How does Pilates compliment Belly-Dance?

(...or, by paraphrasing the song,
What’s Belly-Dance got to do with Pilates?)
Abstract

It is believed that a combination of pilates and dance can contribute to a better performance and decrease the chances of becoming injured. Pilates can help dancers to have a healthy strong body to keep up with the physical demands of their job. But is this applied and effective to all forms of dance? And if so, what about belly dancing?

When I first heard that belly dance activates and tones muscles you never thought you had, it reminded me of pilates. Both disciplines focus on the core of the body and on a fluid and healthy movement. What triggered my curiosity about this topic was Themis, a belly-dance teacher who was looking to practice pilates in order to improve her posture and potentially correcting an extensive curve in her lumbar spine also known as hyperlordosis.

The focus in this paper is on whether both disciplines can compliment each other as pilates approaches the needs of a dance technique, developing the physical capacities of dancers in a specific way. This paper enhances the believe that pilates can improve postural alignment, flexibility and abdominal strength in all dancers, including belly-dancers.
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Anatomical Description

Posture is the first priority to a dancer. Posture is not only about genetics, injuries or lifestyle. Some people are born with postural issues, such as scoliosis, and others are a result from injuries, surgeries or pregnancies. Other issues may come from activities, sports or habits. It is a combination of all these factors and many more as human bodies are a series of interconnected systems.

There are several characteristic curvatures of the vertebral column in a human body. Among them is the concave lumbar region called lumbar lordosis or hyperlordosis. In some bodies this condition tends to curve too much and puts extra strain in the lower back so forces the pelvis to tilt anteriorly. This usually indicates that the muscles of the lower back are tight and short. Also indicates that abdominals, gluteal muscles and hamstrings are weak.

Lumbar lordosis is found in all age groups. Contributing factors might be some common causes such as discitis (an inflammation of intervertebral disc space), kyphosis (may force the low back to compensate for the imbalance), obesity (overweight people lean backward to improve balance and has a negative impact on posture), osteoporosis (a bone density disease compromising the spine’s structural
integrity), and spondylolisthesis (one vertebra slips forward usually in the lumbar spine).

The exact form of the spine curvatures varies from person to person. It is important to note that the external appearance of those curvatures can be affected by overlying “soft” structures (Calais-Germain 2014) and give a wrong impression or diagnosis. A person with large buttocks may appear to have a pronounced lordosis than a person with smaller (as shown on the pic.). X-rays is the best way to reveal identical curvatures or true hyperlordosis.

This common postural problem of lumbar hyperlordosis may increase the risk of lower back issues. Since the pelvis can be considered as a bridge between the upper and lower body in terms of structure and function (Isacowitz, BASI Study Guide) one can realize how important the pelvis alignment is. There is a need to develop strength and extra use of the abdominals, stretching the hip flexors, as well as adequate flexibility of the lower back extensors and iliopsoas muscle.

The main muscles involved in the lumbar hyperlordosis are the following:

- Psoas
- Illiacus
- Rectus Femoris
- Adductors
- Gluteal group
- Abdominals
- Hamstrings
Introduction

Bellydance is meant to be a physical interpretation of music with its origins in Egypt. The first belly dancers were a group of traveling dancers known as the ghawazee. These women were considered gypsies in Egypt in the 18th century and were banished from Cairo during the 1830s, but went on to perform in Upper Egypt and later in the Middle East and Europe.

Pilates method developed by Joseph Pilates as a holistic approach to well-being and it is continuously proved to be not just a physical process but rather a mind-body form of conditioning (Wood 2019). It is not only a workout and exercise but a method and approach to an optimizing human movement.

The two movement vocabularies are quite complimentary in both differences and similarities. Both disciplines focus on the core of the body and on a fluid and healthy movement, as both focus on disassociation of the muscles and move in different planes. Both disciplines are using the method of isolating one muscle in order to work independently from another group of muscles. Muscle isolation is a goal of many exercise disciplines in pilates and requires integration of many muscle groups in order to maintain a stable body while moving only one region (Isacowitz 2014). Belly dance isolations are more complex though; it looks like a movement of one part of the body but it is actually a manipulation of several joints using at the same time many muscles. There is also a focus on spinal articulation with undulations which is similar to the standing articulating bridge in
pilates. Similarities can be also found in ribcage isolations in all directions in belly
dance which is also found in mermaid and twisting movements in pilates.

