COMMUNITY-ENGAGED LIFESTYLE EDUCATION PROGRAM FOR WOMEN

Community-Engaged Lifestyle Medicine

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INTRODUCTION

The health needs and services for various populations in the City of Iloilo have come to the forefront as local government works to make their systems more efficient and consider additional programs to facilitate health reform implementation. This COPC activity highlights the importance of women's health, the diseases and health challenges common to this population, the opportunities available to improve health literacy, and strategies to implement preventive measures for chronic health conditions before they become problematic and expensive.

Across a woman's lifespan, health status matters to herself, her family and to local government's budgets. Women play an important role in maintaining healthy families, and having efficient health literacy and access to preventive health care programs will positively impact health outcome both for themselves their families. Many women become pregnant and give birth, which is an initial significant health event that typically makes then their child's primary caregiver, which is a role that significantly influences the health of overall household. Women have high rates of morbidity, disability, and mortality due to chronic health issues, which has a need for community resources.

Recent data from the Department of Health (DOH) and the Philippine Statistics Authority (PSA) released in February 2018 showed that the top causes of death among Filipino women are cancer and ischemic heart disease. Cancer topped the chart with 30,954 or 12.5 percent followed by ischemic heart diseases with 29,662 or 12.0 percent in 2016. Moreover, breast cancer accounts for about 30 percent of cancer cases among women and 16 percent of all cancer diagnosis. Experts estimate that three out of 100 Filipina will develop breast cancer in their lifetime. In fact, in 2017, the Philippine Obstetrical and Gynecological Society revealed that the Philippines had the highest breast cancer prevalence among 197 countries. Studies show that the risk of breast cancer can be reduced through lifestyle modifications, including the control of alcohol intake, avoiding smoking, maintaining a physically active lifestyle, breastfeeding children, reducing hormone therapy, and avoiding exposure to radiation and pollution. Early detection through a simple mammrography detects breast tumor long before it can be felt in breast examination.

Although mortality is higher in men, women also experience heart health challenges. Heart disease is still the leading cause of death for Filipino women who may have more subtle symptoms of a heart attack than men. The "pusong Pinay" health guide in the assessment and management of cardiovascular risks in women was created by the Philippine Heart Association Council on Women's Cardiovascular Health to help cover screening and related services for women. Clinical practice guidelines recommend a heart healthy lifestyle to prevent heart disease, including plant-based diet, physical activity, avoiding cigarette smoke, and maintaining weight. In addition, other lifestyle-related health problems such as diabetes, high cholesterol and high blood pressure should be also addressed.

The provision of community-engaged lifestyle medicine education programs has shown to improve health literacy and awareness among participants, which is an important component of preventive health care promotion that can be implemented by local government units.

COMMUNITY PROFILE

The "Red Ladies" is one of the People's organization established in the City of Iloilo. The are over 10,000 members, composing of marginalized women sector distributed in the different districts of Iloilo City. There were one hundred (120) selected members of the Red Ladies who participated in the 12 weeks community-engaged lifestyle medicine program facilitated at Remnant Institute, Lapaz, Iloilo City, but only eighty two (82) finished the program. The spouces and children of participants were also invited, however only few were able to join.

Among the eighty (80) selected participants, majority are 31-40 years of age (31.70%) followed by 41-50 years old (25.6%). Mostly are married (62.19%) but a considerable percentage are raising their children alone and are separated from their spouse (20.73%). Most women have 1-3 children (39.2%). About 41% have high school level of education and mostly are self-employed (68.29%)

Table 1: Demographic data

		Total number	Percentage
Age	20-30	18	21.95%
	31-40	26	31.70%
	41-50	21	25.6%
	≥51	17	20.73%
Marital status	Single	8	9.75%
	Married	51	62.19%
	Widow	6	7.31%
	Separated	17	20.73%
Children	1-3	32	39.02%
	4-6	21	25.60%
	≥6	18	21.95%
	None	11	13.41%
Educational status	None	8	9.75%
	Grade school	19	23.17%
	Highschool	34	41.46%
	College	21	25.60%
Employment	Self-employed	56	68.29%
	Employed	22	26.82%
	None	4	4.87%

