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Mixed Methods Study of Physical and Affective Self-Concept among Filipino Adolescents with Polycystic Ovarian Syndrome (PCOS)

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Abstract

Polycystic Ovarian Syndrome (PCOS) is a rare hereditary condition that impacts millions of women of reproductive age. Menstrual irregularities, hirsutism, acne, alopecia, obesity, and infertility are all symptoms of PCOS, which is caused by higher-than-normal androgen levels. Furthermore, menstrual irregularity is a prevalent symptom of PCOS and is frequently the first clinical manifestation in adolescents. This study identified the constructs of physical and affective self-concept to increasingly impact adolescents with PCOS as the negative implications of these clinical manifestations affect their perception and belief toward themselves which changes their self-concept or views about their physical self. Also, it impacts their affective self-concept that influences their feeling toward themselves. In this study, the Mindfulness Based Stress Reduction Program (MBSR) was facilitated online to increase the levels of Physical and Affective Self-Concept among sixteen adolescents who were diagnosed with polycystic ovarian syndrome using sequential explanatory mixed method research design. Multidimensional Self-Concept Scale (MSCS) and individual interviews were incorporated in gathering the data. Results clearly proved that the physical and affective self-concept scores significantly differed before and after the facilitation of the MBSR as an intervention. This study confirmed that MBSR enhances the adolescents with PCOS' physical and affective self-concept. Themes that were generated before and after MBSR facilitation were analyzed using the thematic analysis which further established findings to address the dearth of studies about this topic and as a basis for the efficacy of MBSR.

Keywords: *physical self-concept, affective self-concept Filipino adolescents with polycystic ovarian syndrome (PCOS)*

INTRODUCTION

Every woman's self-identity relies on her physical well-being and the ability of her reproductive organs to function properly (American Psychological Association, 2020). However, when a woman's reproductive system encounters difficulties and fails to fulfill its purpose, it raises questions about the potential impact on her life and whether it signifies the end of her womanhood (APA, 2020). These concerns arise in the minds of women who have discovered or experienced health and well-being challenges. Polycystic Ovarian Syndrome (PCOS) is commonly perceived as a rare disorder, often overshadowed by its reputation as a condition primarily affecting metabolism and long-term health, with infertility or cosmetic issues being considered secondary concerns (de Niet et al., 2010b).

PCOS is characterized by higher-than-normal androgen levels, leading to irregular menstrual cycles and infertility (Buggs & Rosenfield, 2005; Nidhi et al., 2012). This study is informed by the Hierarchical Dimensionality Model (HDM) and the MSCS Environmental-Behavioral Interactive Model. The HDM suggests that different aspects of self-concept, such as physical and affective self-concepts, are interconnected and influence the overall global self-concept (Bracken & Pro, 1992). The Multidimensional Self-Concept Scale (MSCS) Environmental-Behavioral Interactive Model proposes that self-concept is formed through learned behavioral patterns influenced by specific contexts (Bracken & Pro, 1992). Adolescent girls with PCOS often face challenges in accurate diagnosis due to overlapping symptoms with

normal puberty (Peña et al., 2020). PCOS symptoms such as obesity, acne, and menstrual irregularities have a negative impact on the physical self-concept of affected individuals, which in turn influences their emotional self-concept (de Niet et al., 2010b). Understanding the psychological impact of PCOS on self-concept is crucial for accurate diagnosis, effective management, and the provision of support (El Hayek et al., 2016).

This study aims to investigate the physical and affective self-concept of Filipino teenagers with PCOS using both qualitative and quantitative methodologies.

This study explicitly explore the self-concepts of teenage women with PCOS, focusing on the physical and affective aspects. The findings of this research can inform the development of a Mindfulness Program to support adolescents with PCOS in managing their condition. Understanding self-concept is important for comprehending the impact of PCOS on women's well-being. Self-concept encompasses an individual's perception, beliefs, and descriptors of their physical appearance, as well as their emotional experiences (Pajares & Schunk, 2005). It influences self-esteem, which is associated with aspirations, goals, and achievements (James, 1980). Low self-worth and negative body image perception contribute to increased anxiety, emphasizing the importance of self-assurance for mental health (Benson et al., 2010; Neyestanak et al., 2012).

