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From Household Chores to Health: A Rehabilitative Rhythmic Program for Housewives

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Abstract

Aim: The main objective of this study is to determine the common lower extremity discomforts caused by daily household chores among housewives. The body parts identified as experiencing pain served as the basis for developing a Rehabilitative Rhythmic Exercise Program. Using biomechanical analysis, the study examined household task-related movement patterns to inform the design of exercise routines aimed at correcting improper body mechanics. This study contributes to the academic field by bridging biomechanics and physical education with real-world domestic labor contexts, offering a novel and culturally relevant intervention model. The findings may serve as a valuable resource for future community-based health initiatives and research in rehabilitative exercise for housewives.

Methodology: This study employed a descriptive-qualitative research design to explore the common lower extremity discomforts experienced by housewives during daily household chores. Purposive sampling was used to select ten married women, aged 20 to 35, residing in Iligan City. Data collection involved observing participants while performing typical household tasks, followed by interviews to document specific discomforts and pain locations. Biomechanical analysis was conducted to assess movement patterns contributing to musculoskeletal strain. The results served as the basis for designing a Rehabilitative Rhythmic Exercise Program tailored to the identified needs, aiming to correct improper body mechanics and alleviate pain.

Results: The study identified the major muscle groups involved in performing common household chores among housewives, providing a biomechanical foundation for the development of a targeted exercise program. During *Kugos sa Bata* (carrying a child), the muscles primarily engaged were the deltoids, biceps, triceps, trapezius, rhomboids, erector spinae, latissimus dorsi, and quadratus lumborum—muscles located in the shoulders, upper back, and lower back. The task of *Sag-ob* (fetching water) activated a broader range of muscles, including the deltoids, rhomboids, trapezius, biceps, triceps, erector spinae, latissimus dorsi, iliopsoas, gluteus maximus, quadriceps, and hamstrings, which are situated in the shoulders, back, hips, and thighs. *Pagtrapo sa Salog* (mopping the floor) primarily involved the deltoids, biceps, triceps, trapezius, rhomboids, and erector spinae, focusing on the shoulder, upper back, and lower back areas. In the task of *Hugas Plato* (washing dishes), the muscles engaged included the trapezius, rhomboids, and levator scapulae, all located in the upper back. Lastly, *Laba* (laundry) activated the latissimus dorsi, trapezius, erector spinae, quadriceps, hamstrings, and gluteal muscles, which are distributed across the hips/thighs, upper back, and lower back. These findings highlight the repetitive strain placed on specific muscle groups, reinforcing the need for a rehabilitative exercise program that addresses these areas.

Conclusion This study successfully developed a Rehabilitative Rhythmic Exercise Program tailored to the physical demands of housewives, grounded in a biomechanical analysis of common household chores. By identifying the specific muscle groups repeatedly strained during tasks such as carrying children, mopping, washing dishes, and doing laundry, the program mimics these movements in a therapeutic, rhythmic format. The findings affirm that chore-based exercise routines offer a practical and innovative approach to reducing musculoskeletal discomfort and improving overall physical well-being. This intervention presents a promising, accessible strategy for enhancing the health-related fitness and quality of life of housewives.

Keywords: Rehabilitative Rhythmic Exercise, household chores, housewives, muscle discomfort



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INTRODUCTION

Musculoskeletal disorders (MSDs) encompass a wide range of conditions that cause discomfort, irreversible damage, or disabling injuries affecting the muscles, tendons, bones, cartilage, ligaments, and nerves (Gómez-Galán et al., 2017). Workplace-related factors such as physical, psychological, social, and biomechanical hazards. Key kinetic factors include repetitive movements, excessive force, awkward postures, compression, and mechanical vibration, all contributing to symptoms like pain and fatigue (Soares et al., 2019). MSDs are generally categorized into upper extremity disorders, back injuries, and lower limb disorders. Upper extremity disorders typically involve soft tissue damage in the neck, shoulders, arms, wrists, hands, and fingers, often presenting symptoms such as pain, numbness, stiffness, and weakness that hinder daily function (Vincent et al., 2021; van Kooij et al., 2021; Røe et al., 2021). Back injuries are commonly linked to overexertion and poor lifting techniques (Gasibat et al., 2017; McCauley-Bush, 2011), while Lower limb work-related musculoskeletal disorders are primarily caused by prolonged exposure to physical risk factors such as awkward postures, repetitions, and forceful exertions (Santos et al., 2023).