COMMUNITY ASSESSMENT

The Red ladies of Iloilo city have a varied age of membership, level of education and employment status. Their lifestyle practices were evaluated (Table 2) which showed that 100% are omnivore (consuming both plant-based and animal-based diet) and majority are having sedentary lifestyle (42.68%). Their perceived stress level was evaluated which revealed that 52.43% of them are having moderate stress and sleeps less than 7 hours 58.53%. More than half of the participants either take alcohol or smoke at 21.95% and 26.82% respectively.

Table 2: Lifestyle Practices

		Total number	Percentage
Dietary intake	Vegetarian	0	0%
	Omnivore	82	100%
	Mostly plant-based	31	37.80%
	Mostly animal-based	51	62.19%
Physical activity	Highly active (>300 min/week physical activity)	19	23.17%
	Active (150-299 min/week physical activity)	22	26.82%
	Low active (60-149 min/week physical activity)	35	42.68%
	Inactive (1-59 min/week physical activity)	6	7.31%
Risky substance use	Smoking	22	26.82%
	Alcohol	18	21.95%
Perceived Stress	Low perceived stress (1-13 PSS score)	22	26.82%
	Moderate perceived stress (14-26 PSS score)	43	52.43%
	High perceived stress (27-40 PSS score)	17	1.21%
Sleep	7-9 hours	34	41.46%
	< 7 hours	48	58.53%

Chronic conditions are also prominent among participants with 14.63% having ischemic heart disease, 58.53% have hypertension, 69.51% have diabetes mellitus, 8.54% have cancer, 58.52% have either overweight or obesity.

Table 3. Lifestyle-related conditions

		Total number	Percentage
Ischemic Heart Disease		12	14.63%
	Compliant with medications	8	66.66%
	Non-compliant with medications	4	33.33%
Hypertension		48	58.53%
	Compliant with medications	18	37.5%
	Non-compliant with medications	21	25.61%
Diabetes mellitus type 2		57	69.51%
	Compliant with medications	23	40.35%
	Non-compliant with medications	34	59.65%
Cancer		7	8.54%
	Completed treatment	3	42.86%
	Ongoing treatment	2	28.57%
	Non-compliant with treatment	2	28.57%
Overweight/Obesity	Overweight	28	34.14%
	Class 1 obesity	19	23.17%
	Class 2 obesity	1	1.21%
	Class 3 obesity	-	-

Inadequate health literacy is a common gap among various group of population resulting in poor lifestyle practices and risk for chronic conditions. Although most participants are aware of common nutrition practices that increases risk of chronic disease, only 30.49% of participants are aware of the saturated fat sources, only 18.29% knows about the food calorie components, 14.63% about the level of food processing. Majority of the Red ladies (91.46%) are aware about the benefits of exercise in preventing and treating chronic conditions, 67.07% are educated that stress can increase risk of chronic diseases, but only 47.56% are informed of the guideline for adequate number of hours of sleep.

These findings, clearly show the inadequate knowledge of the participants on lifestyle modification as preventive and curative measures for chronic diseases. Their inadequate knowledge was translated into their poor practices compounded by other factors such as marital,

educational, and employment status. The inadequate knowledge and unhealthy lifestyle practices may have contributed to the prevalence of chronic conditions in this group of population including ischemic heart disease, hypertension, diabetes, and obesity.

