Philippine Clinical Practice Guidelines for Periodic Health Examination: Lifestyle Interventions for Adults and Adolescents

Diana R. Tamondong-Lachica, MD, EMCQSL,[1,2] Cary Amiel G. Villanueva, MD, MPH,[1,2]
Miriam Roxas-Timonera, MD[3,4] and Lia M. Palileo-Villanueva, MD, MSc[1,2]
for the Philippine Periodic Health Examination Task Force on Lifestyle Advice

[1]*Department of Medicine, Philippine General Hospital, University of the Philippines Manila, Manila, Philippines*
[2]*Department of Medicine, College of Medicine, University of the Philippines Manila, Manila, Philippines*
[3]*Adventist Medical Center, Iligan City, Philippines*
[4]*Mercy Community Hospital, Iligan City, Philippines*

ABSTRACT

Background. Lifestyle has a considerable impact on the prevalence and prognosis of noncommunicable diseases, which continue to be the leading causes of morbidity and mortality in the country and around the world. Cardiovascular disease, cancer, chronic lung disease, and diabetes are universally recognized as being significantly related to modifiable behaviors such as tobacco smoking, physical inactivity, and poor diet. Alzheimer's disease, multiple sclerosis, depression, and anxiety disorders have also been linked to lifestyle factors. Interventions to encourage healthy lifestyles and discourage hazardous behaviors among individuals aim to lower the burden of noncommunicable illnesses, improve survival, and improve individuals' and communities' overall quality of life.

Objective. This Philippine clinical practice guideline (CPG) was developed to provide recommendations on non-pharmacologic approaches to promote healthy lifestyles among adults and adolescents.

Methods. The Periodic Health Examination 2 (PHEX2) Lifestyle Advice Task Force proceeded through the preparation and prioritization, CPG generation, CPG appraisal, and implementation based on the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach to CPG development recommended by the Department of Health (DOH). Non-pharmacological interventions of interest for this guideline were *clinical interventions* that pertain to strategies done or recommended by individual providers to patients, likely in a clinic setting. Evidence review experts systematically reviewed existing clinical practice guidelines, appraised, and summarized the evidence. For questions on specific advice on healthy diet and physical activity, the ADAPTE methodology was applied after appraising existing CPGs with the AGREE II instrument. A multisectoral panel formulated recommendations through a formal consensus based on the evidence summaries. The CPG was externally reviewed prior to publication. In addition to general questions on financial and intellectual conflicts of interest (COI), typically associated with the pharmaceutical industry, specific questions related to lifestyle, such as involvement with weight loss clinics or programs, wellness centers, tobacco, and e-cigarettes, were included.

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Corresponding author: Diana R. Tamondong-Lachica, MD
College of Medicine
University of the Philippines Manila
547 Pedro Gil St., Ermita, Manila 1000, Philippines
Email: Drtamondonglachica@up.edu.ph
ORCiD: https://orcid.org/0000-0002-8921-9185

Results. Nineteen (19) recommendations were made by the consensus panel, including adopting the WHO guidelines on physical activity and diet. During the consensus panel meetings, the impact of lifestyle-focused interventions on disease prevention was primarily considered, as well as the effect of these interventions on the prognosis of established diseases.

Conclusions. The Philippine Guidelines on PHEX Phase 2 Lifestyle Advice CPG is a systematic synthesis of evidence to address lifestyle or nonpharmacologic interventions in preventing diseases and promoting better health. More evidence on the effectiveness and safety outcomes of lifestyle-related interventions, direct evidence for the prevention of internet addiction and internet gaming disorder, longer follow-ups for effects of electronic nicotine delivery systems (ENDS), and studies on cost-effectiveness, patients' preferences, and health equity impact assessments are needed to make more robust recommendations on a healthy lifestyle.

Keywords: lifestyle, nonpharmacologic interventions, prevention, behavioral interventions, primary care

INTRODUCTION

Lifestyle significantly impacts the occurrence and prognosis of noncommunicable diseases (NCDs), which still account for the majority of the causes of morbidity and mortality in the country and all around the world. The four major groups of NCDs (cardiovascular disease, cancer, chronic lung disease, and diabetes) are universally known to be strongly associated with modifiable behaviors such as **tobacco use, physical inactivity, and unhealthy diet**. Neurodegenerative and psychiatric diseases such as Alzheimer's disease, multiple sclerosis, depression, and anxiety disorder have also recently been linked to the said lifestyle-related factors.[1-5]

There are emerging but lesser-known lifestyle behaviors that are being investigated for their association with NCDs, namely **stress, risky sexual behavior, internet addiction, and e-cigarettes/electronic nicotine delivery systems (ENDS).** Stress has been described in several ways in medical literature (e.g., work stress/insecurity, marital stress, financial strain, social isolation, acute vs chronic stress, perceived stress), where it was cited to increase the risk for depression, anxiety disorder, problem drinking, drug dependence, suicide attempt or completion, heart attacks, and mortality.[6-9] Risky sexual behaviors – defined as those occurring outside a long-term, single-partner (monogamous) relationship, including: unprotected intercourse without male or female condom use, unprotected mouth-to-genital contact, having anal sex or a partner who does, early sexual activity, especially before age 18, having multiple sex partners, having a high-risk partner or one who has multiple sex partners or other risk factors, having sex with a partner who injects or has ever injected drugs, and exchange of sex for drugs or money) have not only been linked to sexually-transmitted disease and cervical cancer but to substance abuse and psychiatric comorbidity.[10] Internet addiction or pathological internet use is defined as an individual's uncontrollable use of the internet that has created psychological, social, and/or work problems in one's life.[11] The actual burden of internet addiction is not known, but is likely increasing; prevalence among youth may vary from 1.98% to 35.8%.[11-13] E-cigarettes/electronic nicotine delivery systems (ENDS) are being marketed as a harm reduction tool for tobacco smokers wishing to quit, with current smokers more likely to perceive ENDS as "healthier/less harmful" than conventional smoking. However, this acclaimed benefit has yet to be fully substantiated.

With this current knowledge, interventions to promote healthier lifestyles and discourage risky behaviors among patients are expected to reduce the burden of noncommunicable diseases and improve survival and the overall quality of life of individuals and communities.

The Philippine Guidelines on Periodic Health Examination (PHEX) Phase 2 Lifestyle Advice clinical practice guideline (CPG) is a systematic synthesis of evidence to address lifestyle or nonpharmacologic interventions in preventing diseases and promoting better health. The PHEX phase 2 (PHEX2) Lifestyle Advice CPG is an update of the first set of PHEX recommendations published for the first time in 2004.[14] The PHEX recommendations were formulated to answer the changing needs of health, evolving evidence, and health legislation, particularly the Universal Health Care Act, which mandates providing all Filipinos with access to quality and inexpensive medical services, including primary care coverage.[15]

METHODS

The PHEX2 Lifestyle Advice Task Force went through the four phases of the guideline development, namely preparation and prioritization, CPG generation, CPG appraisal, and implementation, following the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach recommended in the Department of Health (DOH) Manual for CPG Development.[16]

Preparation and Prioritization

In the preparation and prioritization phase, the Steering Committee (SC) set the CPG objectives, scope, target audience, and clinical/guideline questions.

Defining the Scope and Audience

Nonpharmacological intervention (NPI) for this guideline is defined as any type of health intervention not primarily based on medication. More specifically, the SC limited the NPIs of interest to *clinical interventions*, which pertain to strategies done or recommended by individual providers to

patients, likely in a clinic setting, as opposed to *public health or population-based interventions* such as tobacco taxation or systematic reduction of the salt content of food, which are also regarded as interventions on lifestyle.

The primary target users of this guideline are individual practitioners, including primary care providers and specialists, and secondarily, regulatory agencies and policymakers in the national government, training institutions, payors, patients, and the general public.

Setting Up Working Groups

The Technical Working Group, composed of evidence review experts (EREs), reviewed existing CPGs, appraised, and summarized evidence relevant to each clinical question. The SC emphasized the need to search and prioritize local studies to improve the applicability of the evidence and the feasibility of implementing the recommendations.

