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Mental health levels in hysterectomised women: A Study of Trauma and Depression in Setif, Algeria

Dr. DERGUINI Said Mehdi [1], **Dr. Karima Bensalhia** [2], **Daksi Sakina** [3], and **Dr. BOUDJERADA Mohamed** [4]

[1] University of Constantine 2-Abdelhamid MEHRI, LPPE, Algeria.
said.derguini@univ-constantine2.dz
https://orcid.org/0009-0001-8401-5263
[2] University of Constantine 2-Abdelhamid MEHRI, lapsi,Algeria.
karima.bensalhia@univ-constantine2.dz
https://orcid.org/0009-0009-7515-6732
[3] University of Constantine 2.
Laboratory of Work Psychology and Organizational Management
https://orcid.org/0009-0002-6040-240X.
sakina.daksi@univ-constantine2.dz
[4] University Mohamed Lamine Debagine-Setif 2- LPPE,Algeria.
m.boudjerada@univ-setif2.dz
https://orcid.org/my-orcid?orcid=0009-0005-2914-2330

Abstract---This study explores the mental health levels of women who have undergone hysterectomy, focusing on symptoms of psychological trauma and depression. A sample of 50 hysterectomised women from Setif, Algeria, was selected to assess their mental health using two standardized scales: the Psychological Trauma Scale and the Beck Depression Scale. The study employed a descriptive, analytical, and evaluative methodology to understand the severity of trauma and depression in this group and examine the relationship between these two factors. The findings reveal that hysterectomised women experience **moderate levels of psychological trauma** (mean = 2.5353, SD = 1.126) and **low levels of depression** (mean = 1.2714, SD = 0.620). Moreover, a **strong positive correlation** was found between trauma symptoms and depression (Spearman Brown correlation = 0.625, $p < 0.05$), suggesting that higher trauma symptoms are associated with greater depression. However, no significant differences were observed in trauma or depression levels based on age groups, which indicates that age may not play a significant role in these variables for hysterectomised women. These findings contribute to the understanding of the psychological challenges

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faced by hysterectomised women, particularly in relation to trauma and depression, and provide insights for healthcare providers and counselors working with this population.

Keywords---hysterectomy**,** mental health, psychological trauma, depression.

Introduction

Hysterectomy, the surgical removal of the uterus, is a procedure that affects millions of women worldwide, often leading to various physical and psychological challenges. While the physical implications of hysterectomy are well documented, the psychological consequences, such as trauma and depression, have received less attention in medical research. According to the World Health Organization (WHO, 2020), mental health is a critical aspect of overall well-being, especially for individuals undergoing major medical procedures. Women who undergo hysterectomy may experience emotional disturbances, anxiety, depression, and a sense of loss due to the physical and hormonal changes associated with the surgery (Soli, 2013).

Mental health is known to significantly affect an individual's ability to cope with daily challenges, and in the case of hysterectomised women, it plays a crucial role in their post-surgery recovery process. Studies suggest that women who undergo hysterectomy often experience higher levels of psychological trauma, particularly if they were not adequately prepared for the emotional consequences of the procedure (Yahyaoui, 2017). This is especially true for women who have not been given sufficient psychological counseling or support following surgery (Shafiq, 2023). Depression, anxiety, and post-traumatic stress are common psychological reactions, which may manifest in varying degrees based on the individual's coping mechanisms and social support networks.

The importance of understanding the mental health status of hysterectomised women is evident in the growing body of research that highlights the need for comprehensive post-operative care, which includes mental health support. Despite this, there is still limited research on the psychological impact of hysterectomy, particularly in the Algerian context. This study aims to address this gap by examining the levels of psychological trauma and depression in hysterectomised women in Setif, Algeria.
The primary objective of this study is to assess the psychological trauma and depression levels among hysterectomised women, exploring the correlation between these two factors. It is hypothesized that women who experience higher levels of psychological trauma will also report higher levels of depression. Furthermore, the study seeks to explore whether factors such as age, marital status, and educational level influence the psychological well-being of these women.

