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Awareness, Risk and Impact of Lifestyle Change on Dysmenorrhea between Old and Young Generation- A Study at Daressalam, Tanzania

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Abstract—
BACKGROUND: Dysmenorrhea affects 50–90% of adolescents and young women globally, with significant impacts on daily activities and school attendance. In Tanzania, it remains a public health concern, yet generational differences in awareness, lifestyle factors, and pain experience remain underexplored.

Objective: To assess awareness, risk, and impact of lifestyle change on dysmenorrhea between old and young generation at Yombo Vituka, Temeke District, Dar es Salaam.

Methodology: A comparative cross-sectional study was conducted involving 200 women (100 young women aged 18-30 years and 100 older women above 30 years) selected using stratified random sampling. Data were collected using a structured questionnaire. Analysis was performed using SPSS, with chi-square test applied to examine associations between categorical variables.

Results: Young women demonstrated significantly higher awareness of dysmenorrhea (95.0%, n=95) compared to older women (6.0%, n=6). A statistically significant association was found between age group and pain severity ($\chi^2 = 47.50$, df = 2, $p < 0.001$). Among young women, 85.0% (n=85) reported moderate pain and 10.0% (n=10) severe pain, while 48.0% (n=48) of older women reported mild pain. Regular exercise was the most commonly adopted lifestyle change (74.5%, n=73), with 89.8% (n=88) of women who made changes reporting improvement in symptoms. Notably, women who did not make lifestyle changes had higher mean awareness scores (10.51, SD=3.29) than those who made changes (7.12, SD=2.93).

Conclusion: Dysmenorrhea is more problematic for the younger generation, who experience significantly greater pain severity despite higher awareness levels. Regular exercise is an effective lifestyle modification, with nearly 90% of users reporting improvement. Awareness alone does not predict behavior change; pain experience is a stronger motivator for adopting lifestyle modifications. Targeted educational interventions promoting regular exercise as a first-line management strategy are recommended.

I. Introduction

Definition of dysmenorrhea

Is the medical term for painful menstrual period, including cramps and other symptoms like nausea vomiting, diarrhea, weakness and headaches.

According to (ICD-10) dysmenorrhea is a disorder that causes painful abdominal cramps during menstruation.

Overview on Dysmenorrhea

Dysmenorrhea affects a great percentage of menstruating individuals globally. Studies suggest that 50–90% of adolescents and young women experience primary dysmenorrhea, with varying severity (De Sanctis et al., 2016).

Risk factors include early menarche, heavy menstrual flow, smoking, stress, and a family history of dysmenorrhea (Ju et al., 2014).

In Tanzania is a significant public health concern among adolescent girls with high prevalence of girls reporting experiencing severe menstrual cramps that disrupt their daily activities including school attendance.

Pathophysiology

Primary dysmenorrhea is caused by increased levels of prostaglandins, particularly prostaglandin F2α, which leads to uterine hypercontractility, reduced blood flow, and ischemia, resulting in pain (Dawood, 2006).

Secondary dysmenorrhea, on the other hand, is linked to anatomical or pathological conditions affecting the uterus and pelvic organs (Burnett & Lemyre, 2017).

Clinical Presentation

Symptoms of dysmenorrhea include lower abdominal pain, back pain, nausea, vomiting, diarrhea, headache, and fatigue. The pain typically starts 1–2 days before menstruation and peaks within the first 24–48 hours of bleeding (Iacovides et al., 2015)

Types of dysmenorrhea

Dysmenorrhea is classified into:

Primary dysmenorrhea, is due to excessive prostaglandin production leading to contraction and it occurs without any underlying pelvic pathology.

Secondary dysmenorrhea, which is associated with conditions such as endometriosis, fibroids, adenomyosis, or pelvic inflammatory disease (Habibi et al., 2015).

Lifestyle modification and dysmenorrhea.

Lifestyle and dysmenorrhea are two inseparable concepts, yet awareness, risk factors, and the impact of lifestyle changes on its onset and severity remain underexplored.