Housewives are particularly vulnerable to MSDs due to the physical demands and repetitive nature of household chores. Tasks such as cooking, cleaning, washing, and child-rearing often require awkward postures and repetitive movements that impose biomechanical stress on various body regions (Nazish et al., 2020; Habib et al., 2010). Such activities frequently involve carrying, pushing, or pulling loads, which contribute to joint pain, backaches, and muscle fatigue (Dhone & Khare, 2017). Research by Saat et al. (2022), emphasizes the high prevalence of MSDs among housewives, especially in the lower back, knees, ankles, and feet—areas commonly strained during household work.

Regular physical activity has been shown to alleviate musculoskeletal discomfort, enhance body function, and prevent chronic diseases such as cardiovascular conditions (Søgaard et al., 2017). The World Health Organization (2017), defines physical activity as any bodily movement produced by skeletal muscles that requires energy expenditure—including household tasks, occupational duties, and recreational activities. Unlike unstructured home-based tasks, conventional exercise is intentional and structured, designed specifically to improve health and fitness (Fletcher et al., 2018). While home-based chores do contribute to physical activity (Tanucan et al., 2022), structured exercise programs—especially when professionally supervised—have demonstrated greater effectiveness in producing lasting health benefits and compliance (Pawalia et al., 2018).

This study focused on assessing the biomechanical strain imposed by common household chores, particularly those that affect the lower extremities. By identifying the muscles most frequently engaged and strained, the research aims to design a Rehabilitative Rhythmic Exercise Program that mirrors the natural movements of domestic work while correcting improper mechanics. The program is intended to reduce discomfort, enhance functional capacity, and promote well-being among housewives.

Aligned with Sustainable Development Goal 3 (Good Health and Well-Being), this research offers a practical and innovative intervention aimed at reducing the incidence of MSDs in a commonly overlooked population. It contributes to the academic field by integrating biomechanics and physical education into a real-world context, presenting a culturally relevant model for community-based health promotion and preventative care.

Objectives

This study aimed to design a Rehabilitative Rhythmic Exercise Program based on the biomechanical demands of daily household chores performed by housewives. Specifically, it sought to:

1. identify the most common lower extremity discomforts experienced by housewives during the performance of household chores;
2. analyze the biomechanical movements involved in routine domestic tasks that contribute to lower extremity strain or discomfort and determine the specific muscle groups repeatedly engaged or overstressed in selected household chores; and
3. develop a Rehabilitative Rhythmic Exercise Program that mimics daily household movements while correcting improper biomechanics.

METHODS

Research Design

This study employed a qualitative descriptive design guided by the Input-Process-Output (IPO) model to develop a Rehabilitative Rhythmic Exercise Program for housewives. The IPO framework provided a structured approach for identifying input data (discomforts and movements during household chores), designing the process

1154



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(exercise routine development and refinement), and producing the final output (a validated rehabilitative exercise program). The qualitative descriptive design was used to capture the lived experiences and physical challenges encountered by housewives during household chores. Thematic analysis was applied to identify patterns and recurring themes in their reported discomforts and observed movement mechanics (Maguire & Delahunt, 2017).

Population and Sampling

The study utilized purposive sampling to select ten participants who were married women aged 20 to 35 years old residing in Iligan City and who worked full-time as housewives. Selection criteria included individuals reporting regular physical discomfort during daily household tasks. This sampling approach ensured the inclusion of participants most likely to experience and articulate lower extremity discomforts relevant to the study.

Instrument

The researchers developed a customized instructional design and needs assessment tool based on the to guide data collection and program development. Several instruments were used throughout the study. A video observation guide was employed to document and analyze the participants' body mechanics while performing common household chores. A semi-structured interview guide was used to capture participants' subjective reports of physical discomfort and fatigue associated with specific tasks. To support the biomechanical analysis, muscle mapping sheets—developed in consultation with a licensed physical therapist which helped identify the specific muscle groups affected during each chore. Additionally, a prototype of the Rehabilitative Rhythmic Exercise Program was designed, incorporating movement patterns observed during the initial assessment phase.

Data Collection

Data collection occurred in two structured phases:

In the first phase, ten married housewives aged 20 to 35 years old in Iligan City were observed and video-recorded in their natural home environments while performing daily household tasks. The researchers documented postural movements, repetitive motions, and any visible signs of strain. This was followed by face-to-face, semi-structured interviews conducted in a quiet and private setting to gather qualitative feedback on the participants' discomforts and experiences. Interviews were recorded with consent and transcribed for analysis.

In the second phase, the researchers implemented a pilot version of the rhythmic exercise routine. This phase involved expert coordination and barangay approval. Participants engaged in the exercise sessions under researchers' supervision. Field notes and post-activity feedback were collected to inform program refinement.