However, the two disciplines have clear differences; the pelvis moves in all
directions in belly dance but the focus is on the lateral movements. In pilates the
hips kept level and stable when using the legs for instance but in belly dance the
legs are used extensively to move the pelvis up and down. In belly dance it is
common to control the abdominal muscles by releasing and contracting them when
doing hip circles or an undulation while in pilates the abdominal muscles are mainly
contracted.

Pilates has principles very close to dance technique and uses movements
very similar to certain technical skills of the dancers. It is an adaptable method
addressing exercises to an audience with different needs and offering variations in
order to target key muscles according to what participant’s body demands in a safe
way. As we recommend in the following case study, pilates can improve muscular
strength and protect dancers from injuries as it develops capacities crucial for
performance without neglecting the artistic component.

**Case Study**

Themis is a 35 years old development engineer who lives in Amsterdam. She loves
to dance and by wanting to express herself in a confident and fun way she became a
belly dance teacher. She teaches 5 hours per week belly dance as a side job. She is
an active person doing 30 min per day a personal practice, 1.5 hour per week yoga
and 1 hour per week Mat Pilates. Despite the fact that she lives in Amsterdam she is
not riding a bicycle but prefer to walk. Themis has been doing Pilates Mat training
since 2017 but she decided to try pilates on a Reformer for the first time in October 2018 to get acquainted with pilates apparatus and be able to join Reformer classes.

On our first appointment Themis described her body limitations in detail. She has extensive lumbar curve also known as hyperlordosis. She is constantly on an anterior tilt of pelvis thus she looks like she is walking and standing on her toes and apparently she does. She has natural big curvatures in her body but compare to her body analogies her hips are quite extensive. Themis is not a tall person, as she constantly make fun of herself “I am an overall short girl from Cyprus”. Furthermore, Themis is experienced some issues at the right side of her body, starting from her shoulder and continues on her elbow and hip. She has difficulty on side plank or reverse plank but not in regular planks using both arms/legs. She also brought to my attention that she has a tendency towards Hyperextended Knees (Genu Recurvatum) when she is not aware of her posture or movement.

Themis has beautiful shoulder girdle mainly due to the fact that she is using her arms extensively throughout her belly dance choreographies (combo’s). The arms are held up at shoulder level or overhead so shoulder stabilization is required as well as lengthening of the cervical spine. However, due to her 9-hour office work, she tends to suffer from ‘bad desk habits’ thus the pain on her right shoulder.

Her objective is to strengthen her core muscles, achieve balance and stability in order to improve her posture and her performance as belly dance teacher but also to prevent any further damage, injury or pain.

**Conditioning Program**

We’ve decide to create a repertoire using a conditioning comprehensive Pilates program based on BASI Pilates Block System towards strengthening her core
muscles and hip extensors, lengthening the short muscles, reducing her curve in the lumbar spine and mainly improving her posture.