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Lifestyle factors that have impact to dysmenorrhea include; salt intake, high consumption of animal fat, intake of complex carbohydrates and fibers, physical activity, sleep pattern and stressors and mental health.

Comparing the two age groups there is much that has changed particularly in the aspects of lifestyle, the food difference, and many other aspects of life that have been modified have bring a big impact to the severity of dysmenorrhea.

1.1 Problem Statement

Dysmenorrhea, or menstrual pain, is a common gynecological condition that affects women of reproductive age, significantly impacting their daily activities, productivity, and overall well-being. This is more difficult to young female who attend school, since it can lead to low attendance in school.

Despite advancements in medical knowledge and treatment options, awareness and perceptions of dysmenorrhea vary widely across different age groups.

The younger generation may have greater access to health information through the internet, leading to better awareness and management strategies, in contrast to that their lifestyle seem to be less healthy compared to the older generation in many aspects. On the other hand, older generation may rely on traditional beliefs and cultural practices, which could influence their perception and management of dysmenorrhea. Also, it is believed that the older generation women lived a very healthy lifestyle which led them to experience less or no menstrual pain. The extent to which these generational differences impact awareness, risk perception, and lifestyle adaptations remains unclear.

In conclusion the life lived by the older generation is way more different from the younger generation, hence by knowing the particular lifestyle aspects that have changed between the two age groups helped to determine their impact on dysmenorrhea.

1.2 Rationale Of Study

Despite being a widespread issue, there remain a lack of comprehensive understanding regarding the varying levels of awareness, risk factors, and lifestyle changes associated with dysmenorrhea among different generations.

There is also a need to know if dysmenorrhea was a main problem during the past comparing to the current time and why.

By understanding how awareness levels, lifestyle habits, and risk factors differ between the older and younger generations can provide valuable insights into the preventive measures and management strategies for dysmenorrhea.

This research aimed to bridge gaps in knowledge regarding how both awareness and lifestyle factors contribute to the severity and impact of the condition in varying age groups, and finally guiding healthcare professionals to recommend the appropriate ways of lifestyle with less or no risk of having dysmenorrhea.

Moreover, there was a need to evaluate the educational status, cultural differences, and socio-economic factors that might influence both awareness and management of dysmenorrhea.

By focusing on the contrasting generational experiences, this study aimed to promote a holistic understanding of the condition and advocate for improved health education, resources, and support to alleviate symptoms and enhance the quality of life for women across age groups.

This study assessed and compared the awareness, perceived risks, and impact of lifestyle modifications on dysmenorrhea between younger and older generations. By identifying knowledge gaps and generational differences, the research has provided insights that can inform targeted educational interventions and lifestyle recommendations to improve menstrual health management.

1.3 Research Questions

1. What is the level of awareness on relationship between lifestyle modification and dysmenorrhea among women of different age groups at Yombo Vituka in Temeke district?
2. What are the lifestyle changes that have impact on onset and severity of dysmenorrhea?
3. Between younger and older generation women, which age group is/was affected the most by dysmenorrhea?
4. What lifestyle modification have been adopted by different generations to manage or prevent dysmenorrhea and how effective they are?

1.4 Objectives

1.4.1 Broad Objective

To assess the level of awareness, risk and impact of lifestyle modification on dysmenorrhea between younger generation and older generation.

1.4.2 Specific Objectives

1. To determine the level of awareness on dysmenorrhea in both younger and older generations.
2. To analyze the impact of lifestyle factors on dysmenorrhea.
3. To compare experience of lifestyle-change on dysmenorrhea across old and young generation.
4. To examine the effectiveness of lifestyle modification in managing dysmenorrhea among different generations.

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II. Literature Review

2.1 Introduction

Dysmenorrhea is a medical term for menstrual pain a common condition in menstruating women, menstrual pain is a problem among women since it affect their productivity also studies have shown how it can be affected by various lifestyle modification, like diet, exercises, and many other. This has raised curiosity among many to explore the intensity of the problem by comparing the older and younger generation since the two age groups have lived different lifestyles. In this chapter are going to dig deeper and see how various researches have explored dysmenorrhea, starting globally, Africa and lastly Tanzania.