Previous research on the impact of PCOS on self-concept has focused on quantitative measures and clinical studies (Elsenbruch et al., 2006) allowing limitations for the deeper analysis of their personal narratives. This study aims to address this gap by incorporating qualitative methodologies to gain a deeper understanding of the psychological impact of PCOS on self-concept. By exploring the physical and affective self-concepts of adolescents with PCOS, this research contributes to a more comprehensive understanding of the disease's effects.

Adolescence is a critical period of growth and development and understanding self-concept during this stage is crucial. This study examined 15 the physical and affective self-concepts of adolescents with PCOS across three age groups: early adolescence (10-13 years), middle adolescence (14-17 years), middle adolescence (14-17 years), and late adolescence (18-21 years) according to American Academy of Pediatrics (2019). Participants were recruited from local clinics specializing in adolescent health and PCOS management. The study employed a mixed-methods approach, combining quantitative surveys and qualitative interviews.

For the quantitative component, participants completed standardized f-concept measures using the Multidimensional Self-Concept Scale (Bracken, 1992), with independent subscales such as the Physical Self-Concept Scale and the Affective Self-Concept Scale. These measures assess participants' perceptions of their physical appearance and emotional experiences, respectively. The surveys also include demographic questions to gather information about age, educational background, and PCOS-related variables (e.g., age of diagnosis, treatment history).

The qualitative component will involve in-depth interviews with a subset of participants. The interviews explore participants' experiences with PCOS, including their thoughts, emotions, and social interactions related to their condition. The interviews were audio-recorded and transcribed in-vivo for analysis.

This study aims to investigate the physical and affective self-concepts of Filipino adolescents or teenagers with PCOS using a mixed-methods approach. By examining both quantitative and qualitative data, the study aims to provide a holistic understanding of the psychological impact of PCOS on self-concept during adolescence. The findings have implications for clinical practice, policy development, and the provision of support for adolescents with PCOS.

METHODS

This covers the precise records of the research design, together with the population and sampling technique, research instrument and validation, data gathering procedure, and data analysis.

This utilized a sequential explanatory mixed method research design (Creswell, 2009) with two phases: quantitative data gathering and analysis, followed by qualitative data collection through interviews and analysis anchored to Mindfulness-Based Stress Reduction. An explanatory sequential design was employed, collecting quantitative data first and then collecting qualitative data to further explain the quantitative results (Subedi, 2016). The Multidimensional Self-Concept Scale measured physical and affective self-concept in adolescents with PCOS. A one-group pretest-posttest quasi-experimental design was employed for the quantitative data, while thematic analysis guided by Braun and Clarke's model was conducted for the qualitative data.

Confidentiality and Security Online platforms, specifically HIPAA-compliant platforms, were selected to ensure ethical considerations about confidentiality, integrity, and availability of health information during data collection (Berry, 2018a, 2018b; Kels & Kels, 2018; Lam et al., 2019; Reynolds et al., 2019). Online data gathering approaches facilitated access to socially isolated individuals and exploration of psychological issues (Seymour, 2001). Skype and Zoom were used for qualitative data collection, while Google Forms with appropriate privacy measures in place (Archibald et al., 2019; Sullivan, 2012; HIPAA Journal, 2018) were employed for quantitative data collection. Participant recruitment occurred through Facebook, and online synchronous interviews were conducted using Zoom and Skype (Lobe et al., 2020; Daniels et al., 2019; Kite & Phongsavan, 2017; Lobe, 2017; Matthews et al., 2018; Janghorban et al., 2014).

Participants were recruited through Facebook in PCOS support groups. The inclusion criteria consisted of Filipino adolescents diagnosed with PCOS by an OB Gynecologist, with participants selected from three age ranges: Early Adolescence (10-13 years), Middle Adolescence (14-17 years), and Late Adolescence (18-21 years). PCOS diagnosis was based on the Rotterdam Criteria, requiring the presence of two of the following: oligo/anovulation, hyperandrogenism, or polycystic ovaries on ultrasound (Boyle & Teede, 2012). Exclusion criteria included participants taking psychotropic medications, having serious physical illnesses, or being diagnosed with psychotic disorders. The study did not have specific data on the total number of adolescents with PCOS in the Philippines, and prevalence data on PCOS among Filipino adolescents were extrapolated from neighboring countries (PSRM).

