9,10</sup> To ascertain the curricular coverage of therapeutic lifestyle modification in undergraduate pharmacy training programs, we used a short questionnaire comprised of six item-questions. Question 1 sought information on the therapeutic lifestyle strategies taught. Question 2 sought to reveal the pharmacotherapy lifestyle modifications not taught in the different schools. Question 3 asked about the specific lifestyle modification included as a course in the curricula. Question 4 sought to identify the number of hours on teaching lifestyle modification intervention. Question 5 contained questions used to identify the contents of the teaching of patient lifestyle modifications. Question 6 explored the pharmacotherapy lifestyle modification course, which students were examined on. No incentive was provided for participating in the study.

### Data collection procedure

An online tool, Google Forms, was used to host the questionnaire. An email containing a link to the questionnaire was sent to all participating schools of pharmacy, with two follow-up reminder emails sent to non-responders after 10 and 20 days. The respondents provided voluntary informed consent by filling the online questionnaire.

### Statistical analysis

All data were imported into Microsoft Excel. Descriptive statistics (including frequencies and percentages) were used to summarize the data.

### Ethics approval

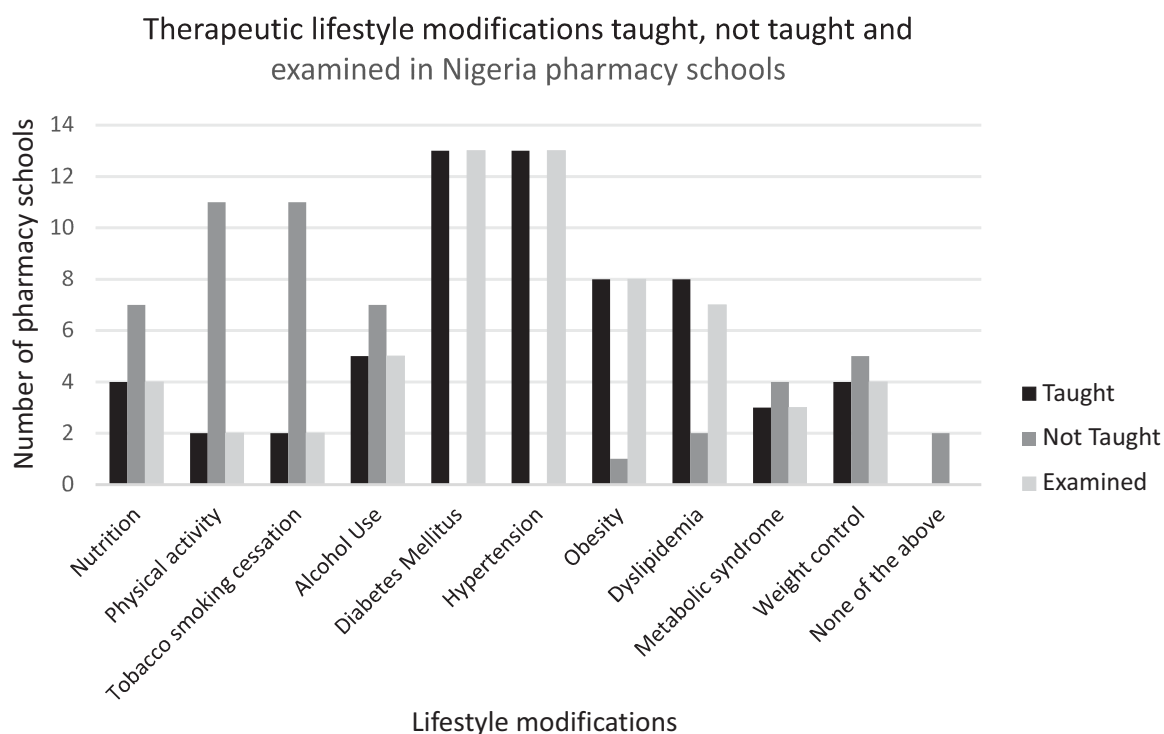
Ethics approval for the study was obtained from the joint University of Ibadan/University College Hospital Institution Review Board (UI/EC/19/0406).

## RESULTS

A total of 13 pharmacy schools responded to the survey;

thus, the response rate was 65.0%. Out of the 10 different lifestyle strategies specified in the survey, “only for hypertension” (n = 13, 100.0 and diabetes mellitus were taught and examined by all pharmacy schools (n = 13, 100.0%), followed by therapeutic lifestyle modifications

obesity and dyslipidaemia (n = 8, 61.5%). Less than a quarter of the responding schools taught and examined therapeutic lifestyle modifications for metabolic syndrome (n = 3, 23.1%), while (n = 2, 15.4%) taught about tobacco smoking cessation and physical activity (see Figure 1).