2.2 Global perspective on dysmenorrhea

Dysmenorrhea is a prevalent condition affecting millions worldwide, with an estimated 50-90% of reproductive-age individuals experiencing menstrual pain (Iacovides et al., 2015). Studies indicate that primary dysmenorrhea is more common in adolescents and young adults, often resulting in school or work absenteeism (Ju et al., 2014). Globally, awareness levels about dysmenorrhea vary significantly, with some populations still adhering to menstrual health taboos, affecting how individuals seek treatment (Omidvar et al., 2016).

Lifestyle factors such as diet, exercise, stress, and sleep quality have been linked to the severity of menstrual pain. Regular physical activity has been shown to reduce menstrual discomfort by enhancing circulation and decreasing inflammation (Dehnavi et al., 2018). Additionally, diets rich in omega-3 fatty acids, fruits, and vegetables have been associated with lower dysmenorrhea severity, whereas high consumption of caffeine, processed foods, and sugary beverages worsens symptoms (Zahra et al., 2019). Despite this, many individuals worldwide still rely on over-the-counter painkillers without exploring lifestyle modifications (Kumar et al., 2017).

2.3. Dysmenorrhea in Africa

In Africa, dysmenorrhea remains a significant public health concern, with limited access to menstrual health education and medical care contributing to its impact (Haque et al., 2021). Studies show that awareness levels are lower in rural areas than in urban settings, where access to healthcare and information is better (Aniebue et al., 2009). Myths and misconceptions about menstruation still persist, leading to poor management practices such as the avoidance of exercise and restrictive dietary habits based on cultural beliefs (Dasgupta & Sarkar, 2008).

Research conducted in Nigeria and Ghana revealed that a large percentage of adolescents suffer from severe dysmenorrhea, with many missing school due to inadequate management strategies (Omidvar & Begum, 2016).

African healthcare systems are gradually integrating menstrual health education into school curricula, but gaps remain in teaching students about lifestyle changes that can alleviate menstrual pain (Nkoka et al., 2020).

2.4. Dysmenorrhea in Tanzania

In Tanzania, menstrual health challenges are compounded by limited access to reproductive health education, cultural taboos, and economic barriers to healthcare (Mushi et al., 2020). Studies indicate that many Tanzanian adolescents lack awareness of dysmenorrhea management techniques, relying primarily on traditional medicine or self-medication with painkillers (Kazaura & Masatu, 2021).

A study conducted in Dar es Salaam found that over 70% of young individuals experience dysmenorrhea, but only a small percentage seek medical assistance (Mason et al., 2021). Traditional beliefs often discourage physical activity during menstruation, despite evidence showing its benefits in reducing pain (Kapinga et al., 2018). Additionally, poor dietary habits, including low intake of fruits and vegetables and high consumption of processed foods, have been linked to more severe menstrual cramps in Tanzanian adolescents (Mwakitalu et al., 2022).

In conclusion,

A lot of work has been put to improve menstrual health education in Tanzania and still are increasing, but more work is needed to bridge the generational knowledge gap and promote effective lifestyle modifications. Therefore, this study aimed to assess how women living at Yombo vituka understand and manage dysmenorrhea, helping inform future menstrual health awareness programs in the country and even globally.

III. Methodology

3.1 Study Design

A comparative cross-sectional study was conducted, quantitative and qualitative methods to assess awareness, and lifestyle influences on dysmenorrhea.

3.2 Study Area

The study was conducted at different rural and urban area located at Yombo vituka in Temeke district Dar es salaam Tanzania.

3.3 Study Population

The study involved two groups:

Younger participants (students aged 18-30).

Older participants (older women aged 50 and above).

3.4 Inclusion and Exclusion Criteria

Inclusion Criteria:

- Younger women at reproductive age who were willing to participate and provide informed consent.

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- Older women above 50 years who were willing to participate and provide informed consent.