For data collection, interviews and mindfulness interventions were conducted online using platforms like Zoom or Skype, with consent obtained to record the interviews. Interview questions were developed based on a literature review and the Multidimensional Self Concept Scale (MSCS). The MSCS questionnaire assessed global self-concept and six context-dependent domains, including 25 questions from the Affective Self Concept (AFF) scale and 25 questions from the Physical Self Concept (P) scale. The MSCS, developed by Bracken (1992), consists of 150 items and demonstrated high validity and reliability (alpha = 0.964 overall) in previous reliability analysis (Bracken, 1992). Seemingly, for the overall analysis of reliability is alpha = 0.964 with the values of each sub-scale are; social = 0.971, ability = 0.963, affective = 0.964, family = 0.974, physical = 0.974 and academic = 0.965. Hence, this study has succeeded to convert the MSCS that has high validity and reliability values and applicable for Malaysian teenagers (Mohammad Aziz Shah Mohamed Arip, et al, 2013)

The researchers obtained permission to use the MSCS instrument and interview questions from PCOS Warrior Philippines and Palouse Mindfulness. The MSCS tool and interview

questions were validated by an OB Gynecologist, registered psychometrician, and linguist. The researchers underwent online training for Mindfulness-Based Stress Reduction (MBSR) facilitation and obtained permission and certification from Palouse Mindfulness for the Online MBSR program.

The study protocol was approved by the DLSU-D Ethics Review Committee with certification DLSUDERC-201902260T2, with obtained consent forms from parents and guardians of minor participants. Confidentiality and anonymity were maintained throughout the study. To ensure objectivity in qualitative data analysis, transcriptions were analyzed and coded based on participants' statements. Results were shared with participants for confirmation, and findings were evaluated by non-psychology professionals to enhance validity.

To begin, there were 30 participants recruited based on specific criteria, and an orientation session was conducted with participants and their parents/guardians to explain informed consent and intervention procedures. Data collection occurred through online platforms like Skype, Zoom, or Messenger, ensuring confidentiality and withdrawal rights. Calls were recorded. Due to the rigorous screening process, upon the delivery of MBSR program there were 16 participants included to complete the MSCS questionnaire and were interviewed. The MBSR program spanned eight weeks and included various mindfulness practices. Participants engaged in note-taking and journaling, and debriefing sessions were conducted after each session. Post-intervention interviews and a post-test of the MSCS were conducted to gather qualitative and quantitative data.

Quantitative data from the MSCS questionnaire were analyzed using statistical procedures by a qualified statistician, specifically employing the Paired Sample t-test to compare pre- and post-intervention differences in physical and affective self-concept levels. Thematic analysis based on Braun and Clarke's (2006) model was employed for the qualitative data, following a six-stage process. The analysis involved familiarizing with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report (Braun & Clarke, 2006). These procedures ensured comprehensive analysis of the qualitative data obtained from online interviews.

RESULTS

This section of the paper aims to describe and measure the pre-test and post-test scores of physical self-concept and affective self-concept, which were assessed as sub-areas of the Multi-Dimensional Self-Concept Scale (MSCS). The study utilized a single-group design to examine the effectiveness of an 8-week Online Mindfulness-Based Intervention Program in enhancing self-concept among Filipino adolescents diagnosed with Polycystic Ovary Syndrome (PCOS). Additionally, the study aimed to provide evidence supporting the Hierarchical Dimensionality Model and MSCS Environmental-Behavioral Interactive Model.

The reliability of the physical self-concept and affective self-concept measures was assessed using Cronbach's alpha. The obtained scores demonstrated high reliability for participants with PCOS, with a Cronbach's alpha coefficient of .899 for physical self-concept and .904 for affective self-concept (see Appendix D for details, refer to table 1).

Quantitative Results of Mindfulness to Physical and Affective Self-Concept

Level of physical self-concept and affective self-concept before and after mindfulness intervention among Filipino adolescents with Polycystic Ovary Syndrome (PCOS).

Table 1 and 2 describes the acquired scores for physical and affective self-concept before and after delivering the mindfulness-based program.

