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EXPLORATION OF PHYSICAL, PSYCHOLOGICAL AND SOCIAL EFFECTS OF GIGANTOMASTIA ON THE MENTAL HEALTH OF WOMEN IN NAIROBI COUNTY, KENYA

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ABSTRACT

Objective: To explore the physical, psychological and social effects of gigantomastia on the mental health of women in Nairobi County, Kenya, and understand how this rare breast condition impacts the overall wellbeing of affected individuals.

Methods and Materials: A qualitative descriptive study was conducted among 30 women aged 18-35 years living with gigantomastia in Nairobi County. Participants were recruited using snowball sampling technique and data collected through semi-structured virtual interviews via Zoom platform. Thematic analysis was employed to analyze the data, with themes organized according to the three study objectives: physical, psychological, and social effects on mental health.

Findings: Physical effects included large heavy breasts causing severe pain in back, shoulders, neck and chest, difficulties finding appropriate clothing, challenges performing physical activities, poor posture, and sleep disturbances. Psychological effects encompassed low self-esteem, negative body image, intense negative emotions including depression and anxiety, loss of interest in social activities, and development of unhealthy coping mechanisms. Social effects involved difficulties with social interaction, labeling and stigmatization, sexualization issues, and variable social support.

Conclusion: Gigantomastia substantially impacts women's mental health through complex interactions between physical discomfort, psychological distress, and social stigmatization. The condition requires comprehensive intervention strategies addressing medical treatment, psychological support, and community awareness to reduce stigma and improve quality of life for affected women.

Keywords: *Gigantomastia, Macromastia, Mental Health, Women's Health, Breast Hypertrophy, Body Image, Quality of Lif e, Kenya*

1. INTRODUCTION

A female breast is a multi-functional organ that manifests femininity, enhances beauty, nurtures newborns and helps to create a bond between the mother and the baby. It is an important physical asset and a major feature that differentiates a male from a female (Agbenorku & Agbenorku, 2011). The development of a woman's breasts usually starts between the ages of 7 and 13 as a result of an increase in oestrogen levels, proceeding for the next 18 months to nine years before the breasts are fully developed (Agbenorku, 2012). Even after reaching maturity, the female breast undergoes metamorphosis due to the influx of hormones from the onset of puberty to menopause (Gusterson & Stein, 2012).

At the time of breast growth, several procedures or factors may occur leading to growth abnormality (Agbenorku, Otupiri, & Fugar, 2013). Apart from the hormonal defects, other factors may go wrong resulting in breast developmental abnormalities including genetic, environmental and exposure to infectious agents. These factors stimulate abnormal growth of breasts such as amusia, hypoplasia, polythelia, tubular breast and macromastia (Raphael, 2017). Gigantomastia, a state of extreme breast development, was first cited by a scholar named Palmuth in 1648 of a sick person whose breast had overgrown weighing 64 kilograms (Yang, 2015). Since then, scholars have defined gigantomastia as breast expansion that needs to be reduced by at least 1,500g per breast to attain the normal state (Yang, 2015).

Gigantomastia is defined as an increment of the breast with a weight which is more than 600 grams, leading to uncomfortableness and stretching of the overlying skin causing ulceration (Agrawal & Kriplani, 2002; Vohra, Desai, & Shah, 2015). The prevalence of gigantomastia is estimated to occur in 1 out of every 28,000 to 100,000 people (Benna, Naser, Fertani, & Ayadi, 2018). According to available literature, the real cause of gigantomastia is not yet established, however, the cause is thought to be triggered by increased hormonal level in the blood or amplified hormonal sensitivity, including prolactin, oestrogen, and progesterone (Türkan, Gökgöz, Taşdelen, & Dündar, 2016).

Gigantomastia causes physical, psychological, and social distortions to persons living with the condition. Breast enlargement causes general physical body discomfort to an extent of causing abnormalities in the upper spine to arc forward, a state called kyphosis (Saariniemi, 2011). Studies indicate that women with gigantomastia suffer socially as a result of low self-esteem regarding physical being, with social consequences including depression and anxiety (Agbenorku et al., 2013). The social consequences include stigma, isolation and struggles in socializing (Vohra, Desai, & Shah, 2015). Gigantomastia affects 100,000 women worldwide, but it is of great concern that these numbers do not include any cases in Kenya due to a lack of empirical evidence (Chetty, 2016).

Gigantomastia is an unusual medical problem characterized by intensive breast growth that manifests itself at the onset of puberty or during pregnancy (Agrawal & Kriplan, 2012). The condition is not recognized until the breast is fully grown due to a lack of information, which hinders identification of warning signs for early intervention (Rezai et al., 2015). Despite the

effects gigantomastia has on the social health of women, there is a low level of awareness that hinders women from detecting their extraordinary breast abnormality for psychosocial support (Chacha, 2018). It is of concern that despite the effects of gigantomastia on women, there is no study carried out in Kenya to ascertain the physical, psychological and social effects of gigantomastia on the mental health of women, with available information being scanty and captured only in gray literature and televised video clips.