Exclusion Criteria:

- Female participants who had not attained menarche.
- Those who did not provide informed consent.

3.5 Sample Size Determination

The sample size was determined using cochran's formula:

Where:

- N_0= required sample size
- Z = Z-score (1.96 for a 95% confidence level)
- p = estimated proportion of population with the characteristics of interest (0.5 for maximum variability)
- e = margin of error (6.93%)

$$N_0 = \frac{Z^2 \times p \times (1-p)}{e^2}$$

$$N_0 = \frac{1.96^2 \times 0.5 \times (1-0.5)}{0.0693^2}$$

N_0=199.979

Since the sample size should be a whole number, we rounded up to 200 respondents.

3.6 Sampling Technique

A stratified random sampling technique was used to ensure a balanced representation of both age groups.

3.7 Data Collection Methods

Structured Questionnaire:

- Used to collect quantitative data on demographics, awareness, risk factors and impact of lifestyle modification on dysmenorrhea.

3.8 Data Analysis

- Descriptive statistics (percentages, frequencies) to describe characteristics of the participants (age, lifestyle factors, awareness level, and dysmenorrhea severity)
- Tables, charts, and graphs were generated using Microsoft excel or SPSS to present the findings.
- chi-square test was applied to examine the relationship between categorial variables like: age group and dysmenorrhea severity, lifestyle factors and prevalence of dysmenorrhea.

3.9 Variables

A. Independent Variables.

These are the factors that influence dysmenorrhea.

a) Age group (older vs. younger generation)
b) Lifestyle factors
   - Dietary habits (eating processed foods, caffeine consumption or balanced diet)
   - Physical activity (active vs sedentary lifestyle)
   - Stress level (high vs low stress)
   - Smoking and alcohol consumption
   - Sleep pattern (adequate vs inadequate)

c) Awareness of dysmenorrhea

B. Dependent Variables (Research Outcomes)

These are the outcomes affected by the independent variables.

a) Severity of dysmenorrhea (measured using pain scale)
b) Duration of pain
c) Management methods for the pain (drugs, natural remedies, lifestyle adjustment or no intervention)
d) Psychological effects (anxiety, depression, irritability and mood swings due to dysmenorrhea)
e) Health care seeking behavior (frequency of consulting doctors, self-medication, tradition remedies)

C. Moderating Variables; These are factors that influence the strength of the relationship between independent and dependent variables.

a) Hormonal conditions (e.g., PCOS, endometriosis, hormonal imbalance)
b) Genetic factors (family history of dysmenorrhea)
c) Use of contraceptives (hormonal birth control affecting menstrual pain)
d) Medical history (history of gynecological condition or surgery)

D. Confounding variables; These are factors that may distort the relationship between the independent and dependent variables if not controlled.

a) BMI (weight related influence on dysmenorrhea)
b) Socioeconomic status (ability to afford health care and quality diet)
c) Cultural beliefs on menstrual pain management.
d) Medication use

3.10 Ethical Consideration

Ethical approval was obtained from St. Joseph College of Health Sciences board. Informed consent was obtained from all participants and Confidentiality of participants' responses was maintained.

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IV. RESULTS

4.1 Introduction

This chapter presents the findings of the study conducted to assess awareness, risk, and impact of lifestyle change on dysmenorrhea between old and young generation at Yombo Vituka, Temeke District, Dar es Salaam. The study was conducted from September 2025 to April 2026. The objective of this research was to determine the level of awareness on dysmenorrhea, analyze the impact of lifestyle factors, compare experiences across generations, and examine the effectiveness of lifestyle modifications in managing dysmenorrhea.

A total of 200 women participated in this study, comprising 100 young women (18-30 years) and 100 older women (>30 years). Data were collected using a structured questionnaire covering demographic information, awareness and knowledge of dysmenorrhea, risk perception, lifestyle changes, and generational differences. The results are organized according to the specific objectives of the study and are presented in tables, figures, and charts for clarity and interpretation.