Data Analysis

The researchers used thematic analysis to identify recurring patterns in both the observation notes and interview transcripts. Codes were developed to categorize biomechanical strain, especially in the lower extremities. This analysis was guided by expert feedback and the principles of biomechanics.

Themes generated from the analysis were used to inform the design and progressive improvement of the rhythmic exercise program. Iterative refinements were made based on both expert review and participant feedback, ensuring the routine addressed real-world physical discomforts experienced during household chores.

Treatment of Data

Thematic analysis was applied to both the video observation notes and interview transcripts to extract recurring discomfort points and movement inefficiencies. These themes informed the exercise design, ensuring alignment with real-world chore movements. Since the study was qualitative in nature, the emphasis was on identifying meaningful patterns rather than statistical correlation. Descriptive feedback from participants and expert reviewers was used to refine the exercise program across iterative testing cycles.

Ethical Considerations

The study upheld ethical standards by ensuring participant confidentiality and voluntary participation. Informed consent was obtained from all participants before data collection began. Participants were informed about the purpose, procedures, potential benefits, and their right to withdraw at any point without penalty. All data collection instruments and procedures were transparently disclosed. Participant identities were anonymized during reporting, and all data were stored securely to protect their privacy and dignity.



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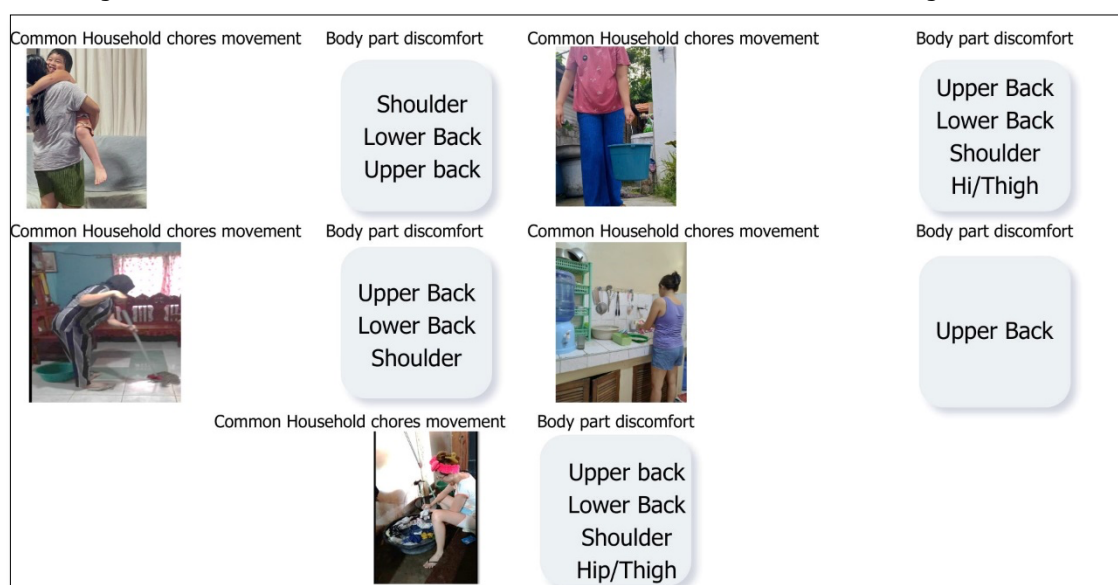
RESULTS and DISCUSSION

This section presents the findings aligned with the objectives of this study, detailing the common lower extremity discomforts experienced by housewives during household chores, the biomechanical analysis of routine domestic movements contributing to such discomfort, identification of the specific muscle groups predominantly engaged or overstressed, and the development of a Rehabilitative Rhythmic Exercise Program tailored to address these biomechanical challenges.

Needs Assessment of the Common Movements and Discomforts among Housewives

Figure 1 shows the result of the needs assessment of housewives' common household chores movements and discomforts.

Figure 1. Needs Assessment of the Common Movements and Discomforts among Housewives



As shown in Figure 1, shoulders, hips/thighs, upper back and lower back are the common body discomforts among the Housewives. These are based on their movements as they perform the household chores. It implied that majority of complaints among the housewives are related to their upper torso and extremities, particularly the upper back, lower back and shoulder. In contrast, there was only one-part common complaints in the lower limb which is the hip/thigh. Similarly, Kaur et al., (2024), found that 49% of housewives suffered from musculoskeletal problem of neck pain, 41% from upper back pain, 57% from lower back pain, 21% from shoulder pain, 10% from elbow pain, 11% from wrist pain, 13% from pain in fingers, 33% from knee pain, 16% from ankle pain, 17% from foot pain and 33% from heel pain. Most of the housewives suffer from pain in the neck, upper back and lower back. The reason behind this might be practicing poor posture and improperly lifting something heavy during their daily household activities.