2. METHODS AND MATERIALS

This study employed a qualitative research approach using a descriptive research design to explore the physical, psychological and social effects of gigantomastia on the mental health of women in Nairobi County, Kenya. The study was grounded in phenomenological epistemology to understand the lived experiences of people with gigantomastia. The research was conducted in Nairobi County, targeting women living with gigantomastia aged between 18 and 35 years. A snowball sampling technique was adopted to select participants, as this non-probability sampling method is particularly suitable for identifying respondents with rare characteristics where no sampling frame exists. The sample size consisted of 50 participants, though 30 participants were ultimately interviewed, which falls within the recommended range for qualitative samples that frequently fall below 50 participants.

Data was collected using a semi-structured interview guide that enabled participants to express their views, opinions and perceptions without being limited to specific wordings. The interviews were conducted virtually using Zoom platform, with each interview lasting a maximum of 30 minutes and conducted in a language that participants understood. All interviews were recorded and later transcribed before analysis. The collected data was analyzed using thematic analysis, which involved categorizing generated answers into outstanding themes, identifying emerging patterns in the data, and identifying relationships between themes before reporting in narrative form. Ethical considerations were strictly observed.

3. FINDINGS AND RESULTS

Physical Effects of Gigantomastia on Mental Health

The study revealed significant physical effects that directly impacted participants' mental wellbeing. All 30 participants experienced large and heavy breasts that caused substantial physical discomfort, with one participant noting:

"Gigantomastia has caused an abnormal enlargement of my breasts, resulting in significant physical discomfort and strain on my body" (P/002/2024).

Participants consistently reported severe physical pain affecting their backs, shoulders, chest and neck, with many requiring medication for pain management. As one participant explained:

"I was diagnosed with back pain, which later migrated and affected my right leg that made it so painful and at times I experienced numbness" (P/003/2024).

The condition severely limited physical activities, with participants unable to engage in sports, running, or exercise due to breathing difficulties and exhaustion. Finding appropriate clothing,

particularly properly fitting bras, became a major challenge that forced participants to import expensive undergarments or shop in specialized stores, with one participant spending close to KShs. 100,000 annually on bras.

The physical manifestations significantly affected participants' posture and daily functioning, leading to poor posture, difficulty sitting upright, and sleep disturbances. Participants described sleeping as "a whole process" due to the weight and positioning challenges. The visible physical changes created body image distortions that participants described as making them appear disproportional, with their upper body appearing much larger than their lower body. This physical disproportion directly contributed to decreased self-esteem and negative self-perception, creating a cycle where physical discomfort reinforced psychological distress and social withdrawal.

Psychological Effects of Gigantomastia on Mental Health

The psychological impact of gigantomastia was profound and multifaceted, with participants experiencing severe deterioration in self-esteem and body image. Participants developed negative perceptions of themselves, with some expressing extreme thoughts such as wishing for cancer so their breasts could be removed:

"I remember there was a time I even said I would want to have cancer and they cut off my breasts because I did not like them" (P/001/2024).

The condition created persistent body dysmorphia, with participants feeling disconnected from their bodies and experiencing intense dissatisfaction with their appearance. Many participants reported feeling "less deserving" than others and struggled with confidence in professional and social situations, often attributing rejections or failures to their physical appearance rather than other factors.

Participants experienced intense negative emotions including depression, anxiety, sadness, and persistent feelings of unworthiness. The emotional toll was severe, with one participant stating:

"It has taken a significant toll on my mental health contributing to persistent feelings of sadness, anxiety and low self-worth and also declining to my overall quality of life" (P/011/2024).

Many participants lost interest in activities they previously enjoyed, particularly social activities and sports, leading to increased isolation and withdrawal. To cope with these overwhelming psychological effects, participants often employed unhealthy coping mechanisms including social withdrawal, masking their true feelings in public, and in some cases, suicidal ideation. Some participants sought counseling, though many found it ineffective, highlighting the specialized nature of support needed for this condition.

Social Effects of Gigantomastia on Mental Health

The social impact of gigantomastia was characterized by significant difficulties in social interaction and widespread stigmatization. Participants experienced social withdrawal and isolation, preferring to avoid public spaces and social gatherings due to unwanted attention and staring. As one participant explained:

"I would do everything in public very fast and come back home, I just wanted to be in my own space. I didn't want to be around people, it really affected me" (P/005/2024).

The condition created barriers to forming and maintaining relationships, with participants feeling uncomfortable in social groups and family settings. Many developed social anxiety and found it difficult to participate in normal social activities, including religious services where they felt unable to fully engage due to self-consciousness about their appearance.