4.1.1 Sociodemographic Characteristics of Respondents

A total of 200 women participated in this study. Table 4.1 presents the distribution of respondents by their sociodemographic characteristics.

Table 4. 1 Table Showing sociodemographic characteristics of the population

		N	%
Age Group	Young (18-30 years)	100	50.0
	Old (>30 years)	100	50.0
	No formal education	2	1.0
Education Level	Primary school	88	44.0
	Secondary school	108	54.0
	College/University	2	1.0
	Unemployed	128	64.0
Occupation	Self-employed	44	22.0
	Employed	20	10.0
	Student	8	4.0

The age distribution shows equal representation of both generations, with 50.0% (n=100) young women aged 18-30 years and 50.0% (n=100) older women above 30 years. This balanced distribution allows for meaningful comparison between the two generations.

Regarding educational attainment, the majority of respondents had secondary education (54.0%, n=108), followed by primary education (44.0%, n=88). Only 1.0% (n=2) had no formal education, and 1.0% (n=2) had college or university education.

These findings indicate that the study population was relatively literate, which may have facilitated understanding of the questionnaire.

With respect to occupation, the majority of respondents were unemployed (64.0%, n=128), followed by self-employed (22.0%, n=44), employed (10.0%, n=20), and students (4.0%, n=8). Regarding children, the majority of respondents (89.5%, n=179) had children, while 10.0% (n=20) did not have children.

4.1.2 Awareness of Dysmenorrhea

The first objective was to determine the level of awareness on dysmenorrhea in both younger and older generations. Participants were asked whether they knew what dysmenorrhea is, how they define it, whether they know its causes, and where they first learned about it.

Regarding knowledge of dysmenorrhea, the findings revealed a substantial generational difference. Among young women, 95.0% (n=95) reported knowing what dysmenorrhea is, compared to only 6.0% (n=6) of older women. Similarly, when asked to define dysmenorrhea, 93.0% (n=93) of young women correctly identified it as "painful menstrual cramps," while only 21.0% (n=21) of older women could do so. Notably, 74.0% (n=74) of older women responded "I don't know" when asked to define dysmenorrhea.

With respect to knowledge of causes, 26.0% (n=26) of young women reported knowing what causes dysmenorrhea, compared to only 1.0% (n=1) of older women. These findings suggest that younger women have significantly higher awareness and knowledge of dysmenorrhea compared to older women.

Regarding the source of first information, the majority of respondents (81.0%, n=162) first learned about dysmenorrhea from family and friends, followed by school (15.0%, n=30). Social media, hospital personnel, and other sources accounted for small proportions. This indicates that informal sources play a dominant role in menstrual health education.

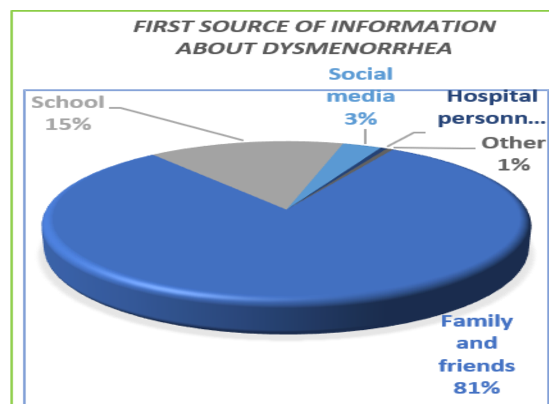

Figure 4. 1 Showing source of first information about dysmenorrhea

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4.1.3 Amenorrhea Severity and Age Group Comparison.

A significant generational difference in dysmenorrhea severity was observed. Figure 4.2 illustrates the overall severity of dysmenorrhea among the 200 participants. As shown, the majority of respondents (65.5%, n=131) reported moderate pain, while 26.5% (n=53) reported mild pain, and 8.0% (n=16) reported severe pain.