**Figure 1. Pharmacotherapy course on patient lifestyle modifications taught, not taught, and examined in Nigerian pharmacy schools**

Table 1 describes the different behavioural techniques taught, and their mode of delivery. Overall, nine schools (69.2%) used practical approaches in the classroom (e.g., role play), and seven (53.8%) included the cost and clinical effectiveness of patient lifestyle modifications. Less than a third of the surveyed population taught smoking cessation (2, 15.4%), lifestyle modifications for pregnant women (2, 15.4%) and patients with mental health issues (1, 7.7%).

The Deans of the pharmacy schools suggested the inclusion of teaching about drug abuse and misuse (12, 92.3%), smoking cessation (10, 76.9%), alcohol use (9, 69.2%), physical activity (6, 46.1%) and nutrition (7, 53.8%) into the curriculum. Majority of the pharmacy schools allocated one to three hours (6, 46.1%), followed by >5 hours (5, 38.4%) to teaching therapeutic lifestyle modifications. Details are shown in Table 1.

**Table 1: Content and number of hours assigned to teaching of patient lifestyle modifications and specific courses suggested to be included in Nigerian pharmacy schools' curricula (n = 13)**

Content	Yes n (%)
Cost and clinical effectiveness of patient lifestyle modifications	7 (53.8)
Opportunistic brief interventions of patient lifestyle modifications	5 (38.5)
The role of behavioural support inpatient lifestyle modifications	4 (30.8)
Practical delivery in classroom settings (e.g., role play)	9 (69.2)
Practical delivery in simulated settings (e.g., with simulated patients)	4 (30.8)
Practical delivery in clinical settings (e.g., sat with a stop smoking practitioner)	2 (15.4)
Lifestyle modification for mental health patients	1 (7.7)
Lifestyle modification for pregnant women	2 (15.4)
Smoking cessation	2 (15.4)
<b>Specific courses suggested by the respondents to be included in Nigerian pharmacy schools' curricula</b>	Yes n (%)
Smoking cessation	10 (76.9)
Alcohol use	9 (69.2)
Drug abuse and misuse	12 (92.3)
Nutrition	7 (53.8)
Physical activity	6 (46.1)
<b>Number of hours assigned to teaching about therapeutic lifestyle modifications</b>	Yes n (%)
1–3 hours	6 (46.1)
>5 hours	5 (38.4)

## DISCUSSION

Out of the ten therapeutic lifestyle modifications specified in the questionnaire, only two were taught by all pharmacy schools that responded to the questionnaire, and less than half of the pharmacy schools taught up to five. All pharmacy schools taught at least one therapeutic lifestyle modifications, and most schools spent more than one hour on the subject.

This study is limited by the possibility of recall bias, which is most inherent in self-report studies of this nature. In addition, there is the possibility that the members of staffs who filled the questionnaires may have under or over-reported the various aspects of teaching being conveyed in their pharmacy schools. Nevertheless, this study still offers key insight into the therapeutic lifestyle modifications taught in Nigerian pharmacy schools.

Owing to the variation in the content of the therapeutic lifestyle modification courses taught and examined in the pharmacy schools, the students may not be sufficiently

prepared to deliver counselling and intervention on all lifestyle modification strategies when they become pharmacists. Similarly, a study carried out in Nigeria on preventive health content in the pharmacy curricula also highlighted the need for capacity building on therapeutic lifestyle strategies.<sup>10</sup> For example, the results of this study revealed that two pharmacy schools taught tobacco smoking cessation as a course, and it has been reported that deficiency of training is one of the key obstacles to providing smoking cessation support.<sup>11</sup> A study in Nigeria on pharmacy-based smoking services among community pharmacists has reported how lack of training on therapeutic lifestyle modifications can impact smoking cessation services.<sup>3</sup>

Furthermore, most pharmacy school curricula in this study did not report content on lifestyle modification for patients with mental health conditions and pregnant women. Truong *et al* have reported the roles of community pharmacists in early pregnancy.<sup>12</sup> Likewise, patients with mental health conditions regularly need

additional healthcare services,<sup>13</sup> and pharmacists are uniquely positioned to help address and eventually improve those patients' health outcomes.<sup>14</sup> Findings from previous study reiterates the fact that pharmacy students who have been satisfactorily trained on therapeutic lifestyle modifications are more likely to deliver this support and adhere to evidence-based standards than their counterparts who received no training.<sup>15</sup>

Numerous organizations representing pharmacy and non-pharmacy health professions advocate that all healthcare professionals in training, including pharmacy students, should be exposed to formal education on health promotion and disease prevention including smoking cessation.<sup>15</sup> This study will serve as a baseline for curriculum review across pharmacy schools in Nigeria.

### Conclusion

There are variations in the content, time allotted and teaching of therapeutic lifestyle modifications in Nigerian pharmacy schools. Overall, there is a need to improve the content and teaching of therapeutic lifestyle strategies in Nigerian pharmacy schools. This improvement may have an impact on the pharmacy practice of future pharmacists who are currently trained.

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