Biomechanical Analysis on the Muscles Involved in the Common Household Chores

Figure 2 presents the muscles involved in the common household chores which reported to caused discomforts among housewives.



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Figure 2. Muscles involved in the Common Household Chores

Common Household chores movement	Body part discomfort	Muscles Involved	Common Household chores movement	Body part discomfort	Muscles Involved
	Shoulder Lower Back upper back	Deltoid biceps trapezius rhomboids erector spinae latissimus dorsi		Upper Back Lower Back Shoulder Hi/Thigh	Deltoids, Rhomboids Trapezius Biceps Hamstrings Gluteus Maximus erector spinae
Common Household chores movement	Body part discomfort	Muscles Involved	Common Household chores movement	Body part discomfort	Muscles Involved
	Upper Back Lower Back Shoulder	deltoids biceps triceps trapezius rhomboids erector Spinae		Upper Back	trapezius rhomboids levator scapulae
Common Household chores movement	Body part discomfort	Muscles Involved			
	Upper back Lower Back Shoulder Hip/Thigh	latissimus dorsi Trapezius erector spinae quadriceps hamstrings gluteal muscles			

Figure 2 shows that the movement of the upper body (for example, lifting a child, washing dishes, cleaning surfaces) requires the activation of muscles which assist with moving the arm and stabilizing the shoulder, such as deltoids, biceps, triceps, trapezius and rhomboids. Activities of the trunk (for example, mopping and sweeping) require a strong activation of erector spinae and latissimus dorsi to help maintain the spine in a neutral alignment and produce trunk flexion or rotation. The trunk activity is often accompanied by movements such as squatting to wash clothes or clean floors which involve the activation of a number of muscles for example, gluteus maximus, quadriceps, hamstrings and hip stabilizers are important for maintaining control of movements and balance while in an upright position. In the study by Hafeez et al. (2024), the most frequently reported household activities, ranked in order, were cooking, dishwashing, chopping, sweeping, and washing clothes. The most commonly affected areas of pain were the lower back, followed by the shoulders and neck. In terms of pain intensity, 52.9% of participants experienced moderate pain, 30.2% reported mild pain, and 16.9% suffered from severe pain. A significant correlation was found between the time spent on household tasks and the severity of pain, with prolonged working hours (more than 8 hours) being associated with more severe pain ($p = 0.00$). These findings imply that household chores require a full-body approach to strength and conditioning in order to prevent or manage musculoskeletal discomfort effectively.

Proposed Designed Rehabilitative Rhythmic Exercise Program

The Rehabilitative Rhythmic Exercise Program is a community-based health initiative developed specifically to address the prevalent musculoskeletal discomforts experienced by housewives during daily household activities. Drawing from biomechanical analysis, the program identifies stress-prone muscle groups commonly affected by repetitive chores such as lifting, squatting, reaching, and bending incorporating these into structured, rhythmic movement patterns that promote healing, strength, and posture correction.

Table 1 shows the designed rhythmic exercise program.

Table 1. Proposed Designed Rehabilitative Rhythmic Exercise Program

Rationale:	This program is designed to address the common musculoskeletal discomfort experienced by housewives while performing household chores, based on biomechanical analysis.
Type of Exercise:	<u>Moderate Impact Exercise</u>
Timetable:	Monday, Wednesday, and Friday for all housewives.
Objectives:	1) To reduce musculoskeletal discomfort in housewives. 2) To improve overall body posture and flexibility. 3) To provide a sustainable and engaging exercise routine based on daily household tasks.