Labeling and social stigmatization were pervasive experiences, with participants receiving derogatory nicknames and facing assumptions about their moral character. Participants were often labeled as promiscuous or accused of having abortions, with comments such as

"You have aborted, that's why your boobs are like that, she is always with men, and men are always touching her" (P/013/2024).

This stigmatization was compounded by sexualization, where participants received unwanted sexual attention that they recognized as fetishistic rather than genuine interest. The social consequences extended to family relationships, with some participants experiencing marriage breakdowns due to in-laws' negative attitudes. However, positive social support from family and close friends provided crucial protection for some participants, with supportive relationships serving as a buffer against the negative social impacts. The variability in social support highlighted the importance of education and awareness in communities to reduce stigma and improve understanding of gigantomastia as a medical condition rather than a moral failing.

4. DISCUSSION AND CONCLUSION

The findings of this study provide compelling evidence that gigantomastia significantly impacts the mental health of women through interconnected physical, psychological, and social pathways. The physical effects observed in this study align with previous research conducted globally, particularly the findings of Lapid et al. (2013) who identified back, neck, and shoulder pain as primary reasons women seek breast reduction surgery. Similarly, the challenges with clothing and physical activities reported by participants correspond with Long and Vasconez (2010) who documented difficulties in finding properly fitting clothes and the resulting feelings of unattractiveness. The postural problems and breathing difficulties identified in this study support the work of Traore et al. (2015) who described kyphosis and respiratory issues as common physical manifestations of gigantomastia. However, this study uniquely demonstrates how these physical symptoms directly contribute to mental health deterioration, creating a cycle where physical discomfort reinforces psychological distress.

The psychological effects documented in this research corroborate international findings while revealing the severity of mental health impact in the Kenyan context. The low self-esteem, body dysmorphia, and depression observed among participants align with studies by Mendle, Turkheimer and Emery (2011) and Wolfswinkel et al. (2013) who found that women with breast hypertrophy suffer significant emotional distress. The extreme psychological responses, including suicidal ideation reported by some participants, support the findings of Sarwer, Brown, and Evans

(2018) regarding the serious mental health risks associated with gigantomastia. The loss of interest in previously enjoyed activities and the development of unhealthy coping mechanisms mirror the patterns identified by Rezai et al. (2015) in their study on disordered eating behaviors among women with macromastia. The inadequacy of conventional counseling approaches, as reported by participants, suggests the need for specialized psychological interventions that address the unique challenges of living with gigantomastia.

The social effects revealed in this study demonstrate how cultural and social contexts amplify the impact of gigantomastia on mental health. The labeling and stigmatization experienced by participants, particularly the accusations of promiscuity and immorality, reflect broader societal attitudes toward women's bodies and sexuality in the Kenyan context. These findings extend beyond previous research by Agbenorku (2012) and Saariniemi (2011) by illustrating how social stigma directly contributes to mental health deterioration. The sexualization and unwanted attention described by participants align with the work of Chacha (2018) on body image concerns, but this study reveals the psychological trauma associated with such experiences. The variability in social support, from protective family relationships to destructive in-law attitudes, highlights the critical role of social networks in mediating the mental health impact of gigantomastia.

This study concludes that gigantomastia represents a significant public health concern that requires comprehensive intervention strategies addressing physical, psychological, and social dimensions simultaneously. The findings reveal that the condition's impact on mental health is not merely a consequence of physical discomfort but results from complex interactions between bodily experiences, psychological responses, and social reactions. The absence of awareness and specialized support services in Kenya, as evidenced by participants' struggles to access appropriate care and understanding, exacerbates the mental health impact. The research demonstrates that gigantomastia affects women across all socioeconomic levels and professions, challenging assumptions that it primarily affects specific populations. Future interventions must include public awareness campaigns to reduce stigma, training for healthcare providers on the psychological aspects of gigantomastia, establishment of specialized support services, and policy development to ensure insurance coverage for treatment. The study's findings also underscore the need for early identification and intervention programs to prevent the escalation of mental health problems associated with this condition. Ultimately, addressing gigantomastia requires a holistic approach that recognizes it as both a medical condition and a social justice issue, requiring coordinated efforts from healthcare systems, educational institutions, and community organizations to support affected women and improve their quality of life.

Authors' Contributions

Lucinda Gitura Mugaa conceptualized the study, conducted data collection and analysis, and wrote the manuscript under supervision of Rev. Dr. Sahaya G. Selvam and Dr. Phyllis Muraya

Declaration

This research is original work that has not been submitted to any other university for academic award.

Transparency Statement

All data and materials used in this study are available upon reasonable request from the corresponding author.

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Declaration of Interest

The authors declare no competing interests or conflicts of interest in relation to this research.

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Ethical Considerations

Ethical approval was obtained from Tangaza University with informed consent secured from all participants prior to data collection.

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