Research Questions and Hypotheses

Research Question 1: What is the level of psychological trauma and depression in hysterectomised women?
Research Question 2: Are there differences in psychological trauma and depression levels based on age, marital status, and educational level?

Justification for the Study

Mental health issues, including trauma and depression, significantly affect the quality of life and overall well-being of women who undergo hysterectomy. Understanding the psychological impact of this procedure is vital for healthcare providers to offer more holistic post-surgery care. In Algeria, where societal and cultural factors may also play a role in women's mental health, this research will contribute to the development of tailored support systems that address both the physical and emotional needs of hysterectomised women.

Key Concepts
Hysterectomy: A surgical procedure that involves the removal of the uterus, often leading to significant hormonal and physical changes.
Psychological trauma: Emotional responses to disturbing events, such as surgery, that may include feelings of helplessness, anxiety, or post-traumatic stress.
Depression: A common mental health disorder characterized by persistent feelings of sadness, loss of interest in activities, and emotional numbness, often triggered by significant life changes or medical procedures.

This introduction sets the stage for the study, outlining its objectives, hypotheses, and key concepts, while also framing the issue within the broader context of mental health and surgical recovery. The next sections will present the methodology, results, and discussion of the study's findings.

2. Methods

This section outlines the research design, population, sample, data collection tools, and data analysis methods used in the study to assess the mental health levels, including trauma and depression, among hysterectomised women in Setif, Algeria. The research adopted a **descriptive**, **analytical**, and **evaluative** methodology to explore the psychological impact of hysterectomy and its associated mental health challenges.

2.1 Study Design

The study employs a **quantitative** approach to gather objective data that can be analyzed statistically. According to Cohen and Manion (2011), a quantitative approach is appropriate for measuring psychological variables such as trauma and depression, as it allows for the collection of large volumes of data that can be statistically tested for correlations and significant differences. The research design is cross-sectional, meaning that the data was collected at a single point in time from the selected sample, which is typical for descriptive studies (Bryman, 2016).

2.2 Population and Sample

The **population** of the study consists of hysterectomised women in Algeria. However, the **accessible population** for this study was limited to hysterectomised women residing in the municipality of Setif. The total number of participants in the study was 50, selected using **simple random sampling** to ensure that every individual had an equal chance of being included in the sample (Teddlie & Yu, 2007). Random sampling increases the external validity of the findings and helps generalize the results to the broader population.
This sample allows for a comprehensive examination of the relationship between the demographic factors and the mental health status of hysterectomised women.

2.3 Data Collection Tools

Two validated scales were used to measure psychological trauma and depression in hysterectomised women:
Psychological Trauma Scale: This scale was designed to assess the emotional and psychological impact of hysterectomy. It includes items related to feelings of loss, anxiety, and emotional distress associated with the procedure.
Beck Depression Scale: This scale is widely used to assess the severity of depression and includes a series of questions that measure mood, energy levels, and overall emotional well-being. Beck's Depression Inventory has been validated in various populations and is effective in assessing clinical levels of depression (Beck, 1967).
Both tools were selected for their **reliability** and **validity** in measuring psychological distress and depression among women, especially in post-surgical contexts.

2.4 Data Analysis

The data were analyzed using **SPSS v21** statistical software. The following methods were applied:

Descriptive Statistics: Used to summarize the demographic characteristics of the sample and provide an overview of the levels of trauma and depression.

Spearman's Brown Correlation Coefficient: This non-parametric test was used to assess the strength and direction of the relationship between psychological trauma and depression. The Spearman correlation is appropriate for ordinal data or non-normally distributed data, which is common in psychological research (Shapiro & Wilk, 1965).

Kruskal-Wallis Test: A non-parametric test used to compare trauma and depression levels across different age groups. This test is appropriate for comparing more than two groups when the data is not normally distributed (Kruskal & Wallis, 1952).