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Duration of Effective Rhythmic Exercise	<p>Warm-Up 5-10 minutes for the warm-up exercise with the intensity of 50-60% of the maximum heart rate.</p> <p>Main Exercise 45 minutes for the exercise proper with the intensity of 70-80% of the maximum heart rate.</p> <p>Cool Down 5-10 minutes cool down exercise with the intensity of 50-60% of the maximum heart rate.</p>
Rhythmic Exercise Routine:	<p>Warm-up</p> <p>A. Shoulder Rolls 1. Roll both shoulders forward for 4 counts (1-2-3-4) and backward for 4 counts (5-6-7-8). <i>Repeat the sequence twice.</i></p> <p>B. Hip Circles 1. Place your hands on your waist and draw big circles with your hips clockwise for 8 counts, then reverse for 8 counts. <i>Repeat this set twice.</i></p> <p>C. Torso Twists 1. Stand with arms out and twist from side to side gently (1 twist per count). Count 1-2 to the right, 3-4 to the left, continuing for 2 sets of 8-counts.</p> <p>D. Knee Lifts/Marching in Place 1. March in place lifting knees to hip height on each count. Do 4 sets of 8-counts. You may add opposite arm swings for coordination.</p> <p>E. Leg Swings 1. Hold onto a surface for balance. Swing one leg forward and back for 8 counts (1 swing per count), switch legs after. Repeat each leg twice.</p> <p>F. Light Jumping Jacks or Step Touch 1. Perform full-body jumping jacks for 4 sets of 8-counts. Modify to step-touch (side to side) if needed. Keep arms moving to raise heart rate gently.</p> <p>G. Breathing exercises 1. Inhale slowly to allow as much oxygen to go deeply into the lungs as possible. Exhale to relax muscles and dilate blood vessels.</p> <p>Main Exercise</p> <p>1) Week 1: Kugos ug bata: 12 repetitions Sag-ob: 10 repetitions Trapo sa salog : 15 repetitions</p> <p>2) Week 2: Hugas ug Plato: 12 repetitions Laba: 10 repetitions Kugos ug bata: 12 repetitions</p> <p>3) Week 3: Trapo sa salog: 12 repetitions Sag-ob: 10 repetitions Laba: 12 repetitions</p> <p>4) Week 4: Laba: 12 repetitions Kugos ug bata: 15 repetitions Trapo sa Salog: 15 repetitions</p>



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5) **Week 5-8:**

Repeat Week 1-4 schedule

Cool Down

A. Overhead reach - with side bend

1. Stand tall with your arms straight overhead. Bend laterally to one side at the hip. Return to the starting position. *Repeat the movement in the opposite direction.*

B. Forward Fold Stretch

1. Stand with your feet hip-width apart, knees slightly bent and arms by your side.

C. Gentle Torso Twist

1. Stand tall with your feet shoulder width apart. You can place your hands on your hips or hold them at your side with 90 degrees bend at the elbow. Twist from side to side by rotating your upper body from the hips,

D. Breathing exercises

1. Inhale slowly to allow as much oxygen to go deeply into the lungs as possible. Exhale to relax muscles and dilate blood vessels.

Benefits:

1. Pain Relief: Targeted strengthening relieves common musculoskeletal complaints.
2. Posture Correction: Activates postural muscles, reducing slouching and imbalance.
3. Functional Movement Training: Simulates real-life household motions, improving daily efficiency.
4. Improved Flexibility & Mobility: Through controlled, full-range movements.
5. Mental Health Boost: Rhythmic exercise reduces stress and promotes emotional expression.
6. Increased Adherence: Fun, culturally rooted steps increase long-term participation

The exercise structure is composed of five key routines: *Kugos ug Bata*, *Sag-ob*, *Pagtrapo sa Salog*, *Hugas ug Plato*, and *Laba*. These movements are intentionally designed to mirror real-life household tasks, making the program functionally relevant, culturally appropriate, and physically therapeutic. The inclusion of 5 to 10-minute warm-up and cool-down sessions helps reduce the risk of injury, prepares the body for movement, and supports effective recovery. These components are critical for promoting blood circulation, gradually increasing heart rate before the main activity, and alleviating muscle stiffness afterward.

The program also follows the FITT principle (Frequency, Intensity, Time, and Type), a widely accepted guideline for developing structured and measurable physical exercise routines. Applying the right combination of these four elements ensures that the program is safe, effective, and tailored to individual needs, thereby maximizing the health benefits and outcomes (Lemos, 2020; Wibisana & Royana, 2023).

Rehabilitative Rhythmic Exercises based on the Common Household Chores

This section presents the rehabilitative exercises. It discusses on how to execute the rhythmic exercises. These exercises are based on their common household chores and targeted to their common lower extremities' discomforts. Figures 3 to 7 demonstrate the proper execution of the rhythmic exercises targeting to ease the aches of the lower extremities.



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Figure 3. Steps of "Kugos ug Bata" or "carrying a child"