The SC then convened the Consensus Panel (CP) that included healthcare experts, including generalists and specialists, practitioners from public and private facilities, government agencies whose role is on health promotion/prevention of diseases, experts on CPG/evidence appraisal or health policy, and patient advocates. The explicit inclusion of a patient representative in the panel ensured that the actual perspectives of patients were brought into the recommendations and helped build capacity in lay individuals who can participate in future guideline development endeavors. The CP comprised 13 members, including three non-voting members and two non-voting observers from DOH.

Management of Conflicts of Interest

All task force members provided their curriculum vitae and a declaration form that included four years of personal potential intellectual and/or financial conflicts of interest (COI). A COI committee investigated and evaluated potential conflicts of interest and recommended how to handle them. People with financial COI were not permitted to vote on COI-related topics. Participants with non-financial COIs (such as authoring on the CPG topic) were allowed to participate; however, COIs were declared during the panel meeting and in the final manuscript.

Apart from general questions on financial and intellectual conflicts of interest which are primarily aligned with the pharmaceutical industry, the SC also provided COI questions specific to the topic of interest and included inquiries on involvement with weight loss clinics or programs, wellness centers, entities directly involved in the production, manufacture, distribution or sale of vaporizers, e-cigarettes, and other ENDS, or products for weight management and tobacco cessation.

CPG Generation

Creating and Prioritizing the Guideline Questions

In developing the guideline questions for the task force, the SC performed a scoping search of existing lifestyle guidelines as well as a ranking of topics based on the burden of disease, current controversy, cost-effectiveness, new evidence available, potential impact, public and provider interest, variation in care, sufficiency of evidence, and timeliness. Interventions that are linked to screening recommendations from the PHEX1 Guidelines, such as tobacco cessation (linked to screening for tobacco use), safe sex (linked to screening for high-risk sexual behavior), and healthy diet/physical activity (related to BMI screening for obesity), were prioritized. Adults and adolescents were identified as distinct

Table 1. Lifestyle Interventions Guideline Questions

Lifestyle Intervention	Guideline Questions
1. ***Tobacco cessation interventions***	Should nonpharmacologic interventions (clinical interventions such as brief intervention, telephone counseling, cognitive-behavioral approaches, patient education, self-help programs, exercise programs, etc.) be recommended to prevent smoking, COPD, and cancer among adolescents and adults?
2. ***Electronic nicotine delivery systems (ENDS)***	Should ENDS (vaping, heated tobacco products, novel tobacco products) be recommended to promote smoking cessation to prevent smoking, COPD, and cancer among adolescents and adults?
3. ***Interventions to promote physical activity***	Should nonpharmacologic interventions (behavioral counseling, psychological/motivational coaching) to promote physical activity be recommended to promote weight loss and prevent obesity and diabetes among adolescents and adults?
4. ***Interventions to promote a healthy diet***	Should nonpharmacologic interventions (behavioral counseling, psychological/motivational coaching) to promote healthy nutrition be recommended to promote weight loss and prevent obesity and diabetes among adolescents and adults?
5. ***Interventions to promote safe sex***	Should nonpharmacologic interventions to promote safe sex (clinical interventions such as safe sex education and advice, including condom use, sexually transmitted infection [STI] testing, counseling, and cognitive-behavioral approaches) be recommended to prevent STIs, teen/unintended pregnancy, and mental health issues among adolescents and adults who screened positive for high-risk sexual behavior?
6. ***Interventions for stress***	Should nonpharmacologic interventions on stress (clinical interventions: brief intervention, counseling, mindfulness therapy, stress management) be recommended to prevent mental health issues among adolescents and adults?
7. ***Interventions for excessive internet use***	Should nonpharmacologic interventions (brief intervention, counseling, education, and advice) for internet addiction be recommended to prevent mental health issues among adolescents and adults?

population groups. Clinical questions were finalized after obtaining feedback from stakeholder organizations (Table 1). The SC listed down potential outcomes of interest for each prioritized guideline question. The CP was then asked to rate each outcome based on its importance to decision-making on formulating recommendations for each guideline question using this scale: critical is 7-9, important but not critical: 4-6, and not important: 1-3. Appendix shows the average ratings given by the CP during initial question development as well as after the literature review.

Evidence Appraisal and Synthesis

Searches on electronic databases, including PubMed (MEDLINE), the Cochrane Library, and HERDIN Plus, were performed by two independent reviewers using MeSH and free text. The end dates of the search ranged from May to November 2021. The EREs searched for existing CPGs, including those of the United States Preventive Services Task Force (USPSTF), National Institute for Health and Care Excellence (NICE), Canadian Task Force on Preventive Healthcare, and Australian Clinical Practice Guidelines.

Two (2) EREs independently appraised the quality of each applicable guideline using the AGREE II instrument, and conflicts were resolved through consensus.[17] CPGs were eligible for adaptation if they were (a) recent (international: published not earlier than 2019; local: latest update was considered); (b) high-quality (overall AGREE II score ≥75%, AND scaled domain score ≥80% for "Rigour of Development"); and (c) had evidence profiles available. If the CPG were appraised as good quality and done within five years (2016-2021), the evidence summaries of the CPG were adopted. When reviewers found no CPG meeting the above criteria, relevant systematic reviews (SRs) published within two years were considered. SRs of high or moderate quality assessed by two EREs using the AMSTAR 2 tool were updated or adopted when no new pertinent studies were found. Following the GRADE approach, the EREs created evidence summaries for each clinical question, which included assessment of certainty of evidence (Table 2).[18]

The ADAPTE methodology was used to answer the clinical questions on healthy diet and physical activity.[19] Recommendations from CPGs meeting the same criteria above were adopted for the current guidelines.

Consensus-building and Formulation of the Recommendations

CP members rated the importance of outcomes using an online survey (Google Forms). The top seven critical or important outcomes for each question were presented during the *en banc* meetings (Appendix). The panel discussed considerations on each clinical question and voted on the wording and strength of each recommendation over, at most, three rounds of voting. The CP also participated in a modified Delphi process to decide which currently available diet and physical activity guidelines would be adopted for the PHEX2 Lifestyle. For a recommendation to be passed, there must be a consensus of at least 75% of the panelists in attendance.

In developing the guideline, evidence-based recommendations were formulated using the Evidence-to-Decision (EtD) framework. The EtD framework intends to facilitate the adaptation of expert and stakeholder recommendations and decisions based on domains such as local circumstances, essential health outcomes, benefits, and hazards while considering equity, applicability, and feasibility.[16,22] The panel decided the strength of each recommendation (strong or weak) by considering the certainty of evidence and the aforementioned EtD domains.

CPG Appraisal

External reviewers were identified from the initial list of stakeholders listed by the SC, but were not included in the consensus panel. These three independent stakeholders included two content experts and one method expert. They were asked to provide general responses to the CPG as a whole and to specific recommendations, as well as alternative recommendations if those drafted by the task force were deemed unacceptable. Also, they commented on the completeness of the evidence utilized and the

Table 2. GRADE Table of Certainty of Evidence and Strength of Recommendation[20,21]

Certainty of Evidence	Description
High	We are very confident that the true effect lies close to that of the estimated effect
Moderate	We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different
Low	Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect
Very low	We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of the effect
Strength of Recommendation	**Description**
Strong	The advantages of the intervention significantly outweigh the disadvantages or disadvantages of the intervention significantly outweigh advantages
Weak	The advantages of the intervention may outweigh the disadvantages, the disadvantages of the intervention may outweigh the advantages, or the relationship between advantages and disadvantages is not clear

clarity, rationale, and ease of implementation of specific recommendations. Changes recommended by the external reviewers have been integrated into this guideline version. The CPG recommendations were also presented at conferences and to relevant societies for their comments and suggestions.

Update and Dissemination

The recommendations in this CPG shall hold and will be updated after three years or when new evidence arises, as decided by the SC.

The SC discussed preparing a dissemination plan that will actively encourage the implementation of this guideline using copyright methods with pertinent stakeholders, such as DOH and PhilHealth. Making several versions that are available online, at press events, on social media, at professional society conventions, and in journal publishing were among the suggestions. All recommendations and evidence summaries were posted in a web-based application (htpps://phex.ph) to facilitate utilization by individual providers in the clinics. The approved version of the guideline is available on the Compendium of DOH-approved Clinical Practice Guidelines website (https://doh.gov.ph/dpcb/doh-approved-cpg) by the National Practice Guidelines Program (Expanded NPGP) of the DOH Prevention and Control Bureau Evidence Generation and Management Division (DPCB-EGMD).