Table 1. *Description of Physical Self-Concept among Participants (n=16)*

		Mean	Std. Deviation	Interpretation
Raw Score	Before	57.56	11.402	
	After	73.06	12.583	
Transmuted	Before	81.44	12.628	Moderately Negative Self Concept
	After	99.69	15.361	Average Self Concept

Table 1 shows the Filipino adolescents with PCOS have a low level of physical self-concept. Physical self-concept is simply how a person perceives himself or herself as a physical being. This encompasses physical appearance (for example, size, beauty, hair, or skin color), health and physical limits (for example, chronic health constraints, disabilities, robust health), and prowess (e.g., stamina, agility, athletic ability).

The pre-test results of the MSCS P Scale showed that most participants had negative physical self-concept due to PCOS-related symptoms. However, after the mindfulness-based intervention, 13 participants demonstrated an improvement in their physical self-concept through positive self-talk and self-improvement efforts. Three participants faced challenges in maintaining their new habits. Overall, the mindfulness-based program had a positive impact on participants' self-appreciation and self-acceptance. Table 1 presents the descriptive measures, including the mean and standard deviation, of the physical self-concept. Based on the raw scores, the pre-test mean score was 57.56 (SD=11.402), while the post-test mean score was 73.06 (SD=12.583), indicating the impact of the mindfulness program as an intervention.

Table 2. *Description of Affective Self-Concept among Participants (n=16)*

		Mean	Std. Deviation	Interpretation
Raw Score	Before	57.13	12.252	
	After	72.56	13.808	
Transmuted	Before	82.06	12.058	Moderately Negative Self Concept
	After	98.63	16.685	Average Self Concept

Table 2 shows the level of affective self-concept of the Filipino adolescents with PCOS. Affective self-concept is a self-evaluative knowledge and acceptance of one's emotional state, as well as the causes or situations that contribute to the individual's various affective states.

The pre-test results of the MSCS AFF Scale indicated that most participants had negative affective self-concept related to PCOS. However, after the mindfulness-based intervention, 12 participants reported improvement in their affective self-concept through meditation and breathing exercises. Four participants remained neutral, citing difficulties in managing emotions. The program had a positive impact on participants' emotional regulation and self-concept, with observed improvements in both affective and physical domains. Table 2 presents the descriptive measures, including the mean and standard deviation, of the affective self-concept. Based on the raw scores, the pre-test mean score was 57.13 (SD=12.252), indicating an increased level of negative affective self-concept among the participants. In contrast, the post-test mean score was 72.56 (SD=13.808), indicating an improved level of positive affective self-concept among the

participants following the mindfulness intervention.

Tables 3 and 4 underscore the disparities of physical and affective self-concept before and after exposure to the mindfulness intervention using paired t-test.

Levene's test for equality of variance was conducted to test for homogeneity of variances. The test resulted for Physical domain (.277) and affective domain (.604) that the variances are not significantly different wherein equal variances are assumed (See Appendix E).

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Disparity of the physical self-concept of participants after undergoing Mindfulness Intervention. [H_0: *There was no significant difference on the pre-test and post-test physical self-concept scores among the participants with PCOS.*]

Table 3. *Disparity of Physical Self-Concept (n=16)*

Sources	Mean	SD	df	t_{obt}	p_{value}	Decision
Before	57.56	11.402	15	-5.078	.000	Significant
After	73.06	12.583				

To examine the difference in scores of the physical self-concept before and after the delivery of mindfulness-based intervention and employed a paired samples t-test. The obtained t-value (t_obt) of -5.078, with degrees of freedom (df=15), indicated statistical significance at the alpha level of 0.05 ($p < .001$) and beyond the 0.01 level of significance (99% confidence). Therefore, the researchers rejected the null hypothesis and accepted the alternative hypothesis. These findings indicate that there was a significant increase in the physical self-concept of the participants after being exposed to the mindfulness program as an intervention.

The observed improvement in the self-concept of women with PCOS can be attributed to the inclusion of physical activity in the mindfulness intervention. The program incorporated exercises such as yoga, home workouts, and Zumba to enhance mood stability, encourage active participation in physical activities, aid in weight loss, and address hormone imbalances in a natural and therapeutic manner. These exercises played a vital role in helping participants manage the symptoms of PCOS and gain psychological benefits.