Table 4. Lifestyle-related knowledge

		Number	**Percentage**
Nutrition	Saturated fat sources (tropical plant oils, meat, dairy)	25	30.49%
	Dietary cholesterol sources (eggs, meat, dairy)	66	80.48%
	Food calories (Carb 4kcal, Protein 4kcal, Fat 9kcal)	15	18.29%
	Level of food processing (slightly processed, moderately processed, highly processed)	12	14.63%
	Plant-based diet for prevention and treatment of chronic diseases	39	47.56%
	Animal-based diet increases risk for chronic diseases	24	29.27%
	High salt intake increases risk of hypertension	42	51.22%
	High fat intake increases risk of prediabetes and diabetes type 2	8	9.75%
Physical activity	Regular moderate exercise (150 min/week) prevents and treats chronic diseases	75	91.46%
	Sedentary behavior (prolonged sitting, long screen time) increases risk of chronic diseases	43	52.44%
Stress	Stress induces risk of chronic diseases	55	67.07%
	Stress management strategies (meditation, exercise, yoga, social connections)	23	28.05%
Sleep	Inadequate sleep increases risk of chronic diseases	39	47.56%
	Ideal number of hours of sleep (7-9 hours)	63	76.83%

COMMUNITY-ENGAGED LIFESTYLE EDUCATION PROGRAM

A 12-week community-engaged lifestyle education program was conducted from October 7, 2018 to January 6, 2019 mostly at Remnant Institute, Lapaz, Iloilo City and other venues, such as local urban gardens (Oton and Iloilo city). The communication and program coordination were facilitated through the local government unit of Iloilo City. A weekly meeting was scheduled comprising of lectures, group activities, demonstrations, and garden field tour (Table 5). Participant's health-related knowledge and practices were assessed after the program which revealed a significant improvement (Table 6). Participants were also asked to share their experience and reflections on the program in verbatim. The lifestyle practices of the participants were also reassessed showing significant changes on nutrition, physical activity, stress, and sleep (Table 7).

Table 5. Community-engaged lifestyle education program

OBJECTIVE	**ACTIVITY**	**TIME FRAME**	**RESOURCES**	**EXPECTED OUTCOME**
To improve healthy lifestyle literacy of participants	Education • Deliver lifestyle education lectures	October 2018 – January 2019 (Weekly activity for 12 weeks)	Tarpaulin Printed materials Laptop and Projector	Improved healthy lifestyle literacy
	Health Promotion • Conduct community-based exercise program • Conduct activities on container gardening to improve basic indigenous vegetable supply • Demonstrate basic healthy food preparation	October 2018 – January 2019 (Weekly activity for 12 weeks)	Sound system Gardening materials, tools and seeds Cooking utensils, recipe ingredients Field tour (garden visit)	Improved lifestyle practices

Table 6. Lifestyle-related knowledge – Post intervention

		Number	Percentage
Nutrition	Saturated fat sources (tropical plant oils, meat, dairy)	75	91.46%
	Dietary cholesterol sources (eggs, meat, dairy)	82	100%
	Food calories (Carb 4kcal, Protein 4kcal, Fat 9kcal)	72	87.80%
	Level of food processing (slightly processed, moderately processed, highly processed)	82	100%
	Plant-based diet for prevention and treatment of chronic diseases	82	100%
	Animal-based diet increases risk for chronic diseases	82	100%
	High salt intake increases risk of hypertension	79	96.34%
	High fat intake increases risk of prediabetes and diabetes type 2	67	81.71%
Physical activity	Regular moderate exercise (150 min/week) prevents and treats chronic diseases	82	100%
	Sedentary behavior (prolonged sitting, long screen time) increases risk of chronic diseases	82	100%
Stress	Stress induces risk of chronic diseases	80	97.56%
	Stress management strategies (meditation, exercise, yoga, social connections)	82	100%
Sleep	Inadequate sleep increases risk of chronic diseases	82	100%
	Ideal number of hours of sleep (7-9 hours)	76	92.68%

Table 7. Lifestyle practices – Post intervention

		Total number	Percentage
Dietary intake	Vegetarian	5	6.01%
	Omnivore	77	93.90%
	Mostly plant-based	70	90.91%
	Mostly animal-based	7	9.09%
Physical activity	Highly active (>300 min/week physical activity)	39	47.56%
	Active (150-299 min/week physical activity)	40	48.78%
	Low active (60-149 min/week physical activity)	3	3.66%
	Inactive (1-59 min/week physical activity)	0	0%
Risky substance use	Smoking	18	21.95%
	Alcohol	12	14.63%
Perceived Stress	Low perceived stress (1-13 PSS score)	48	58.54%
	Moderate perceived stress (14-26 PSS score)	25	30.49%
	High perceived stress (27-40 PSS score)	9	10.98%
Sleep	7-9 hours	63	76.83%
	< 7 hours	19	23.17%