RESULTS

The CP made nineteen (19) recommendations, including those adopting the WHO Guidelines on Physical Activity and Sedentary Behavior (composed of 15 statements), the WHO Guidelines on Saturated Fatty Acid and Trans-fatty Acid Intake for Adults and Children (consisting of 4 statements), 2015 WHO Guideline on Sugars Intake for Adults and Children (composed of 3 statements), 2012 WHO Guideline on Sodium Intake for Adults and Children (consisting of 4 statements), and 2012 WHO Guideline on Potassium Intake for Adults and Children (composed of 4 statements). A summary of the lifestyle recommendations can be found in Table 3.

Smoking Cessation

Recommendation 1: We recommend the use of non-pharmacologic interventions, such as counseling for smoking cessation, for healthy non-pregnant Filipino adults. *(Very low certainty of evidence, strong recommendation)*

Recommendation 2: We recommend the use of non-pharmacologic interventions such as counseling for smoking cessation and prevention of smoking initiation for healthy non-pregnant adolescents. *(Very low certainty of evidence, strong recommendation)*

Key findings: In the Philippines, the Global Burden of Disease study estimates tobacco use as the leading risk factor propelling both death and disability for all ages combined.[23] The USPSTF 2021 recommendations for smoking cessation in adults cited a review where the pooled effect of 26 trials found that smokers who were offered cessation advice by a physician were 76% more likely to quit after six months or longer (RR 1.76, 95% CI 1.58 to 1.96) compared to those who were given usual care or did not receive advice.[24] Behavioral interventions for smoking cessation, such as internet-based interventions, incentives, and hypnotherapy, were not associated with serious adverse events. None of the reviews found an excess in adverse events, such as pre-quit withdrawal symptoms, in patients receiving behavioral interventions.[25-27]

For adults, individualized advice on the health effects of smoking did not lead to a statistically significant difference between intervention and control groups in all-cause mortality (RR 0.95, 95% CI 0.84 to 1.09), cardiovascular disease (RR 0.89, 95% CI 0.70 to 1.13), and lung cancer (RR 0.91, 95% CI 0.66 to 1.24).[28] However, this study was conducted in adult males who were deemed to be at high risk for developing cardiopulmonary diseases in the 1970s.

Adolescents with behavioral nonpharmacologic interventions (personal counseling, group counseling, customized texting, smartphone applications, and telephone counseling) at 6 months had a higher rate of smoking cessation compared to those without behavioral intervention (RR 1.30, 95% CI 1.20 to 1.41).[29] Adolescents who received behavioral intervention were 26% less likely to begin smoking than those who received standard care based on 4 studies (RR 0.74, 95% CI 0.59 to 0.93).[30,31]

Justification: Smoking cessation interventions for adults and adolescents were generally viewed to be favorable by the CP. No undesirable effects were noted in studies, but the certainty of evidence was very low. There were several concerns raised about the necessary resources in the program (need to train personnel), the provider (upskilling and added time for counseling), and the patient fronts (time and travel costs). However, panelists considered smoking cessation interventions to be cost-effective because quitting can save lives and reduce healthcare costs. Variability in access to the intervention also raised equity issues.

Since many individuals start smoking in adolescence, the panel strongly believed that prevention of long-term smoking should be introduced early, despite the very low certainty of evidence. Additionally, strong recommendations for adults and adolescents were issued due to available evidence of effectiveness, potential downstream positive effects on cardiovascular disease, and cost savings.

Table 3. Summary of Recommendations on Lifestyle Interventions

	Recommendation Statements	Strength of Recommendation	Certainty of Evidence
1.	***We recommend the use of nonpharmacologic interventions such as counseling for smoking cessation for healthy, non-pregnant Filipino adults.***	Strong	Very low
2.	***We recommend the use of nonpharmacologic interventions such as counseling for smoking cessation and prevention of smoking initiation for healthy non-pregnant adolescents.***	Strong	Very Low
3.	***We recommend AGAINST the use of electronic nicotine delivery systems (ENDS) for smoking cessation, prevention of smoking initiation, and prevention of relapse among non-pregnant Filipino adults.***	Strong	Very Low
4.	***We recommend AGAINST the use of ENDS for smoking cessation, prevention of smoking, and prevention of relapse among Filipino adolescents.***	Strong	Very Low
5.	***We recommend the use of nonpharmacologic interventions for safe sex to prevent sexually transmitted infections, unintended pregnancy, and unprotected intercourse, and to promote consistent condom use among Filipino adults who screened positive for high-risk sexual behaviors.***	Strong	Low
6.	***We recommend the use of nonpharmacologic interventions for safe sex to prevent sexually transmitted infections, unintended pregnancy, and unprotected intercourse and promote consistent condom use among Filipino adolescents who screened positive for high-risk sexual behaviors.***	Strong	Very Low
7.	***We suggest the use of nonpharmacologic interventions for stress to prevent mental health issues and reduce stress among Filipino adults.***	Weak	Very Low
8.	***We suggest nonpharmacologic interventions for stress reduction to prevent mental health issues among Filipino adolescents.***	Weak	Very Low
9.	***We suggest the use of nonpharmacologic interventions for internet addiction among adults with internet addiction/internet gaming disorder.***	Weak	Very Low
10.	***We suggest the use of nonpharmacologic interventions for internet addiction in the general adolescent population.***	Weak	Very Low
11.	***We recommend the use of nonpharmacologic interventions for internet addiction among adolescents with internet addiction/internet gaming disorder.***	Strong	Very Low
12.	***We recommend the use of behavioral counseling or psychological/motivational coaching for healthy nutrition to promote weight loss, prevent hypertension, and prevent diabetes among Filipino adults without cardiovascular risk factors.***	Strong	Low
13.	***We suggest AGAINST the use of psychological/motivational coaching or behavioral counseling to promote healthy nutrition in the general Filipino adolescent population.***	Weak	Very Low
14.	***We recommend the use of psychological/motivational coaching or behavioral counseling to promote healthy nutrition among obese Filipino adolescents.***	Strong	Very Low
15.	***We recommend the use of brief interventions, psychological/motivational coaching, or behavioral counseling for physical activity to prevent hypertension, diabetes, and obesity, to promote weight loss, and to increase physical activity among Filipino adults without cardiovascular risk factors.***	Strong	Low
16.	***We suggest AGAINST the use of psychological/motivational coaching or behavioral counseling to promote physical activity in the general Filipino adolescent population.***	Weak	Very Low
17.	***We recommend the use of psychological/motivational coaching or behavioral counseling for physical activity for the prevention of hypertension, diabetes, and obesity and to promote weight loss among obese Filipino adolescents.***	Strong	Very Low
18.	***We recommend the adoption of the 2020 WHO Guidelines on Physical Activity and Sedentary Behavior.***	Refer to recommendation statements 18.1 to 18.15 below	
19.	***We recommend the adoption of the following guidelines on healthy nutrition:*** • 2018 WHO Guideline on Saturated Fatty Acid and Trans-fatty Acid Intake for Adults and Children • 2015 WHO Guideline on Sugar Intake for Adults and Children • 2012 WHO Guideline on Sodium Intake for Adults and Children • 2012 WHO Guideline on Potassium Intake for Adults and Children	Refer to recommendation statements 19.1 to 19.14 below	
Adopted from the 2020 WHO Guidelines on Physical Activity and Sedentary Behavior			
18.1.	***Children and adolescents should do at least an average of 60 minutes per day of moderate- to vigorous-intensity, mostly aerobic, physical activity across the week.***	Strong	Moderate
18.2.	***Vigorous-intensity aerobic activities, as well as those that strengthen muscle and bone, should be incorporated at least 3 days a week.***	Strong	Moderate
18.3.	***Children and adolescents should limit the amount of time spent being sedentary, particularly the amount of recreational screen time.***	Strong	Low
18.4.	***All adults should undertake regular physical activity.***	Strong	Moderate