Disparity on the affective self-concept of participants after undergoing Mindfulness Intervention. [H_0: *There was no significant difference on the pre-test and post-test affective self-concept scores among the participants with PCOS.*]

Table 4. *Disparity of Affective Self-Concept (n=16)*

Sources	Mean	SD	df	t_{obt}	p_{value}	Decision
Before	57.13	12.252	15	-4.230	.001	Significant
After	72.56	13.808				

Table 4 presents the results of the paired samples t-test, highlighting the difference in scores of the affective self-concept before and after the presentation of mindfulness-based intervention. The obtained t-value (t_{obt}) of -4.230, with degrees of freedom (df=15), indicated statistical significance at the alpha level of 0.05 ($p = .001$) and beyond the 0.01 level of significance (99% confidence). Consequently, the researchers rejected the null hypothesis and accepted the alternative hypothesis. These findings provide evidence of a significant increase in the affective self-concept of the participants after their exposure to the mindfulness-based intervention.

The impact of PCOS on emotional health is noteworthy. The participants' motivation to improve their overall health reflects a comprehensive understanding of health, encompassing efforts to enhance self-worth and emotional well-being. Through the mindfulness-based intervention, participants gained awareness of their condition and learned to acknowledge their feelings and emotions as part of the manifestations of PCOS, contributing to the improvement of their affective self-concept.

Furthermore, the researchers delivered mindfulness-based programs to the participants and assessed their efficacy in relation to both physical self-concept and affective self-concept. To analyze the observed disparities, the researchers employed Analysis of Variance (ANOVA), as presented in Tables 5 and 6.

Variation of Physical self-concept across Age

[H_0: *There was no significant difference on physical self-concept scores of the participants with PCOS across age group*.]

Table 5. *Variation of Physical Self-Concept across Age (n=16)*

Sources	SS	df	MS	F_{obt}	p_{value}	Decision
Between	88.983	2	44.469	.253	.780	Not Significant
Within	2286.000	13	175.846			
Total	2374.983	15				

f_{crit} at α0.05 (2.76317)

Table 5 presents the aggregate measures of physical self-concept among sixteen (16) participants diagnosed with PCOS. The scores were analyzed to assess the differentiation of physical self-concept across different age groups: early adolescence (10-13 years old), middle adolescence (14-17 years old), and late adolescence (18-21 years old). The obtained F-value (F_{obt}) of .253, with degrees of freedom (df) equal to 2 and 13, exceeded the critical F-value (F_{crit}) of 2.763 at the alpha level of 0.05. The associated p-value was .780, indicating non-significance ($p > .05$). Consequently, we accepted the null hypothesis (H0). These results explicitly confirm that the physical self-concept scores did not significantly differ across age groups following the intervention. Moreover, it indicates that mindfulness-based intervention programs are effective in improving the physical self-concept of participants with PCOS across all age groups.

Variation of Affective self-concept across Age

[H_0: *There was no significant difference on affective self-concept scores of the participants with PCOS across age group*.]

Table 6. *Variation of Affective Self-Concept across Age (n=16)*

Sources	SS	df	MS	F_{obt}	p_{value}	Decision
Between	244.338	2	122.169	.607	.560	Not Significant
Within	2615.600	13	201.200			
Total	2859.938	15				

f_{crit} at α0.05 (2.76317)

Table 6 displays the measurements of affective self-concept obtained from sixteen (16) participants diagnosed with PCOS. The purpose was to examine the differentiation of affective self-concept across different age groups: early adolescence, middle adolescence, and late adolescence. The calculated F-value (F_{obt}) of .607, with degrees of freedom (df) equal to 2 and 13, exceeded the

critical F-value (F_{crit}) of 2.763 at the alpha level of 0.05. The corresponding p-value was .560 ($p > .05$). As a result, the obtained p-value from the ANOVA critical table confirms that the researchers accepted the null hypothesis (H0). The non-significant findings regarding the variation in affective self-concept across age groups among adolescents imply that a broader age range, encompassing both adolescents and individuals in the reproductive age range, could better elucidate the effects of mindfulness on different developmental stages.