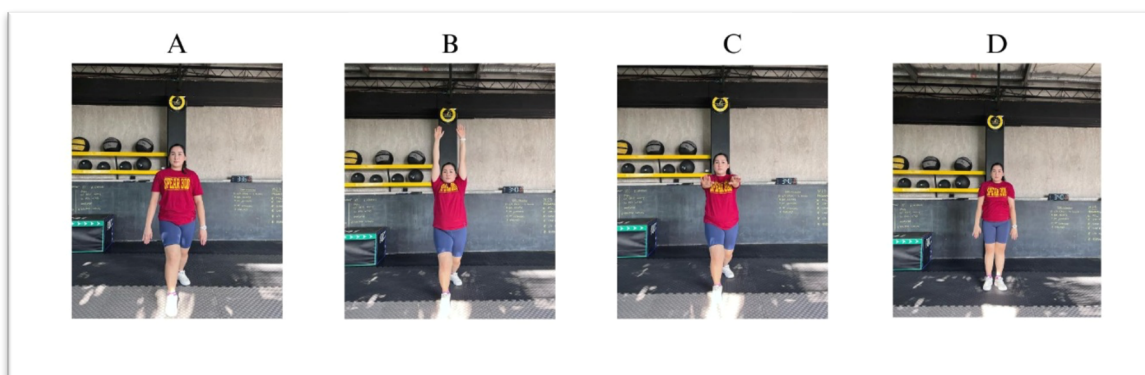


Figure 3, shows the first figure of rhythmic exercise, this exercise mimics the functional action of lifting and holding a child, a common activity for housewives. It combines lower limb motion, upper limb engagement, and core stabilization, making it a full-body activity. **(A)** Step forward with your right foot and slightly bend your knees. Hold this position for 2 counts. **(B)** At the same time, raise both arms forward and upward, simulating the motion of lifting a child. Engage your core and hold the lifted position for another 2 counts. **(C)** Step back with your left foot while slowly lowering your arms. Take 2 counts to return to the starting stance. **(D)** On count 7, return to a full upright position with feet together and arms relaxed. On count 8, prepare to repeat the movement, alternating the lead foot each time.

This movement pattern offers both corrective and functional benefits, especially for women engaged in repetitive lifting tasks like childcare or household lifting. By targeting the deltoids, biceps, trapezius, rhomboids, erector spinae, and latissimus dorsi, it enhances upper body strength, scapular stability, and postural alignment, all of which are crucial for injury prevention.

Figure 4. Steps of "Sag-ob" or "fetching water"

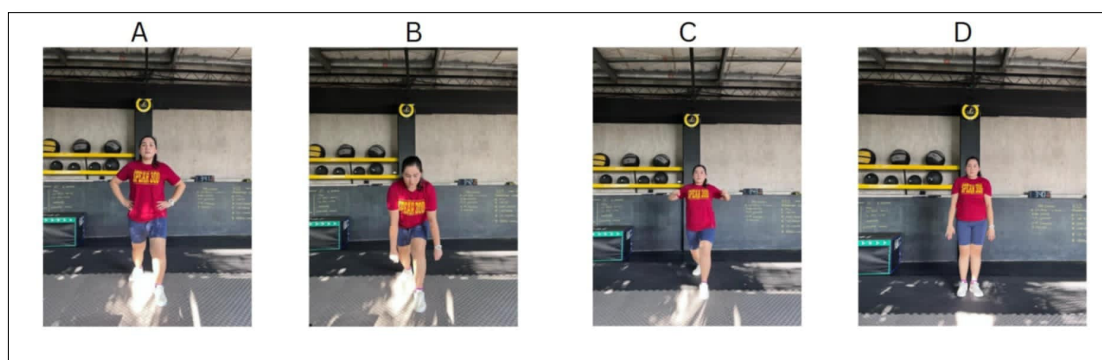


Figure 4, consist of The "Sag-ob" movement draws from the ancient tradition of fetching water, combining lower-body balance with upper-body power. This entire body action includes a lunge forward, a scooping action that resembles the gathering of water, and a rising movement. Begin by standing with feet shoulder-width apart. Step forward left, bend knee as if lunging for two counts **(A)**. Reach both arms down diagonally to mimic scooping water for two counts **(B)**. Next, pull arms up and close to chest (simulate lifting) for two counts **(C)**. Lastly, step back and return to upright position and prepares to perform the motion on the opposite side in two counts **(D)**. Alternate legs while maintaining posture and activating the shoulders, back, and legs.

This movement involves the Deltoids, Rhomboids, Trapezius, Biceps, Hamstrings, Gluteus Maximus which are situated in upper back, shoulders, and lower back muscles to enhance mobility and strength. It demands a coordinated



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engagement of muscles, balance, and proper postural control. This movement involves a squat and lifting motion that mimics carrying a heavy bucket of water.