Table 3. Summary of Recommendations on Lifestyle Interventions *(continued)*

	Recommendation Statements	Strength of Recommendation	Certainty of Evidence
18.5.	*Adults should do at least 150–300 minutes of moderate-intensity aerobic physical activity; or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week, for substantial health benefits.*	Strong	Moderate
18.6.	*Adults may increase moderate-intensity aerobic physical activity to more than 300 minutes; or do more than 150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week for additional health benefits.*	Weak	Moderate
18.7.	*Adults should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits.*	Strong	Moderate
18.8.	*To help reduce the detrimental effects of high levels of sedentary behavior on health, adults should aim to do more than the recommended levels of moderate- to vigorous-intensity physical activity.*	Strong	Moderate
18.9.	*All older adults should undertake regular physical activity.*	Strong	Moderate
18.10.	*Older adults should do at least 150–300 minutes of moderate-intensity aerobic physical activity; at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week, for substantial health benefits.*	Strong	Moderate
18.11.	*Older adults should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits.*	Strong	Moderate
18.12.	*As part of their weekly physical activity, older adults should do varied multicomponent physical activity that emphasizes functional balance and strength training at moderate or greater intensity on 3 or more days a week to enhance functional capacity and prevent falls.*	Strong	Moderate
18.13.	*Older adults may increase moderate-intensity aerobic physical activity to more than 300 minutes; do more than 150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week for additional health benefits.*	Weak	Moderate
18.14.	*Older adults should limit the amount of time spent being sedentary. Replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits.*	Strong	Moderate
18.15.	*To help reduce the detrimental effects of high levels of sedentary behavior on health, older adults should aim to do more than the recommended levels of moderate to vigorous-intensity physical activity.*	Strong	Moderate
Adopted from the 2018 WHO Guideline on Saturated Fatty Acid and Trans-fatty Acid Intake for Adults and Children			
19.1.	*In adults and children whose saturated fatty acid intake is greater than 10% of total energy intake, WHO recommends reducing saturated fatty acid intake.*	Strong	Moderate
19.2.	*In adults and children, WHO suggests reducing the intake of saturated fatty acids to less than 10% of total energy intake.*	Weak	Low
19.3.	*WHO suggests using polyunsaturated fatty acids as a source of replacement energy, if needed, when reducing saturated fatty acid intake.*	Weak	Low
19.4.	*In adults and children whose saturated fatty acid intake is less than 10% of total energy intake, the WHO suggests no increase in saturated fatty acid intake.*	Weak	Low
Adopted from the 2015 WHO Guideline on Sugar Intake for Adults and Children			
19.5.	*WHO recommends a reduced intake of free sugars throughout the life course.*	Strong	Moderate
19.6.	*In both adults and children, the WHO recommends reducing the intake of free sugars to less than 10% of total energy intake.*	Strong	Moderate
19.7.	*WHO suggests a further reduction of the intake of free sugars to below 5% of total energy intake.*	Weak	Very Low
Adopted from the 2012 WHO Guideline on Sodium Intake for Adults and Children			
19.8.	*WHO recommends a reduction in sodium intake to reduce blood pressure and risk of cardiovascular disease, stroke, and coronary heart disease in adults.*	Strong	Very Low
19.9.	*WHO recommends a reduction in sodium intake to control blood pressure in children.*	Strong	Very Low
19.10.	*WHO recommends a reduction to <2 g/day sodium (5 g/day salt) in adults.*	Strong	Very Low
Adopted from the 2012 WHO Guideline on Potassium Intake for Adults and Children			
19.11.	*WHO suggests an increase in potassium intake from food to control blood pressure in children.*	Weak	Very Low
19.12.	*The recommended potassium intake of at least 90 mmol/day should be adjusted downward for children based on the energy requirements of children relative to those of adults.*	-	-
19.13.	*WHO recommends an increase in potassium intake from food to reduce blood pressure and risk of cardiovascular disease, stroke, and coronary heart disease in adults*	Strong	Very Low
19.14.	*WHO suggests a potassium intake of at least 90 mmol/day (3510 mg/day) for adults*	Weak	Very Low

Electronic Nicotine Delivery Systems (ENDS)

Recommendation 3: We recommend AGAINST the use of ENDS for smoking cessation, prevention of smoking initiation, and prevention of relapse among non-pregnant Filipino adults. *(Very low certainty of evidence, strong recommendation)*

Recommendation 4: We recommend AGAINST the use of ENDS for smoking cessation, prevention of smoking, and prevention of relapse among Filipino adolescents. *(Very low certainty of evidence, strong recommendation)*

Key findings: ENDS, also known as electronic cigarettes, vapes, or vapor products, are battery-operated devices containing a solution, with or without nicotine, that produces aerosols or mist when heated, which users inhale to mimic the act of smoking.[32] In the Philippines, the 2015 Global Adult Tobacco Survey reported that the prevalence of ever users and current users of electronic cigarettes was at 2.8% and 0.8%, respectively.[33] For the adolescent population (13- to 15-year-old students), 11.7% have ever tried or experimented with electronic cigarettes, even one or two puffs.[34]

Among adults, pooled results from 9 RCTs showed higher smoking cessation rates among those who used nicotine electronic cigarettes compared to nicotine replacement therapy or behavioral support (RR 1.84, 95% CI 1.43 to 2.26). There was a higher incidence of adverse events among ENDS users versus any comparator (RR 1.10, 95% CI 1.02 to 1.18). Commonly reported adverse events of ENDS include cough, mouth or throat irritation, headache, and nausea.[35-38]

As of June 2020, the U.S. Centers for Disease Control and Prevention has reported 2,807 cases of E-cigarette or vaping product use-associated acute lung injury (EVALI) and 68 EVALI-associated patient deaths. A systematic review of 41 reports on lung injury associated with vaping that included 216 patient cases described the clinical characteristics and outcomes of EVALI.[39] All cases reported a pattern of nonspecific acute lung injury; the most common histopathologic features include organizing pneumonia (59%). Of the 95% of patients who required hospitalization, 27% were intubated, and most (95%) were eventually discharged.

Four (4) studies among the adult population reported smoking initiation or relapse among ENDS users.[40-42] We did not pool the results because of significant heterogeneity (I^2 = 91%). However, all four studies consistently showed that ENDS increases the risk for initiation or relapse to conventional smoking compared to non-ENDS users (adjusted odds ratios ranged from 2.72 to 6.06). Self-reported quality of life did not differ between those given electronic cigarettes compared to usual care, which included information on stop-smoking services. [33] Participants were more likely to adhere to ENDS than nicotine patches, replacement therapy, or placebo e-cigarettes at 12 weeks' follow-up (RR 1.81, 95% CI 1.28 to 2.56).[43,44] This adherence, however, decreased over time across all groups.

For adolescents, one observational study involving those aged 16-18 years found no significant difference in the change in the number of days smoked in the past 30 days between adolescents exposed and unexposed to e-cigarettes (mean difference 0.64 days, 95% CI -0.21 to 1.49).[45] There were higher rates of smoking prevention among adolescents with no ENDS exposure compared to those with exposure, regardless of individual susceptibility to cigarette smoking (unknown susceptibility: adjusted RR 2.77, 95% CI 2.12 to 3.64; non-susceptible: adjusted RR 3.46, 95% CI 2.14 to 5.61; susceptible: adjusted RR 1.60, 95% CI 1.32 to 1.94).[46]

No cost-effectiveness, cost-utility, or cost-benefit study on ENDS done in the Philippines was found. In the Philippines, the DOH and FDA have warned the general public about the safety of electronic cigarettes, especially regarding their lasting effect, for which more long-term epidemiological studies are needed.[47]

Justification: While there are some desirable effects shown in the studies for the use of ENDS, the undesirable effects, feasibility, and resource domains outweigh these benefits. The benefits of ENDS appeared to last until 12 months, but there were high rates of relapse. Several panelists shared reservations about ENDS being perceived as an alternative to smoking, given the adverse effects associated with ENDS, which may harm the population. There is uncertainty, particularly among adolescents, regarding values surrounding the use of ENDS. Because of perceived harms, including from known chemical components of e-cigarettes and reports of lung injury, the guideline panel strongly recommended against the use of ENDS.