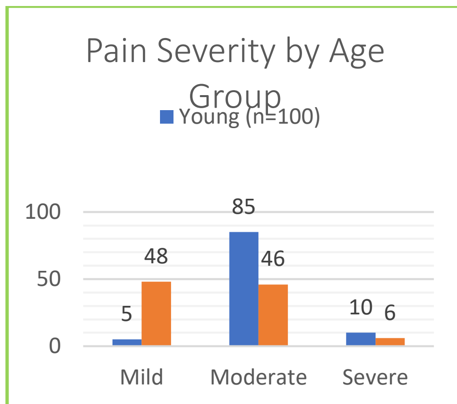

Figure 4. 2 Dysmenorrhea severity by Age groups

Chi-Square Test: $\chi^2 = 47.50$, df = 2, $\mathbf{p < 0.001}$

The findings reveal a significant association between age group and dysmenorrhea severity ($p < 0.001$). Among young women, the majority (85.0%, n=85) reported moderate pain, with 10.0% (n=10) reporting severe pain and only 5.0% (n=5) reporting mild pain. In contrast, among older women, 48.0% (n=48) reported mild pain, 46.0% (n=46) reported moderate pain, and only 6.0% (n=6) reported severe pain.

These findings indicate that older women experience significantly milder dysmenorrhea compared to younger women, who predominantly experience moderate to severe pain. This supports the perception that dysmenorrhea is more problematic for the younger generation.

4.1.4 Lifestyle Changes and Their Impact

Of the 200 participants, 98 (49.0%) reported ever making lifestyle changes to manage menstrual pain. Among these, regular exercise was the most commonly adopted change, reported by 74.5% (n=73) of those who made changes. Better sleep habits were adopted by 12.2% (n=12), followed by improved diet (8.2%, n=8), and stress management (5.1%, n=5). The following bar chart provides a clear visual presentation of the lifestyle changes adopted by participants who made modifications to manage dysmenorrhea.

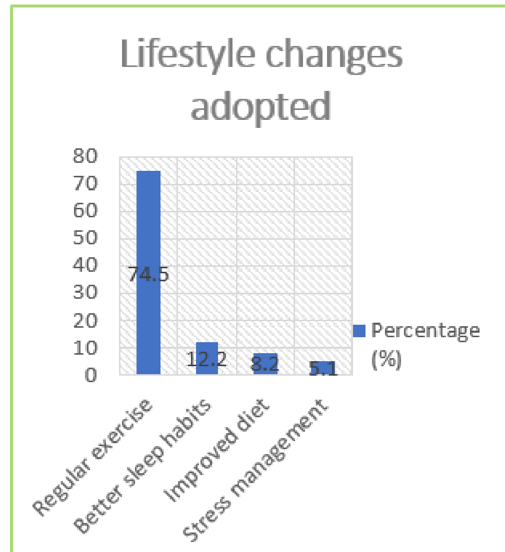

Figure 4. 3 Shows lifestyle changes adopted by participants

Effectiveness of Lifestyle Changes

Regarding the effectiveness of these lifestyle modifications, the majority of women who made changes (89.8%, n=88) reported improvement in their menstrual pain. Specifically, 8.2% (n=8) reported significant improvement, while 81.6% (n=80) reported slight improvement. Only 10.2% (n=10) reported no change, and none of the participants reported worsening of pain after making lifestyle changes. The findings are presented in figure 4.4.

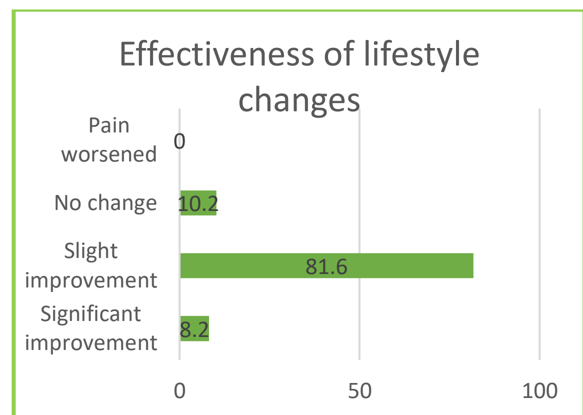

Figure4. 4 Effectiveness of these lifestyle modifications

Awareness Score by Lifestyle Change Status

An interesting finding emerged when comparing awareness scores between those who made lifestyle changes and those who did not.