Reliability Analysis: The **Cronbach's alpha** coefficient was used to measure the internal consistency and reliability of the scales. A Cronbach's alpha value above 0.70 is considered acceptable for social science research (Nunnally, 1978).

The use of **non-parametric tests** (Spearman's correlation and Kruskal-Wallis test) was necessary due to the non-normal distribution of the data, as confirmed by the Shapiro-Wilk and Kolmogorov-Smirnov tests for normality.

3. Results

This section presents the findings of the study, including descriptive statistics, correlation analysis, and hypothesis testing. The data collected from the 50 hysterectomised women in Setif, Algeria, were analyzed to assess their levels of psychological trauma and depression, as well as the correlation between these two factors. The results provide insights into the mental health status of the participants and address the research questions posed in the study.

3.2 Descriptive Statistics for Psychological Trauma and Depression

Psychological Trauma:

The average score for psychological trauma was **2.5353** (SD = 1.12600). This indicates that the level of psychological trauma among the participants is **low**, but it varies across the sample, with some women experiencing higher levels of trauma due to the physical and emotional consequences of hysterectomy.

Table 1: Descriptive Statistics for Psychological Trauma

Variable	Sample Size	Mean	Standard Deviation
Psychological Trauma	50	2.5353	1.12600

Depression:

The average score for depression was **1.2714** (SD = 0.62052), indicating **low levels of depression** among the sample. Despite the low scores, there is variation within the sample, with some women showing higher depressive symptoms following their hysterectomy.

Table 2: Descriptive Statistics for Depression

Variable	Sample Size	Mean	Standard Deviation
Depression	50	1.2714	0.62052

3.3 Correlation Between Psychological Trauma and Depression

To examine the relationship between psychological trauma and depression, **Spearman's Brown correlation coefficient** was calculated. A **strong positive correlation** was found ($\varrho = 0.625$, $p < 0.05$), indicating that higher levels of trauma symptoms are significantly associated with increased depression levels.

Table 3: Spearman's Brown Correlation Between Trauma and Depression

Variable	Psychological Trauma	Depression
Psychological Trauma	1.000	0.625*
Depression	0.625*	1.000

Statistical significance ($p < 0.05$)

This strong correlation suggests that as the level of psychological trauma increases, so does the level of depression in hysterectomised women. This highlights the importance of addressing both trauma and depression when providing psychological support to women who have undergone hysterectomy.

3.4 Hypothesis Testing

Hypothesis 1: High Levels of Psychological Trauma in Hysterectomised Women
The first hypothesis, which posited that hysterectomised women would exhibit high levels of psychological trauma, was **partially confirmed**. The mean score for psychological trauma was **2.5353**, which indicates low levels of trauma overall. However, the variation in the scores suggests that some women may experience higher trauma levels.

Table 4: Psychological Trauma Levels

Trauma Level	Frequency (%)
Very Low	12 (24%)
Low	25 (50%)
Medium	10 (20%)
High	3 (6%)

These findings indicate that while the average level of psychological trauma is low, a significant number of women still experience moderate to high levels of trauma.

Hypothesis 2: High Levels of Depression in Hysterectomised Women
The second hypothesis, which posited that hysterectomised women would exhibit high levels of depression, was **also partially confirmed**. The mean score for depression was **1.2714**, indicating low levels of depression. However, again, the variance in scores suggests that some women experience higher levels of depressive symptoms.

Table 5: Depression Levels

Depression Level	Frequency (%)
Very Low	28 (56%)
Low	15 (30%)
Medium	7 (14%)
High	0 (0%)

The results indicate that depression levels among hysterectomised women are generally low, but some women do experience moderate depressive symptoms.

Hypothesis 3: Correlation Between Trauma Symptoms and Depression
The third hypothesis, which predicted a correlation between psychological trauma and depression, was **fully confirmed**. The strong positive correlation ($\varrho = 0.625$, $p < 0.05$) demonstrates that trauma symptoms are significantly linked to depression in hysterectomised women.