Safe Sex

Recommendation 5: We recommend the use of non-pharmacologic interventions for safe sex to prevent sexually transmitted infections (STIs), unintended pregnancy, and unprotected intercourse, and to promote consistent condom use among Filipino adults who screened positive for high-risk sexual behaviors. *(Low certainty of evidence, strong recommendation)*

Recommendation 6: We recommend the use of non-pharmacologic interventions for safe sex to prevent sexually transmitted infections (STIs), unintended pregnancy, and unprotected intercourse, and promote consistent condom use among Filipino adolescents who screened positive for high-risk sexual behaviors. *(Very low certainty of evidence, strong recommendation)*

Key findings: The 2013 Young Adult Fertility and Sexuality Study in the Philippines (YAFS4) saw an increasing proportion of youth who have begun sexual activity before 18 years old, with an almost two-fold increase to 23% in 2013 from 13% in 1994.[48] It is estimated that there are nearly 2 million unintended pregnancies per year and over 600,000 unsafe abortions in the country, yet only about

3% of women who desire to avoid pregnancy receive contraceptive counseling. According to the WHO, unwanted pregnancies may lead to serious health risks to the mother, which may include malnutrition, abuse, unsafe abortion, and even death. In 2016, the United Nations Population Fund Philippines (UNFPA) reported a PhP 33 billion loss in potential life income due to early pregnancy, which affects the completion of education and results in a significant decrease in predicted daily wage.[49]

Evidence on adults showed no significant benefit between interventions) including computer-based feedback sessions and individual counseling on safe sex) compared to no intervention in preventing unintended pregnancy (RR 0.88, 95% CI 0.73 to 1.05). There was a lower risk of STIs with the interventions (RR 0.86, 95% CI 0.76 to 0.97). Subgroup analysis showed that low-contact counseling (cumulative contact time <30 minutes) and high-contact time (>2 hours) significantly reduced the risk of STIs (low-contact RR 0.85, 95% CI 0.78 to 0.92; high-contact RR 0.74, 95% CI 0.56 to 0.99), while no significant benefit was observed with moderate-contact time (30 minutes to 2 hours; RR 0.91, 95% CI 0.76 to 1.10). Compared to no intervention, group counseling interventions prevented STIs (RR 0.75, 95% CI 0.64 to 0.88), while there was an inconclusive effect of individual counseling (RR 0.92, 95% CI 0.69 to 1.23) and media-based interventions (RR 0.88, 95% CI 0.75 to 1.03).[50-54] There was no significant difference in unprotected intercourse between adults with interventions compared to no intervention (mean difference -0.56 vaginal sex events, 95% CI -1.58 to 0.46). There was also no significant difference in condom use (RR 1.11, 95% CI 0.99 to 1.23).

Combined individual and group counseling sessions among women with a history of intimate partner violence did not show a significant reduction in depression scores (MD 0.95 points, 95% CI -0.74, 2.63), generalized anxiety scores (MD -3.04 points, 95% CI -6.65, 0.57), and PTSD symptom scores (MD -2.37 points, 95% CI -10.81, 6.07).[55] There were no studies that reported on mortality, either from acquired STIs, the intervention itself, or unintended parenthood.

Among adolescents, the effect of group counseling on safe sex interventions compared to individual counseling on unintended adolescent pregnancy was inconclusive (RR 1.02, 95% CI 0.62 to 1.65). There was also an inconclusive effect of interventions with moderate contact time compared to no counseling on STI incidence (RR 0.68, 95% CI 0.33 to 1.38). Interventions with high contact time significantly decreased the incidence of STIs compared to no counseling (RR 0.79, 95% CI 0.65 to 0.97). Individual or group counseling decreased STI incidence compared to no counseling (RR 0.79, 95% CI 0.65 to 0.96). On subgroup analysis, individual counseling did not significantly decrease STI incidence (RR 0.75, 95% CI 0.49 to 1.15), whereas group interventions significantly reduced the incidence of STIs (RR 0.80, 95% CI 0.64 to 0.99). Individual counseling interventions did not significantly increase condom use (RR 0.86, 95% CI 0.62 to 1.19), while condom use increased with group interventions (RR 1.27, 95% CI 1.13 to 1.42).

We found no local cost-effectiveness studies on nonpharmacologic interventions in a primary care setting for adults and adolescents with high-risk sexual behaviors. Although condoms are available for purchase and for free in primary care settings, social stigma against sex outside of marriage serves as an important barrier to most Filipinos, especially the youth. Many Filipinos living with HIV (aged 18-35) reported feeling uneasy when procuring condoms.[54] Barriers to providing contraceptive advice among healthcare workers include inadequate and outdated knowledge and training of some healthcare workers on modern contraceptive methods, the lack of skills and comfort in counseling patients on reproductive health, personal religious beliefs of the healthcare providers, reliance on patients to initiate discussions on sexual health, and even external pressures imposed upon providers by religious and anti-reproductive health groups.[56]

Justification: The evidence showed the benefit, without significant adverse effects, of counseling on safe sex. While rural health units already stock condoms, there remains a high resource requirement in terms of personnel for training patients on condom use and distributing condoms. Patient burden is likely low, and several panelists viewed the nonpharmacologic interventions as cost-effective and beneficial. Thus, nonpharmacologic interventions were strongly recommended by the CP despite the low/very low certainty of evidence. Preferences and acceptability may differ from other geographical regions, and Filipino sexual attitudes are shaped by the predominant religion. Health promotion and disease prevention (i.e., sexually transmitted infections) are aligned with universal healthcare goals. The burden of STIs and teenage pregnancy is also of concern, so early intervention for high-risk individuals is desirable. Adolescents still require the consent of their parents and are economically dependent on them. The existence of adolescent-friendly health facilities may aid with implementation.

Stress Reduction

Recommendation 7: We suggest the use of nonpharmacologic interventions for stress to prevent mental health issues and to reduce stress among Filipino adults. *(Very low certainty of evidence, weak recommendation)*

Recommendation 8: We suggest nonpharmacologic interventions for stress reduction to prevent mental health issues among Filipino adolescents. *(Very low certainty of evidence, weak recommendation)*

Key findings: Depression and anxiety are common mental disorders globally. Locally, 3.3% of the population had depressive disorders, while 3.1% had anxiety disorders, according to the Global Burden of Disease study in 2015. Depressive disorders accounted for an estimated 554,100

years lived with disability (YLD), while anxiety disorders accounted for 284,591 YLD in the country.[57]

Pooled results of 10 RCTs done on adults showed lower mean scores on anxiety scales among those who received various NPIs compared to placebo or usual clinical management (SMD -0.29, 95% CI -0.43 to -0.14). Subgroup analysis according to the type of NPI showed significantly lower anxiety scores among those who received cognitive behavioral therapy (CBT) (SMD -0.14, 95% CI -0.21, -0.06) and Acceptance and Commitment Therapy (ACT) (SMD -0.83, 95% CI -1.01, -0.65) compared to no NPI. There was no significant difference in anxiety scores for those who underwent a psychoeducational program (SMD -0.72, 95% CI -1.06 to 0.37). There was an inconclusive effect of CBT and guided self-help intervention on the odds of developing anxiety disorders compared to no NPI (OR 0.64, 95% CI 0.19 to 2.13).[58] There were significantly lower depression scores among those who received NPI, which consisted mainly of cognitive behavioral therapy, compared to no NPI (SMD -0.16, 95% CI -0.26 to -0.07).[59]

Among undergraduate and post-graduate health professional students, there were significantly lower stress scores with group interventions compared to no NPI (SMD -0.33, 95% CI -0.52, -0.14). Mindfulness interventions consisting of psychoeducation, mindfulness-based cognitive-behavioral intervention, breath awareness, body awareness, and Hatha yoga postures resulted in the lowest reduction in stress scores (SMD -0.54, 95% CI -0.85, -0.24).[60]

For the adolescent population, one RCT showed a lower risk of developing anxiety among adolescents who received either group or internet interventions compared to a waitlist control group (38 to 43% reduction in generalized anxiety disorder).[61] There was also a significant reduction in anxiety scores among adolescents with cognitive-based interventions compared to no NPI (SMD -0.19, 95% CI -0.27, -0.11).[62,63] Significant reduction in depression scores was observed among adolescents with behavioral interventions compared to no intervention (SMD -0.30, 95% CI -0.56 to -0.05). Group CBT significantly lowered depression symptom severity compared to no intervention (Cohen's d -0.29, 95% CI -0.39 to -0.18).[64] Beyond six months, however, there seems to be a decay in the effect of behavioral interventions, with depression scores becoming comparable between the intervention and control groups.[64-66]

No adverse events were reported, and the intervention seems acceptable in that there were no documented dropouts in the study.[67]

No local cost-effectiveness studies were found on the use of nonpharmacologic interventions for stress to prevent mental health issues among adolescents and adults. A systematic review found that Filipinos aged 17-70 years old showed reluctance to seek mental health care.[68] Filipinos were more inclined to seek help from family and friends and consider seeking professional help as a last resort.