REVIEW OF LITERATURE

The Philippines' NCD burden resulted in a significantly reduced economic output, as shown in the findings of the joint report of the United Nations Interagency Task Force on NCDs, the World Health Organization, and the Philippine Department of Health. The NCD burden in the country has gone up to an estimated cost of over PHP 750 billion (US$ 14.5 billion) or about 4.8% of the national gross domestic product (WHO, 2019). The figure is attributed to indirect and direct costs, including healthcare, social security provision, and workforce loss. Thus, highlighting the human and economic cost of NCD burden warrants a highly cost-effective investment in lifestyle intervention packages and healthcare provider education to contribute to the country's overall socioeconomic development. However, despite changes in the socioeconomic conditions in the country where NCDs are on the rise, the health care system is not directed towards preventive lifestyle interventions with fragmented and overlapping programs resulting in disparities in healthcare provision and overall population health outcome (WHO, 2019).

The recently published guidelines for chronic diseases uniformly showed increasing comprehensive emphasis on healthy behaviors and lifestyle therapy as the first line of intervention for the top killer diseases, including hypertension, atherosclerotic cardiovascular disease, hypertension, dyslipidemia, and diabetes. These recommendations consistently call for efficient implementation of lifestyle interventions for successful prevention and management outcomes (Arnett, 2019).

The recent guideline published by the ACC and AHA recommends that the essential method to prevent ASCVD is for healthcare providers to provide lifestyle therapy as maintenance intervention throughout life. The 2019 comprehensive type 2 diabetes (T2D) management guideline developed by the consensus of the American Association of Clinical Endocrinologists (AACE) and American College of Endocrinology (ACE) provides a practical guide for physicians to manage the patient as a whole person, including the spectrum of risks and complications. The first founding principle of the AACE/ACC 2019 algorithm is Lifestyle therapy that should be recommended for all patients with diabetes. The guideline consistently emphasizes lifestyle behavior assessment and intervention as an initial approach to address all aspects of a patient's modifiable lifestyle-related risk factors and should be continued even when concurrent pharmacotherapy is needed in high-risk individuals as an adjunctive intervention (Garber, 2015).

These treatment guidelines recommend that clinicians focus their attention on counseling and motivating patients regularly, even if medications are prescribed in the end. These recommendations also emphasize that regular clinic visits should continuously include health behavior assessment and structured lifestyle therapy prescription as maintenance intervention for life that needs various expertise, skills, and collaborative team approach (Arnett, 2019).

The evolving challenge, however, is not only on the efficiency of clinical implementation of these guidelines, but more importantly, the adherence to the recommendations that can be enhanced by a comprehensive patient-centered approach that will encourage patients' engagement in selecting interventions strongly focused on lifestyle optimization (Mishra, 2013). The rapid demographic and epidemiological transitions brought about by environmental and behavioral threats perpetuate inequities as the application of the 20th-century medical education strategies are unfit to address the 21st-century health care challenges (Frenk, 2010). Despite the central role of dietary intake in a lifestyle intervention for chronic diseases, evidence revealed that nutrition education largely escapes clinical training and remains incorporated as a preclinical context of basic science courses (Neuendorf, 2020). These inadequacy of lifestyle education among health practitioners are translated into inadequacy of delivering lifestyle counseling and education to patients.

Community-engaged prevention and wellness initiatives can protect and improve the health of certain groups and the community. But to enhance and sustain the implementation of these programs, the prevention of disease and promotion of healthy behaviors should be supported by policymakers.

RECOMMENDATIONS

Health education and promotion initiatives can be institutionalized and backed up by research to show its feasibility and sustainability. Policymakers may consider the broad range of health policies in the local government level to explore opportunities to improve women's overall health.

DOCUMENTATION OF ACTIVITIES