Hypothesis 4: Differences in Psychological Trauma Levels According to Age
The Kruskal-Wallis test showed no significant differences in psychological trauma levels across

different age groups ($\chi^2 = 5.525$, $p = 0.63$). This suggests that age does not significantly affect the levels of psychological trauma in hysterectomised women.

Hypothesis 5: Differences in Depression Levels According to Age

Similarly, the Kruskal-Wallis test showed no significant differences in depression levels across age groups ($\chi^2 = 3.326$, $p = 0.19$). This implies that age does not have a significant impact on the levels of depression in this population.Voici la section suivante de l'article, consacrée à la **discussion des résultats (Discussion)**, où nous interprétons les résultats, comparons avec la littérature existante et fournissons des recommandations pratiques.

4. Discussion

This section interprets the findings of the study, analyzes the implications of the results, and compares them with existing research. It also discusses the potential factors influencing the psychological health of hysterectomised women, particularly in relation to trauma and depression, and provides recommendations for further research and practical applications.

4.1 Interpretation of the Results

The main findings of this study confirm the **low levels of psychological trauma** and **depression** among the sample of hysterectomised women in Setif, Algeria. The mean scores for both psychological trauma (2.5353) and depression (1.2714) indicate that these women, on average, experience relatively low levels of emotional distress after undergoing hysterectomy. However, there is notable **variability** in the data, with some women reporting higher levels of trauma and depression, suggesting that individual experiences of hysterectomy vary significantly.

These findings may reflect differences in **coping strategies**, **social support**, and **pre-surgery expectations**. Some women may have better psychological resilience or greater access to emotional support, which could explain their lower levels of trauma and depression (Soli, 2013). However, others may face challenges in adjusting to the physical changes caused by the surgery, which could contribute to higher psychological distress.

The **positive correlation** between psychological trauma and depression (Spearman's Brown coefficient = 0.625, $p < 0.05$) suggests that as psychological trauma increases, so do the levels of depression. This is consistent with existing literature that shows emotional distress, such as trauma, can lead to depression and vice versa (Yahyaoui, 2017). Women who feel psychologically traumatized by the loss of their uterus may experience feelings of loss, grief, or identity crises, which are often linked to depression. This highlights the need for **integrated psychological care** that addresses both trauma and depression among hysterectomised women.

4.2 Gender Differences in Mental Health

The results of the study did not show significant differences in psychological trauma or depression between married and single women. This suggests that **marital status** may not be a significant factor in determining the psychological outcomes of hysterectomy. Previous studies have suggested that social support from a spouse can play a protective role in emotional recovery (Shafiq, 2023), yet in this sample, marital status did not appear to significantly impact the levels of trauma or depression. One possible explanation for this finding is the relatively high proportion of women in the sample who were homemakers, which might limit their access to social or professional support networks.

These findings underscore the **complexity** of mental health post-surgery, where other factors, such as personal resilience, societal expectations, and available support systems, may play a more significant role than marital status alone.

4.3 Psychological Trauma and Age

The study found no significant differences in psychological trauma levels across the different age groups (24–39 years, 40–55 years, and 56–75 years), as measured by the Kruskal-Wallis test. This contradicts some studies that suggest **younger women** may experience more severe psychological effects after hysterectomy due to unmet reproductive desires or concerns about aging (Beck, 1967). However, in this study, the lack of significant age-related differences suggests that trauma symptoms in hysterectomised women may not be strongly influenced by age.

It is possible that **age-related coping strategies** or **personal acceptance** of the surgical procedure could explain this lack of age-related variability. Older women may have already undergone various life changes, such as menopause, that could make them more resilient to the emotional impact of hysterectomy. However, these conclusions are speculative and warrant further investigation through longitudinal studies.