Justification: Most evidence-to-decision domains favor the interventions on stress, but some interventions, e.g., cognitive behavioral therapy, are more time- and resource-intensive. There were also concerns about adherence to therapy sessions with patients having other life priorities and issues with access. Web-based and telehealth services may be considered as alternative means of delivery. There may also be equity issues, as those who could benefit more from such interventions may not have access to them. For adolescents, stigma and parental attitudes may influence the acceptability of the intervention.

Internet Addiction

Recommendation 9: We suggest the use of nonpharmacologic interventions for internet addiction among adults with internet addiction/internet gaming disorder. *(Very low certainty of evidence, weak recommendation)*

Recommendation 10: **We suggest the use of nonpharmacologic interventions for internet addiction in the general adolescent population.** *(Very low certainty of evidence, weak recommendation)*

Recommendation 11: We recommend the use of nonpharmacologic interventions for internet addiction among adolescents with internet addiction/internet gaming disorder. *(Very low certainty of evidence, strong recommendation)*

Key findings: Early local studies on internet addiction done in 2008 and 2009 using the internet addiction test questionnaire showed that 74% of young adults in college had internet addiction, with 5% classified as having severe dependence.[69] A similar study on senior college students found that 68.5% were classified to have moderate internet addiction, and 0.94% were rated to be severe.[70] Mental health problems such as anxiety, depression, and self-harm are associated with diagnosed internet addiction (IA) or problematic interactive media use (PIMU).[71-73]

A meta-analysis of 23 studies involving adolescents and adults reported that NPIs reduced the severity of IA or internet gaming disorder (IGD) at the end of treatment (Hedges' g = 1.84, 95% CI 1.37 to 2.31).[74] Cognitive behavioral therapy compared to no NPI showed a moderate effect in reducing anxiety (Hedges' g 0.55, 95% CI 0.17, 0.93).[75]

One (1) RCT showed that behavior group therapy over six sessions significantly reduced internet usage among adolescents compared to no NPI (MD -16.07 hours/week, 95% CI -21.2 to -11.0).[76]

No cost-effectiveness studies were found on interventions to prevent IA / IGD.

Justification: The guideline panel recognizes the lack of consensus on defining IA. Given the lack of direct evidence of benefits and resources required to prevent these disorders in healthy adults, interventions may be more beneficial for adults already diagnosed with IA disorder. Meanwhile,

adolescents with developing emotional and cognitive faculties are more prone to risky behavior. The panel gave more weight to the preventive value of NPI for IA in this higher-risk population.

Healthy Nutrition/Diet

Recommendation 12: We recommend the use of brief interventions, psychological/motivational coaching, or behavioral counseling to promote healthy nutrition to prevent hypertension, diabetes, and obesity, encourage weight loss, and increase physical activity among Filipino adults without cardiovascular risk factors. *(Low certainty of evidence, strong recommendation)*

Recommendation 13: We suggest AGAINST the use of psychological/motivational coaching or behavioral counseling to promote healthy nutrition in the general Filipino adolescent population. *(Very low certainty of evidence, weak recommendation)*

Recommendation 14: We recommend the use of psychological/motivational coaching or behavioral counseling to promote healthy nutrition among obese Filipino adolescents. *(Very low certainty of evidence, strong recommendation)*

Key findings: NPIs such as coaching to promote a healthy diet (HD) with or without physical activity (PA) resulted in a statistically significant lowering of systolic blood pressure compared to no NPI (MD -1.48 mmHg, 95% CI -2.05 to -0.90) based on 16 RCTs.[77] Lower diastolic blood pressure was also observed with interventions on HD alone (MD -0.72 mmHg, 95% CI -0.91, -0.52), but no significant difference was observed with HD+PA interventions (MD -0.62 mmHg, 95% CI -1.37 to 0.13).

Counseling interventions for HD with or without PA compared to no NPI resulted in a statistically significant reduction of fasting plasma glucose (FPG) (MD -1.14 mg/dL, 95% CI -2.00, -0.27) and body mass index (MD -0.56 kg/m^2, 95% CI -0.72, -0.39).

Counseling on a healthy diet showed a trend towards benefit on composite cardiovascular outcomes that included myocardial infarction (MI), coronary heart disease death, cardiovascular death, need for myocardial revascularization, and stroke, compared to no NPI (RR 0.92, 95% CI 0.85, 1.00).[18-20] However, counseling on HD had no benefit on all-cause mortality (RR 0.98, 95% CI 0.90 to 1.05) and cardiovascular mortality (RR 0.98, CI 0.79 to 1.22).

Among adolescents, behavioral counseling on HD had no significant effect on body mass index compared to no NPI (MD ranged from -1.81 to 0.80 kg/m^2). The estimate was not pooled due to high heterogeneity across studies (I^2 = 90%). However, behavioral counseling led to a significant reduction in systolic blood pressure (MD -3.65 mmHg, 95% CI -6.69, -0.61) and diastolic blood pressure (MD -3.44 mmHg, 95% CI -5.02, -1.86). Nutritional counseling had no effect on FPG compared to no counseling (MD 0.17 mg/dL, 95% CI -0.03, 0.37).

There are no local studies on cost-effectiveness, patient preferences, social impact, equity issues, and health systems impact using motivational coaching or behavioral counseling to promote healthy nutrition among obese, overweight, or at-risk adolescents. Studies from other countries suggest parents and families have positive experiences with office- or home-based motivational interviewing on diet.

Justification: Nutrition counseling can benefit apparently healthy individuals as well as those already suffering from overnutrition. Implementation will require intensive human resources, and no local cost-effectiveness studies are available. Despite the low/very low certainty of evidence, the panel gave a strong recommendation citing evidence of benefit (particularly for systolic and diastolic blood pressures for adults and adolescents; FPG and BMI among adults), outweighing the disease burden without intervention. Nutrition interventions are expected to have a significant impact on noncommunicable disease outcomes.

Physical Activity

Recommendation 15: We recommend the use of brief interventions, psychological/motivational coaching, or behavioral counseling for physical activity to prevent hypertension, diabetes, and obesity, to promote weight loss, and to increase physical activity among Filipino adults without cardiovascular risk factors. *(Low certainty of evidence, strong recommendation)*

Recommendation 16: We suggest AGAINST the use of psychological/motivational coaching or behavioral counseling to promote physical activity in the general Filipino adolescent population. *(Very low certainty of evidence, weak recommendation)*

Recommendation 17: We recommend the use of psychological/motivational coaching or behavioral counseling for physical activity for the prevention of hypertension, diabetes, and obesity, and to promote weight loss among obese Filipino adolescents. *(Very low certainty of evidence, strong recommendation)*

Key findings: The prevalence of overweight and obesity among adults increased from 16.6% in 1993 to 37.2% in 2018, while high fasting blood glucose doubled from 3.4% in 2003 to 6.7% in 2018. The prevalence of elevated blood pressure among persons 20 years old and above remains high at 19% in 2018. Furthermore, around 4 in 10 adults (40.6%) report being insufficiently physically active.[78]

Evidence from 21 RCTs among adults showed that behavioral interventions such as individual and group counseling and tailored print mailings on the duration of physical activity, compared to no behavioral intervention, led

to longer engagement in physical activity (MD 38.3 minutes longer, 95% CI 25.7, 51.0). For adolescents, one RCT on motivational interviewing to promote physical activity showed no significant effect on BMI at six months follow-up compared to no NPI (MD -1.76 kg/m2, 95% CI -4.57, 1.05). There was an inconclusive effect on the length of physical activity (MD 23.4 minutes longer, 95% CI -22.2, 69.0).[79]

Behavioral interventions for healthy nutrition and physical activity led to a significant reduction in both systolic and diastolic blood pressures compared to no NPI (systolic blood pressure MD -3.65 mmHg, 95% CI -6.69, -0.61; diastolic blood pressure -3.44 mmHg, 95% CI -5.02, -1.86). Evidence showed no significant difference in fasting plasma glucose (MD 0.17 mg/dL, 95% CI -0.03, 0.37) between behavioral counseling and no NPI.