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Women who did not make lifestyle changes had higher mean awareness scores (10.51, SD=3.29) compared to those who made changes (7.12, SD=2.93). This suggests that awareness alone does not predict behavior change; instead, experiencing pain may be a stronger motivator for adopting lifestyle modifications. The findings are presented in table 4.4.

Table 4. 1 Awareness Score by Lifestyle Change Status

Made Lifestyle Changes	N	Mean Awareness Score	Standard Deviation
Yes	98	7.12	2.93
No	99	10.51	3.29

V. Discussion, Study Limitations, Recommendations And Conclusion.

5.1 Discussion

Dysmenorrhea remains a significant public health concern affecting menstruating women globally, and understanding generational differences in awareness, lifestyle factors, and pain experience is essential for developing effective management strategies. The study findings reveal substantial generational differences in awareness, pain severity, and lifestyle modification practices among women at Yombo Vituka, Temeke District, Dar es Salaam.

The study found that younger women demonstrated significantly higher awareness of dysmenorrhea compared to older women. Among young women, 95.0% knew what dysmenorrhea is, and 93.0% correctly defined it as painful menstrual cramps, compared to only 6.0% and 21.0% of older women, respectively. This level of awareness among young women is relatively good compared to other settings. However, the low awareness among older women, with 74.0% responding "I don't know" when asked to define dysmenorrhea, is concerning. This knowledge gap is problematic because older women who do not understand the condition may fail to recognize its signs in younger family members or appreciate the importance of lifestyle modifications. Similar findings were reported in Tanzania by Kazaura and Masatu (2021), where awareness of dysmenorrhea management techniques was found to be low, and researchers recommended strengthening menstrual health education across all age groups.

Regarding the source of first information about dysmenorrhea, the majority of respondents (81.0%) learned from family and friends, while only 15.0% learned from school. Social media, hospital personnel, and other sources accounted for small proportions. This finding indicates that informal sources play a dominant role in menstrual health education.

The high reliance on family and friends as the primary source of information is notable, given that many older family members themselves demonstrated low awareness in this study. This may perpetuate misinformation across generations. This aligns with (Nkoka, 2020), who emphasized that African healthcare systems are gradually integrating menstrual health education into school curricula, but gaps remain, and researchers recommended strengthening formal education channels.

A significant generational difference in dysmenorrhea severity was observed in this study. Among young women, the majority (85.0%) reported moderate pain, with 10.0% reporting severe pain and only 5.0% reporting mild pain. In contrast, among older women, 48.0% reported mild pain, 46.0% reported moderate pain, and only 6.0% reported severe pain. The chi-square test confirmed a statistically significant association between age group and pain severity ($\chi^2 = 47.50$, df = 2, $p < 0.001$). This finding is consistent with the pathophysiology of primary dysmenorrhea, which is known to be more prevalent and severe in adolescents and young adults due to higher prostaglandin levels (University, 2022). As women age, particularly after childbirth, dysmenorrhea symptoms often diminish. Additionally, older women in this study grew up with healthier lifestyle habits, including more physical activity and traditional diets, which may have contributed to milder pain experiences. This supports the perception that dysmenorrhea is more problematic for the younger generation, as stated in the research questions.

Regarding lifestyle changes, of the 200 participants, 98 (49.0%) reported ever making lifestyle changes to manage menstrual pain. Among these, regular exercise was the most commonly adopted change, reported by 74.5% of those who made changes. Better sleep habits were adopted by 12.2%, followed by improved diet (8.2%), and stress management (5.1%). This finding aligns with Dehnavi et al. (2018), who demonstrated that regular physical activity reduces menstrual discomfort by enhancing circulation and decreasing inflammation. The effectiveness of these lifestyle modifications was remarkable, with 89.8% of women who made changes reporting improvement in their menstrual pain. Specifically, 8.2% reported significant improvement, while 81.6% reported slight improvement. Only 10.2% reported no change, and none of the participants reported worsening of pain after making lifestyle changes. This finding aligns with (Bajalan, 2019), who reported that nutritional and lifestyle interventions significantly reduce dysmenorrhea severity, and researchers recommended lifestyle modifications as first-line management.

