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## Deep Breathing Relaxation To Overcome Back Pain In Pregnant Women

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### Abstract

Lower back pain during pregnancy occurs due to changes in the body's center of gravity, pelvic joint relaxation, and increased lumbar lordosis caused by weight gain and musculoskeletal adaptation as pregnancy progresses. Non-pharmacological approaches, such as deep breathing relaxation techniques, have been used in antenatal care to help pregnant women reduce pain and anxiety intensity without the side effects of medication. This Community Service activity was carried out on 20 pregnant women in the third trimester in the Sukajadi Health Center Area, Talang Kelapa District, Banyuasin Regency. The activity was carried out at the Sukajadi Health Center. The activity was carried out in September-November 2021. The Community Service Activity aims to apply knowledge and technology so that the community can enjoy its results and feel the benefits. In the implementation of the Pengabmas activity, the service provider strives to make it as effective as possible so that it does not make pregnant women feel tired from the activity. The mother seemed enthusiastic in participating in the service activities, actively asking questions related to complaints during pregnancy. The mothers pain is reduced.

**Keywords:** Pain, Deep breathing relaxation, anxiety, back pain, community service

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## INTRODUCTION

Pregnancy is a complex physiological period filled with hormonal, musculoskeletal, and psychological changes that can trigger or exacerbate health issues in mothers. One of the most frequently reported complaints during pregnancy is lower back pain (low back pain), which is reported in 50-80% of pregnant women and is a risk factor for decreased quality of life and impacts the childbirth process (Wijayanti et al., 2025)

Lower back pain during pregnancy occurs due to changes in the body's center of gravity, pelvic joint relaxation, and increased lumbar lordosis caused by weight gain and musculoskeletal adaptation as pregnancy progresses (Wijayanti et al., 2025). In addition to physiological changes, anxiety during pregnancy is a common psychological issue that is closely related to concerns about the health of the fetus, labor, as well as body changes and the new role as a parent. The interaction between pain and anxiety can worsen each other, increasing stress and reinforcing pain perception in pregnant women (Abera et al., 2024)

Non-pharmacological approaches, such as deep breathing relaxation techniques, have been used in antenatal care to help pregnant women reduce pain and anxiety intensity without the side effects of medication. Proper breathing techniques can stimulate the parasympathetic nerve response, reduce muscle tension, and decrease physiological reactions to stress and pain (Wang et al., 2025). Several studies have shown that breathing relaxation techniques, especially when combined with other approaches (e.g., pregnancy massage or light exercise), can reduce lower back pain intensity in third-trimester pregnant women and alleviate anxiety, thereby improving comfort and quality of life during pregnancy (Azizah et al., 2024). The purpose of

this Community Service is to empower pregnant women in doing deep breathing relaxation as an effort to reduce back pain.

## RESEARCH METHODS

This Community Service activity was carried out on 20 pregnant women in the third trimester in the Sukajadi Health Center Area , Talang Kelapa District, Banyuasin Regency. The activity was carried out at the Sukajadi Health Center The activity was carried out in September-November 2021. Before the activity, the service provider took care of the permit and coordinated first with the health center, at the beginning of the activity a pre-test was carried out using VAS to measure pain in the pregnant woman and explained how to do a deep breathing at hypnoprenatal class and give video deep breathing then to do Post tes using VAS.

## RESULTS AND DISCUSSION

The Community Service Activity aims to apply knowledge and technology so that the community can enjoy its results and feel the benefits. In the implementation of the Pengabmas activity, the service provider strives to make it as effective as possible so that it does not make pregnant women feel tired from the activity. After introducing themselves to the pregnant women, the service provider asked each pregnant woman about the gestational age. Then, they were asked about the complaints they were experiencing. Some women in their first trimester complained of nausea and vomiting, while most women in their second and third trimesters complained of lower back pain.

The pregnant women also experienced anxiety about their pregnancies, especially during the COVID-19 pandemic. They were very worried about the health of the fetus in their womb. The service provider understood this situation. In addition to worrying about themselves, they were also anxious about their pregnancies, creating a double anxiety. Therefore, the service provider conducted a community service activity, "Deep Breathing Therapy as an Effort to Reduce Pain and Anxiety During Pregnancy." The service provider displayed a banner explaining how to perform deep breathing therapy, and also distributed leaflets containing the benefits and instructions for the therapy. The service provider explained the benefits and goals of deep breathing therapy and demonstrated how to perform it to the pregnant women.

Next, a video on "Deep Breathing Therapy" was shown. The pregnant women appeared enthusiastic while watching the video. They tried practicing deep breathing therapy and felt relaxed after doing it. When asked how they felt after performing deep breathing therapy, some of them expressed feeling more relaxed, calmer, and comfortable. The results of this community service activity align with recent scientific evidence showing that relaxation techniques, including deep breathing, have a positive effect in reducing lower back pain and anxiety in pregnant women. Recent studies indicate that breathing and relaxation techniques learned during pregnancy can help pregnant women manage emotional stress and pain perception more effectively during pregnancy and childbirth (Leutenegger et al., 2022).

A systematic review shows that relaxation interventions, including deep breathing, provide real benefits to the mental health of pregnant women, such as reducing stress, anxiety, and symptoms of depression. These effects are also associated with an overall improvement in

psychological well-being (Abera et al., 2024). Additionally, recent local studies provide evidence that deep breathing relaxation techniques can reduce complaints of back pain and anxiety in pregnant women during the third trimester. This study used a pretest-posttest design and found that pregnant women who practiced deep breathing relaxation reported a significant decrease in anxiety and pain levels ((Anita & Komariah, 2024)

The physiological mechanisms are also supported by modern scientific studies, which state that: Deep breathing helps activate the parasympathetic nervous system, reducing the stress response and calming the body. This is related to stress hormone regulation and muscle tension reduction, which indirectly lowers pain perception (Liang, 2024). This mechanism is also in line with findings that combining breathing exercises and relaxation can reduce both physical and psychological anxiety symptoms, as well as help relax tense muscles (Rufaida et al., 2015).

Additional scientific support shows that antenatal education classes that include breathing and relaxation techniques can increase pregnant women's self-confidence and pain management abilities, which indirectly reduces the need for pharmacological analgesics during labor (Leutenegger et al., 2022).

The integration of evidence and the results of the community service activity shows that: Deep breathing relaxation contributes to a reduction in anxiety and pain experienced by pregnant women during the activity. Daily educational activities and practice through WhatsApp groups reinforced understanding and application of deep breathing techniques → proven to reduce pain (15%) and anxiety (10%). Therefore, non-pharmacological approaches such as deep breathing therapy are effective, inexpensive, safe, and easy to practice methods to help pregnant women manage lower back pain and anxiety during pregnancy, while supporting their mental and physical well-being (Leutenegger et al., 2022).

## CONCLUSION

After the community service activity, it can be concluded that the pregnant women were very enthusiastic about the activity. They were happy to receive education on Deep Breathing Therapy as an effort to reduce pain and anxiety during pregnancy, especially during the COVID-19 pandemic. They also felt relaxed and comfortable. There was a reduction in pain by 15% and anxiety by 10%. It is recommended that healthcare workers implement deep breathing therapy techniques as an effort to reduce pain and anxiety during pregnancy. Pregnant women should practice and continue with deep breathing relaxation so that pain and anxiety during pregnancy can be alleviated.

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