We did not find studies on cost-effectiveness, patient values and preferences, social impact, equity issues, and health systems' impact on the use of behavioral counseling to promote adolescent physical activity.

Justification: The CP gave a strong recommendation for counseling or psychological/motivational coaching for healthy nutrition among adults despite the low certainty of evidence due to the potential advantages of weight management, including a reduction in noncommunicable diseases. The CP discussed some identified challenges for these interventions. While physical activity is generally valued, the life priorities of patients vary. Some communities still do not view weight loss, or weight management, as desirable and instead think of obesity as being "healthy." Some panelists raised concerns about interventions being time-intensive for both patients and providers. Training may incur expenses for healthcare workers, such as travel to sessions. Patients will also need to consider access to and costs of a decent internet connection and text messaging for communication with their healthcare professionals. However, these potential advantages were deemed to outweigh its challenges. For adolescents, conclusive benefits are limited to reducing blood pressure, but the evidence may change eventually. Despite the very low certainty of evidence, the panelists opted to strongly recommend non-pharmacologic interventions for adolescents at risk of obesity-related complications in the future. Patients at the extremes of growth charts will require more intensive interventions, which can be costly and time-consuming.

Specific Advice on Healthy Diet and Physical Activity

Recommendation 18: We recommend the adoption of the 2020 WHO Guidelines on Physical Activity and Sedentary Behavior.

Recommendation 19: We recommend the adoption of the 2018 WHO Guidelines on Saturated Fatty Acid and Trans-fatty Acid Intake for Adults and Children, the 2015 WHO Guideline on Sugar Intake for Adults and Children, the 2012 WHO Guideline on Sodium Intake for Adults and Children, and the 2012 WHO Guideline on Potassium Intake for Adults and Children.

Justification: The CP considered two international guidelines on physical activity that met the preset criteria for adapting: World Health Organization (WHO) Guidelines on Physical Activity and Sedentary Behavior 2020 and the Canadian 24-Hour Movement Guidelines for Adults Aged 18-64 Years or Older: An Integration of Physical Activity, Sedentary Behavior, and Sleep 2019. No relevant guidelines from the Philippines were found. Both guidelines included recommendations on the type, intensity, and duration of physical activity for adults. The WHO guidelines covered pediatric (children and adolescents) and adult (adults and older adults) populations. Level of evidence and strength of recommendation, as well as links to the evidence summaries, were provided by both guidelines. The CP favored the WHO recommendations since they included adolescents, were more recently developed, and appeared more straightforward for users to understand.

For nutrition advice, the CP considered three guidelines that met preset criteria for adaptation: the WHO Healthy Diet Fact Sheet 2018 (based on various WHO Nutrition Guidelines), the Dietary Guidelines for Americans 2020-2025, and the Nutrition Guidelines for Filipinos 2012. All three guidelines are similar in that they all take a life-course approach and recommend healthy diets that include a variety of nutrient-rich foods, more vegetables and fruits, and limited amounts of added sugar, salt, and unhealthy fats. The full-text manuscript of the Philippine Nutritional Guidelines could not be located or retrieved. The available article did not include a link to the evidence base. However, it seems like the Nutritional Guidelines for Filipinos, which are the basis for the "*Pinggang Pinoy*," are also at least partly based on the WHO guidelines.

All panelists unanimously voted to adopt the 2018 WHO Healthy Diet Fact Sheet, which is based on the 2003 WHO Technical Report on Diet, Nutrition and the Prevention of Chronic Diseases, the 2012 WHO guidelines on Sodium and Potassium intake, the 2015 WHO guidelines on sugar intake, and the 2018 WHO guidelines on saturated fatty acids and trans-fatty acids. The panel adopted the WHO guidelines because of potential applicability issues with the American guidelines.

DISCUSSION

The availability of evidence on nonpharmacologic interventions to promote a healthy lifestyle for preventing and improving NCD outcomes and QOL is varied and continues to grow. These studies cover various aspects of lifestyle interventions, such as dietary changes, physical activity, smoking cessation, ENDS, stress management, and internet addiction. Throughout the guideline development process, there was a widespread acknowledgment of the impact of lifestyle-focused interventions on disease prevention, primarily due to their influence on the prognosis of established diseases. The CP also emphasized the downstream effects of lifestyle on patients' overall health-seeking behaviors and the effectiveness of other interventions to prevent or manage disease.

Similar guidelines on preventive health lifestyle-focused interventions, such as those from the US Preventive Services Task Force (USPSTF), Canadian Task Force on Preventive Health (CTFPH), and National Institute for Health and Care Excellence (NICE), helped provide evidence and highlight differences in contextual issues such as resources required, acceptability, and practice challenges. While the PHEX Lifestyle Task Force intended these recommendations for the Filipino population, we acknowledge that individual risks, preferences, and access influence their usability and acceptance of the modification of lifestyle behaviors. Users and government bodies must examine applicability and equity issues in light of individual circumstances.

Strengths and Limitations

The development of this guideline has engaged several stakeholders, including primary care providers and patient representatives. Alcohol use and testing for STIs were foregone due to available recommendations from PHEX1 updates. Other lifestyle areas, such as sleep and shift work, are increasingly recognized in their impact on NCDs and quality of life, but were not included in this version of the CPG after guideline question prioritization. More formal health needs assessments may also be beneficial in planning clinical guidelines and policies, particularly for counseling and coaching for a healthier lifestyle.

Research Gaps

Most evidence for effectiveness and safety outcomes of lifestyle-related interventions was of low certainty. Direct evidence for the prevention of internet addiction and internet gaming disorder, which are evolving concepts, is still lacking. Longer follow-ups may be necessary to better understand the benefits and harms of ENDS. There remains room for robust trials on lifestyle advice and interventions, as well as observational studies leveraging causal inference methods. Cost-effectiveness studies from the Philippines and similar settings are still lacking. Research into other evidence-to-decision dimensions, such as patient values surveys and health equity impact assessments, is also scarce.

CONCLUSION

The Philippine Guidelines on PHEX Phase 2 Lifestyle Advice CPG is a systematic synthesis of evidence to address lifestyle or nonpharmacologic interventions in preventing diseases and promoting better health. More evidence on the effectiveness and safety outcomes of lifestyle-related interventions, direct evidence for the prevention of internet addiction and internet gaming disorder, longer follow-ups for effects of electronic nicotine delivery systems (ENDS), and studies on cost-effectiveness, patients' preferences, and health equity impact assessments are needed to make more robust recommendations on a healthy lifestyle.

Disclaimer

This guideline is intended to be used by general practitioners, specialists, and health professionals who are primary care providers. Although adherence to this guideline is encouraged, it should not restrict primary care providers from using sound clinical judgment when handling individual cases. Payors and policymakers, including hospital administrators and employers, can also utilize this CPG, but this document should not be the sole basis for evaluating insurance claims. Recommendations from the PHEX app and the guidelines should also not be treated as strict rules on which to base legal action.

Comprehensive history taking, physical examination, and monitoring are essential to evaluating risk factors and the probability of developing diseases. This CPG does not necessarily supersede the values, settings, and circumstances of consumers (i.e., health professionals, hospital administrators, employers, payors, and patients).

Although this CPG intends to influence the direction of health policies for the general population, it should not be the sole basis for recreating or abolishing practices that aim to improve the health conditions of many Filipinos, particularly those part of the workforce.

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Queries, suggestions, and other concerns regarding this CPG may be directed to the DOH office by email.

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All authors certified fulfillment of ICMJE authorship criteria.