Figure 5. Steps of "Pagtrato sa Salog" or "mopping the floor"

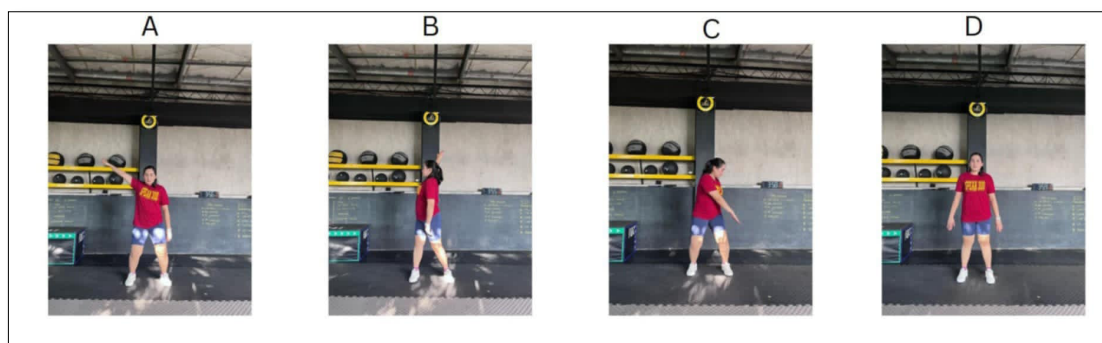


Figure 5, consist of the "Pagtrato sa Salog" movement simulates a common household activity mopping the floor and is designed to improve flexibility, balance, and strength in the upper body, trunk, and core through rhythmic, controlled movements involving rotation and side-stepping. To begin with, extend right arm diagonally for two counts **(A)**. Step right foot sideways, twist torso to the right, for two counts **(B)**. Sweep arm across to left diagonally while bending knees slightly for two counts **(C)**. Then, return to center position, arm down and prepares to perform the motion on the opposite side for two counts **(D)**. prepare and repeat other side. This routine effectively improves mobility and strength.

The exercise targets the core, erector spinae, quadratus lumborum which are located in lower back, upper back, and core muscles. This rhythmic step emphasizes upper body mobility with rotation, helping to improve the flexibility of the back and shoulders while strengthening the core. The "Pagtrato sa Salog" step serves as an effective full-body movement, targeting particularly the core, lower back, and upper trunk muscles that are crucial in everyday rotational and bending tasks. Simulating the act of mopping, this routine supports mobility through trunk rotation, enhances spinal flexibility, and strengthens the postural stabilizers.

Figure 6. Steps of "Hugas ug Plato" or "washing dishes"

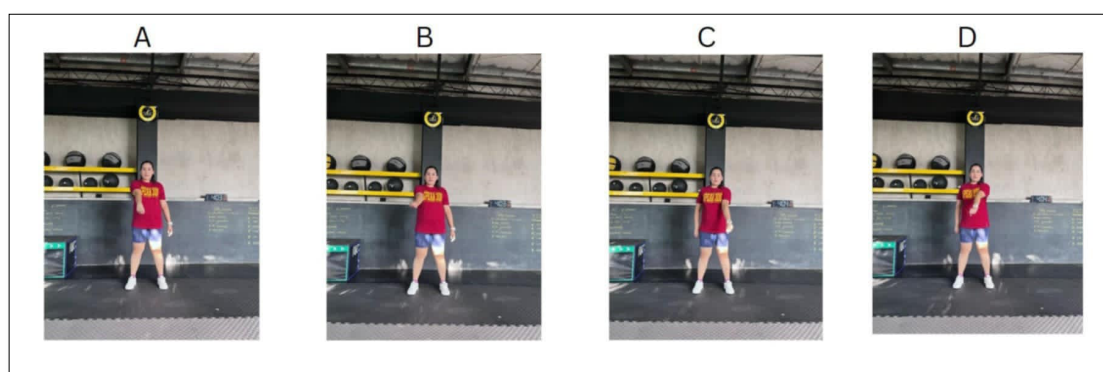


Figure 6, The "Hugas ug Plato" movement replicates the repetitive, circular scrubbing motion of washing plates. It integrates upper body articulation, shoulder mobility, and spinal coordination through fluid and rhythmic motion. The sequence combines alternating foot placement with gentle torso twists and controlled circular arm movements, emphasizing coordination and postural awareness. Begin by stepping in place with right foot, bring right hand in front as if holding a plate for two counts **(A)**. Make a small clockwise circle with right hand (simulate scrubbing)



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for two counts **(B)**. Step in place by switching to left hand and step with left foot, bring left hand in front for two counts **(C)**. Lastly, make a counter-clockwise circular motion with left hand and lower both arms to reset for two counts **(D)**. This routine focus on the shoulders, upper back, and arms, maintaining fluid motions with attention to posture and minimizing strain.

For housewives who regularly engage in household chores that strain the shoulders and wrists, this rhythmic motion offers a gentle yet effective way to mobilize the shoulder girdle, reduce stiffness, and promote functional joint health. The alternating footwork and torso rotation also enhance neuromuscular coordination and improve core stability—key for posture correction and minimizing back strain.