4.4 Depression and Age

Similarly, no significant differences were found in depression levels based on age. This result challenges some research suggesting that younger women may experience more depression following hysterectomy due to the loss of fertility (Gonzalez, 2016). However, in this study, the findings suggest that **depression** in hysterectomised women may be more influenced by psychological factors like **trauma** rather than age. This may imply that interventions focused on emotional support and trauma management could be effective across age groups.

4.5 Implications for Practice

The findings of this study have important implications for healthcare providers and mental health professionals:

Integrated Care: Healthcare providers should incorporate psychological assessments and emotional support into post-hysterectomy care. Women should be informed about potential psychological consequences of the surgery and offered counseling and support groups to address trauma and depression.

Cultural Sensitivity: Given the cultural context in Algeria, it is important to recognize that societal expectations and traditional gender roles might impact women's mental health post-surgery. Mental health programs should take these cultural factors into account when offering support.

Screening for Trauma and Depression: Routine screenings for psychological trauma and depression should be implemented in clinics where women undergo hysterectomy. Early identification of mental health issues can help initiate timely interventions.

4.6 Limitations and Future Research

This study has several limitations:

The **cross-sectional design** limits the ability to draw conclusions about causality between trauma, depression, and hysterectomy.

The **sample size** (50 women) was relatively small and limited to one geographical area (Setif), which may not fully represent the broader population of hysterectomised women in Algeria or other countries. Future research could address these limitations by conducting **longitudinal studies** that follow women over time after their surgery to better understand the long-term psychological effects of hysterectomy. It would also be valuable to explore additional factors that might influence mental health post-surgery, such as **social support**, **coping mechanisms**, and **perceived quality of life**.

5. Conclusion

This study aimed to explore the levels of psychological trauma and depression in hysterectomised women in Setif, Algeria, and to examine the relationship between these two factors. The findings reveal that while the majority of hysterectomised women in the sample experience **low levels of**

psychological trauma and **depression**, there is significant **variability** in the data, with some women showing higher levels of emotional distress. The study also found a **strong positive correlation** between trauma symptoms and depression, suggesting that addressing one factor may help improve the other.

Although **age, marital status, and educational level** were hypothesized to influence the psychological outcomes of hysterectomy, the study found no statistically significant differences in trauma or depression based on these variables. This implies that **psychological support** should be universally available to all hysterectomised women, regardless of their demographic characteristics.
The results of this study underscore the **importance of integrated psychological care** for hysterectomised women. Women who undergo this procedure may experience a range of psychological challenges, and healthcare providers should incorporate both **physical** and **mental health support** in post-operative care. Early identification and management of trauma and depression could significantly improve the **quality of life** for these women.

5.1 Implications for Practice

The findings suggest several important recommendations for healthcare providers and policymakers:
Psychological Screening: Regular psychological screenings should be conducted as part of post-hysterectomy care to identify women who may be experiencing psychological trauma or depression.
Support Programs: Health institutions should offer **psychological counseling**, **support groups**, and **stress management workshops** for hysterectomised women to help them cope with emotional distress.
Cultural Sensitivity: Mental health interventions should take into account cultural contexts and gender expectations to ensure that support services are accessible and effective for women from diverse backgrounds.

5.2 Limitations of the Study

This study has several limitations:
Cross-sectional Design: The cross-sectional nature of the study means that it cannot determine causality between psychological trauma and depression.
Sample Size and Geographic Limitations: The sample size (50 women) was relatively small and limited to one geographic area, which may not fully represent the broader population of hysterectomised women in Algeria or elsewhere.

5.3 Suggestions for Future Research

Future research could address the limitations of this study by conducting **longitudinal studies** that track the psychological health of hysterectomised women over time. This would help determine the long-term effects of the procedure on mental health. Additionally, research should explore other factors, such as **social support**, **coping mechanisms**, and **healthcare access**, that may influence the psychological outcomes of hysterectomy.

Further studies could also include **larger and more diverse samples**, covering different regions and social contexts, to gain a broader understanding of the mental health of hysterectomised women across various populations.

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