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TASK FORCE MEMBERS

Task Force Steering Committee

Chair: Diana R. Tamondong-Lachica, MD, EMCQSL, FPCP
Co-chair: Miriam Roxas-Timonera, MD, FPCP
Members: Rodley Desmond Daniel M. Carza, MPH, RN
Josefina S. Isidro-Lapeña, MD, MFM
Jacqueline Frances F. Momville, MD, MPM

Technical Working Group

Technical Coordinator: Lia M. Palileo-Villanueva, MD, MSc

Evidence Review Experts:
John Jefferson V. Besa, MD
Jairus Cabajar, MD
Johannes Paolo B. Cerrado, MD
Aila Marnelle A. Cruz, MD
Marie Gene D. Cruz, MD
Patricia Maria Gregoria M. Cuaño, MD
Lea Roselle O. De Castro, MD
Greco Mark B. Malijan, MD, MSc
Blessie Marie B. Perez, MD
John Christopher A. Pilapil, MD
Ian Theodore G. Cabaluna, RPh, MD, GDip (Clin Epi), MSc (cand.)
Eric B. Yasay, MD, MSc

Technical Writer: Cary Amiel G. Villanueva, MD
Technical Facilitator: Elenore Judy B. Uy, MD, MSc
Administrative Coordinator: Charissa Rosamond D. Calacday, RN, MAN

Consensus Panel

Alisa Bona Abas-Ascutia, MD, MBA-H, FPPS (PPS)
Abigael C. Andal-Saniano, MD, FPAFP (PAFP)
Janice A. Atienza, MD, MHA (PSGIM)
Joey Francis B. Hernandez, MD, MPM, MPH (PSPhP)
Dominic A. Maddumba, MD, MPM-HSD (DOH)
Diana Alcantara-Payawal, MD, DTMH, FPCP, FPSG, FPSDE (PCP)
Michelle Anne Noblejas-Mangubat, MD, FPPS, FPSAMS (PSAMS)
Melbert B. Reyes, MAN, RN, RM, LPT (PNA)
Einstein C. Rojas, MSc, CIP (PAPO)
Reynold M. Sta. Ana, MD, MOH, FPCOM (PCOM)
Jeanne V. Tiangha-Gonzales, MD, MPM, MAEd, FPCOM (AMHOP)

APPENDIX

Critical Outcomes for Guideline Questions

Question	Outcomes	Initial Rating	Outcome Classification (Initial)	Re-rating after literature search	Outcome Classification (Final)
Should nonpharmacologic interventions (clinical interventions* such as brief intervention, telephone counseling, cognitive-behavioral approaches, patient education, self-help program, exercise program, etc.) be recommended to prevent the following outcomes among adolescents and adults?	Mortality	7.2	Critical	N/A	
	Cardiovascular disease	7.7	Critical	N/A	
	Quality of Life	7.9	Critical	N/A	
	Safety/adverse events	7.2	Critical	N/A	
	Patient adherence	8.5	Critical	N/A	
	Cost	7.5	Critical	N/A	
	COPD	7.4	Critical	N/A	
	Cancer	7.7	Critical	N/A	
	Cessation of smoking of current smokers	8.5	Critical	N/A	
	Prevention of smoking of non-smokers	7.8	Critical	N/A	
Should ENDS (vaping, heated tobacco products, novel tobacco products) be recommended to promote smoking cessation, to prevent the following outcomes among adolescents and adults?	Mortality	5.6	Important	4	Important
	Cardiovascular disease	5.9	Important	4.125	Important
	Quality of Life	5.5	Important	4	Important
	Safety/adverse events	5.9	Important	5.875	Important
	Patient adherence	5.1	Important	5.625	Important
	Cost	5.8	Important	5.625	Important
	COPD	5.7	Important	4.125	Important
	Cancer	5.9	Important	3.875	Of limited importance
	Cessation of smoking of current smokers	9	Critical	5.625	Important
	Prevention of smoking of non-smokers	4.9	Important	4.375	Important
	ADD: EVALI as a specific adverse event	5.9	Important	5.625	Important
	ADD: Smoking relapse for previous smokers	6	Important	6.125	Important
Should nonpharmacologic interventions (clinical interventions such as motivational coaching, behavioral counseling, etc.) be used to promote healthy diet among adolescents and adults?	Mortality	7.2	Critical	5.125	Important
	Cardiovascular disease	7.7	Critical	6.625	Important
	Quality of Life	7.8	Critical	6.125	Important
	Safety/adverse events	6.9	Important	5.875	Important
	Patient adherence	7.8	Critical	7.25	Critical
	Cost	7.2	Critical	6.5	Important
	Weight loss	8.3	Critical	7.25	Critical
	Weight management	8.3	Critical	7.625	Critical
	Prevention of obesity	7.9	Critical	8	Critical
	Diabetes	7.8	Critical	7.625	Critical
	Hypertension	7.8	Critical	7.75	Critical
Should nonpharmacologic interventions (clinical interventions such as motivational coaching, behavioral counseling, etc.) be used to promote physical activity among adolescents and adults?	Mortality	6.8	Important	5.5	Important
	Cardiovascular disease	7.4	Critical	6.75	Important
	Quality of Life	7.5	Critical	6.25	Important
	Safety/adverse events	6.6	Important	6	Important
	Patient adherence	7.8	Critical	7	Critical
	Cost	7	Critical	6.375	Important
	Weight loss	8.1	Critical	7.75	Critical
	Weight management	7.9	Critical	8	Critical
	Prevention of obesity	7.7	Critical	8	Critical
	Diabetes	7.4	Critical	7.5	Critical
	Hypertension	7.7	Critical	7.375	Critical
	ADD: Change in duration of physical activity	7.9	Critical	6.625	Important
	ADD: Health-related QoL	7.9	Critical	6.5	Important

Critical Outcomes for Guideline Questions *(continued)*

Question	Outcomes	Initial Rating	Outcome Classification (Initial)	Re-rating after literature search	Outcome Classification (Final)
Should nonpharmacologic interventions to promote safe sex (clinical interventions such as safe sex education and advice including condom use, STI testing; counseling; cognitive-behavioral approaches) be recommended to prevent STIs, teen/ unintended pregnancy and mental health issues among adolescents and adults who screened positive for high-risk sexual behavior?	Mortality	6	Important	4	Important
	Cardiovascular disease	5.4	Important	3.375	Of limited importance
	Quality of Life	7.3	Critical	5.125	Important
	Safety/adverse events	6.8	Important	6	Important
	Patient adherence	7.4	Critical	7.25	Critical
	Cost	6.5	Important	6	Important
	Sexually-transmitted diseases including …	8.5	Critical	8.125	Critical
	Teen pregnancy	8.5	Critical	8.125	Critical
	Unintended pregnancy	8.5	Critical	8.255	Critical
	Teen fatherhood	8.2	Critical	7.875	Critical
	REVISED: Unintended parenthood	8.2	Critical	7.875	Critical
	Mental health issues	7.7	Critical	6.75	Important
	ADD: Risky sexual behavior (unprotected sex)	8.6	Critical	7.875	Critical
Should nonpharmacologic interventions on stress (clinical interventions; brief intervention, counseling, mindfulness therapy, stress management) be recommended to prevet mental health issues among adolescents and adults?	Mortality	6.6	Important	5.75	Important
	Cardiovascular disease	6.5	Important	5.375	Important
	Quality of Life	7.9	Critical	6.75	Important
	Safety/adverse events	6.7	Important	6.375	Important
	Patient adherence	7.2	Critical	7.375	Critical
	Cost	7	Critical	6.25	Important
	Stress reduction	8.5	Critical	8.125	Critical
	Mental health issues	8.6	Critical	8.25	Critical
Should nonpharmacologic interventions (brief intervention, counseling, education and advice) for internet addiction be recommended among healthy adolescents and adults?	Mortality	5.2	Important	4	Important
	Cardiovascular disease	5.1	Important	4	Important
	Quality of Life	7.3	Critical	5.5	Important
	Safety/adverse events	5.5	Important	6	Important
	Patient adherence	6.6	Important	7	Critical
	Cost	5.9	Important	5.625	Important
	Mental health issues	7.8	Critical	7.375	Critical
	Problematic Interactive Media Use (PIMU)	7.6	Critical	7.625	Critical
	Developmental issues	7.3	Critical	7	Critical
	Hearing impairment	7	Critical	6	Important
	Vision impairment	7.3	Critical	6	Important
	Sleep issues/disturbance	7.9	Critical	7.5	Critical

**Ratings presented are the average ratings of consensus panelists taken using an online survey.*