Figure 7. Steps of "Laba" or "laundry"

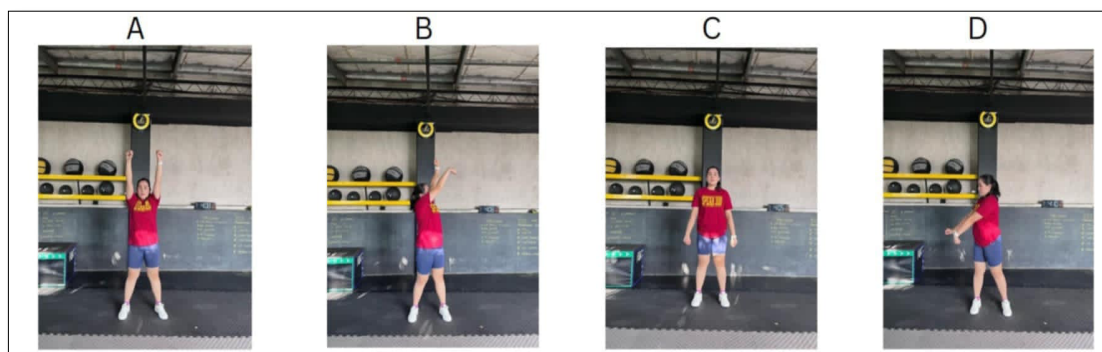


Figure 7, The "Laba" step mimics the motion of traditional hand-washing or wringing laundry, a familiar and repetitive domestic activity that combines upper body twisting, shoulder engagement, and lower body stability. It is structured in an 8-count sequence and includes side-stepping, trunk rotation, and arm movements, making it a full-body rhythmic exercise. Starts with stepping left foot on and raises both arms overhead for two counts **(A)**. Twist torso to the left while mimicking a wringing motion, return arms to center for two counts **(B)**. On count 5, the right foot steps to the side, the arms lower slightly on count 6 **(C)**. A right twist with a wringing motion, and the body resets and prepare to repeat. for two counts **(D)**.

The movement helps engage the deltoids, core, Lower Back, Latissimus Dorsi while promoting flexibility and strengthening the core. The "Laba" routine simulates a realistic and functional movement pattern that is commonly performed by housewives in a manual domestic setting. Its alternating side-stepping and twisting motions activate both upper and lower body muscle groups, making it effective for improving dynamic flexibility, core stability, and postural alignment.

Conclusions

This study successfully identified the common lower extremity musculoskeletal discomforts experienced by housewives as a result of daily household chores. Tasks such as lifting children, drawing water, mopping floors, washing dishes, and doing laundry were found to repetitively strain the hips, thighs, knees, and lower back. Biomechanical analysis revealed that these chores place continuous stress on specific muscle groups, including the quadriceps, hamstrings, gluteals, and hip flexors, leading to discomfort and, over time, potential injury.

In response, a Rehabilitative Rhythmic Exercise Program was developed to address these issues by targeting the overstressed lower extremity muscle groups through guided, chore-based movement routines. Designed with input from physical therapists and refined through participant feedback, the program aims to correct improper body mechanics, improve posture, and alleviate lower limb discomfort. The study affirms that integrating structured, movement-based interventions drawn from real-life activities is an accessible strategy for reducing the risk of musculoskeletal disorders among housewives. Additionally, it emphasizes the importance of encouraging self-care practices among women who often deprioritize their own health in favor of household responsibilities. This research makes a meaningful contribution to the fields of physical education, rehabilitation, and community health by offering a practical, culturally relevant solution to improve the musculoskeletal well-being of housewives.



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Recommendations

Based on the findings of this study, it is recommended that the Rehabilitative Rhythmic Exercise Program which is grounded in biomechanical analysis and designed to address lower extremity discomfort may be introduced and implemented in barangays across Iligan City. Barangay Health Workers (BHWs) and local women's organizations should be engaged as facilitators to ensure effective program delivery and community participation. Integrating this program into existing community health and wellness initiatives can support efforts to reduce sedentary behavior and prevent lower limb musculoskeletal disorders among housewives.

Further, local government units (LGUs) and non-governmental organizations (NGOs) focusing on women's health are encouraged to adopt and promote the program as part of broader physical fitness and self-care campaigns. Future research should explore the long-term impact of the intervention by employing larger sample sizes, longer implementation periods, and comparative pre- and post-intervention assessments to better evaluate its effectiveness in preventing chronic lower extremity conditions. By institutionalizing this exercise model, communities can empower housewives to improve their physical health, prevent injury, and enhance their overall quality of life.

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