An interesting finding emerged when comparing awareness scores between those who made lifestyle changes and those who did not.

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Women who did not make lifestyle changes had higher mean awareness scores (10.51, SD=3.29) compared to those who made changes (7.12, SD=2.93). This counterintuitive finding suggests that awareness alone does not predict behavior change. Instead, experiencing pain may be a stronger motivator for adopting lifestyle modifications. Women who suffer from moderate to severe pain are more likely to seek solutions, regardless of their formal knowledge. This finding is consistent with studies from other settings where knowledge did not translate into practice, and researchers recommended addressing behavioral barriers rather than solely focusing on awareness campaigns (Latifah, 2024). This highlights the importance of addressing pain experiences directly in health education, rather than assuming knowledge translates to action.

5.2 Recommendations

- Further studies are recommended to be conducted in other districts across Dar es Salaam and Tanzania rather than one district, to allow for broader generalization of findings and comparison of dysmenorrhea experiences across different cultural and socioeconomic settings.
- To provide health education to women of all ages, particularly older women who demonstrated low awareness, about dysmenorrhea, its causes, and effective management strategies including lifestyle modifications.
- To integrate comprehensive menstrual health education into school curricula, as only 15.0% of respondents learned about dysmenorrhea from school.
- To promote regular exercise as a first-line management strategy for young women experiencing dysmenorrhea, given that 74.5% of those who made changes adopted exercise and 89.8% reported improvement.
- To ensure that healthcare providers routinely counsel young women receiving reproductive health services on lifestyle modifications for dysmenorrhea management.

5.3 Study Limitations

While this research provides valuable insights into awareness, risk, and impact of lifestyle change on dysmenorrhea between older and younger generations, certain limitations should be acknowledged.

i. The sample size of 200 participants, while adequate for statistical analysis, may limit the generalizability of findings to the broader population of women in other districts of Dar es Salaam or Tanzania.
ii. The reliance on self-reported data introduces the potential for recall bias and social desirability bias, where respondents may provide responses which they perceive as correct rather than their true experiences, particularly regarding sensitive topics such as menstrual pain.
iii. The study was conducted in a single district (Yombo Vituka, Temeke), and findings may not be representative of women living in rural areas or other districts of Dar es Salaam.
iv. This study assessed beliefs about lifestyle factors rather than objectively measuring actual behaviors such as exercise frequency, dietary patterns, sleep quality, and stress levels.

These limitations underscore the need for caution in generalizing findings to larger populations and suggest avenues for more extensive research involving multiple districts, objective measurements, and longitudinal designs.

5.4 Conclusion

In conclusion, this study demonstrates substantial generational differences in dysmenorrhea awareness, severity, and lifestyle management practices. Younger women (18-30 years) have significantly higher awareness of dysmenorrhea but experience more severe pain compared to older women (>30 years), who report predominantly mild pain. A statistically significant association was found between age group and pain severity ($p < 0.001$), confirming that dysmenorrhea is more problematic for the younger generation.

Regular exercise was the most commonly adopted and effective lifestyle modification, with 89.8% of women who made lifestyle changes reporting improvement in their symptoms. Notably, higher awareness scores did not predict lifestyle change behavior, suggesting that experiencing pain may be a stronger motivator for action than knowledge alone.

The findings underscore the need for targeted educational interventions that address both generations, with special attention to promoting regular exercise as an effective management strategy. Healthcare providers should incorporate lifestyle modification counseling into routine care for young women experiencing dysmenorrhea, emphasizing that simple changes particularly regular physical activity can significantly reduce pain severity. Strengthening formal menstrual health education in schools and communities could further reduce the burden of dysmenorrhea and improve quality of life for women across all generations.

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