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<th>APPARATUS</th>
<th>EXERCISE</th>
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<tr>
<td>Warm-up</td>
<td>Mat</td>
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<td>Pelvic Curl difficult to execute. Naval to spine, or pubic bone towards the nose didn't show like it happens.</td>
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<td></td>
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<td>Spine Twist Supine</td>
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<td>Chest Lift w/rotation</td>
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<td>Overhead Stretch</td>
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<td></td>
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<td>Chest Lift</td>
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<td></td>
<td></td>
<td>Chest Lift w/Rotation</td>
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<tr>
<td>Foot Work</td>
<td>Reformer</td>
<td>Parallel Heels+Toes</td>
<td>Put a mindset to use the back of the legs more than quads, to feel the work in the back of the legs</td>
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<td>V Position</td>
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<td>Abdominal Work</td>
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<td>Trying to avoid to elevate shoulders and use upper trapezius</td>
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<td></td>
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<td>Cadillac</td>
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<td>To improve coordination, balance &amp; breathing</td>
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<td>Openings</td>
<td>Better execution of the exercises when pelvis lift higher</td>
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<tr>
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<td>Step Barrel</td>
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<td>Hamstrings weak thus too difficult</td>
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<td>Cadillac</td>
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<td>Barrel: a nice assist for a Roll Over</td>
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<td></td>
<td>Tower Prep</td>
<td>Hamstring stretch &amp; control. Learn to get them active throughout</td>
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<td></td>
<td></td>
<td>Tower</td>
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<tr>
<td>Stretches</td>
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<td>Standing Lunge</td>
<td>At the end of every session extra stretches on Ladder Barrel have been added</td>
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<tr>
<td></td>
<td>Ladder Barrel</td>
<td>Quads, Gluts, Hamstrings, Adductor Stretch</td>
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<tr>
<td>Full Body Integration (F/I)</td>
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**Discussion**

We worked with Themis for 10 months almost every week. We started on the Reformer with a basic repertoire in order to get acquainted with pilates apparatus. After 15 sessions we progressed towards Cadillac and Wunda Chair and offered a mixed equipment class at the end. I also adapted the exercises by using assists and props (foam roller, soft ball, magic circle, weights) when needed to suit the level and ability of Themis. Throughout our sessions I was observing how Themis was moving and which areas of her body were stronger than others. I was
particularly looking for any deviations in her body, muscular strength, hip mobility, spinal articulation and flexibility.

Some of the observations below took place during our very first 10 sessions and soon enough we noticed progress:

- During Foot Work on Reformer she was putting extra effort to activate the back of her legs, so my cues were aiming to bring her attention towards using the hamstrings rather than quadriceps and leaving the hip flexors uninvolved and as much relaxed as possible.

- Chest Lift and Hundred were difficult exercises for Themis as she was counting on her upper trapezius rather than her abdominals to lift off the floor. I suggested putting less stress on the shoulders by wrapping the shoulder blades under. She felt immediately her abdominals, she focused on the movement and she managed to do it successfully.

- She wasn’t able to draw the inner thighs towards each other during Hip Work on Reformer as the knees touched each other. Micro-bending the knees was a solution.

- We utilized Step Barrel for hip work and we discovered that it was easier for Themis to stretch her psoas while having her pelvis higher (on a surface such as a foam roller or step barrel) as opposed to lying down on the Mat/floor.

- We used the Step Barrel initially to strengthen the lateral flexors. Exercises like Leg Lifts, Gluteal series or Side overs were very difficult to execute. We practiced on the Mat or the Cadillac bed.

- She has never attempted to do an inversion such as a Roll-Over before. We used the Step Barrel so her pelvis was lifted. We were extremely satisfied when she managed to do other spinal articulation exercises such as Tower at the end.
Due to extended hips and big quads she was unable to sit back in the Rest position. When she managed to do it as she progressed, she felt such a relief and enjoyed it a lot.
Conclusion

Themis is an attentive and determined person. She was aware of her limitations and worked hard towards improving her body alignment. She enjoyed our pilates sessions based on BASI repertoire and she was interested in understanding the muscles involved in every movement. She noticed the benefits of pilates, the scientific base behind our choice of exercises and the body awareness through movement that pilates brings. After 10 months of weekly pilates on equipment, Themis felt stronger. She reported that she gained balance and body control that supported her to belly-dance performance and even her body mass distributed more aesthetically so she felt slimmer without even losing weight. Themis made pilates a weekly routine, continuing with reformer classes and enjoying the fact that pilates goes hand-to-hand with her belly dance life.

It is possible to conclude that pilates is a useful tool for dancers – including belly dancers – in order to improve muscular strength and flexibility. Nowadays there are numerous pilates classes for belly dancers, practicing exercises that target key muscle groups that are essential for this type of technique. Pilates offers variations that help to balance the avid belly dancer’s body; focusing on healthy spinal movement, range of motion, and injury prevention.
Bibliography


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