Qualitative Experiences Attributed to Physical and Affective Self-Concept

The second part of this study focused on examining the qualitative data to explore the participants' experiences before and after engaging in the eight-week mindfulness exercises. Table 7 presents the themes that emerged from the analysis of participants' experiences prior to their involvement in the mindfulness program. The qualitative data, collected through online interviews, underwent analysis using Braun and Clarke's (2006) six-stage thematic analysis process, allowing for a comprehensive examination of the qualitative data. Table 7 presents themes derived from participants' pre-mindfulness exercise experiences. Initially, four themes were identified, but after thorough review, the themes were reduced to three.

Table 7. *Themes Before Facilitating Mindfulness Exercise*

Themes	*Subthemes*	
	Feeling	*Emotion*
Negative feelings and emotions (Affective Self Concept)	Feeling of Neglect Unexplained feelings of Sadness Self-Deviation from other women	Emotional Outbursts Fear of Infertility Despair of recovering from health condition
Negative Thought and Perception (Physical Self Concept)	*Thought* Lack of Physical Appreciation Body Insecurities	*Perception* Physical Changes due to PCOS Rapid Weight Gain
Adverse Manifestations of PCOS to Over-All Well-Being	Unhealthy Habits Comorbidity Inconsistencies of healthy strategies	

Theme 1, "Negative Feelings and Emotions (Affective Self-Concept)," explores participants' uneasy feelings, emotional insecurities, and social judgment related to infertility. Emotional dysfunction was influenced by a sense of neglect and fluctuating hormonal levels associated with PCOS. Physical manifestations of PCOS led to hopelessness and perceived differences from peers.

Theme 2, "Negative Thought and Perception (Physical Self-Concept)," encompasses participants' negative body image, loss of femininity, and self-consciousness about

physical attributes. Physical symptoms like weight gain, acne, and excessive body hair contribute to negative thoughts and perceptions. Changes in weight significantly impact their perspectives on physical appearance.

Theme 3, "Adverse Manifestations of PCOS to Over-All Well-Being," focuses on symptoms experienced by participants, including irregular menstrual cycles, hirsutism, and weight gain. Unhealthy habits, such as poor diet and lack of exercise, contribute to these manifestations. Participants also noted comorbidities associated with PCOS, like ovarian cysts and increased risk of diabetes and cardiovascular diseases.

These themes provide insight into participants' experiences and the impact of PCOS on their well-being.

Table 8. *Themes After Facilitating Mindfulness Exercise*

Themes	*Subthemes*	
	Physical	*Affective*
Self-Help Strategies and Techniques	Awareness of PCOS and lifestyle change Motivation to Physical Activities Self-Care Building Healthy Habits Positive Self Talk	Acceptance of condition Appreciation of efforts in lifestyle change Optimistic Thoughts and Perceptions Coping Styles
Maintenance of Helpful Practices	Strict Adherence to Diet Plan Medication/Treatment Weight Loss Physical Exercise/Movement	Practicing Meditation and Mindfulness Lifestyle Change Support Group Seeking Professional Help

Theme 4, "Self-Help Strategies and Techniques," focuses on participants incorporating self-help practices into their lives, particularly during the pandemic. They adopted healthy habits, practiced portion control, followed specific diets, and engaged in physical exercise. Participants found facilitated practices, such as meditation and breathing exercises, effective in managing anxiety related to PCOS. They valued professional guidance and knowledge about their condition for better symptom management. Loving Kindness Meditation helped them accept their condition and engage in positive self-talk.

Theme 5, "Maintenance of Helpful Practices," highlights participants' efforts to sustain beneficial practices for long-term PCOS management. Lifestyle interventions, including weight and dietary management, were emphasized. Participants successfully integrated meditation, yoga, exercise, portion control, and specific diets into their routines. Breathing exercises and online support groups were helpful in coping with PCOS, and mobile applications facilitated regular physical activity.

These themes reflect participants' experiences and strategies for managing PCOS.

DISCUSSION

This study examined the self-concept of adolescents diagnosed with Polycystic Ovary Syndrome (PCOS), specifically

focusing on affective self-concept and physical self-concept. Consistent with previous research by Valkenburg et al. (2010), the study found that the clinical symptoms associated with PCOS, such as hirsutism, obesity, irregular menstrual cycles, and infertility, significantly impacted the self-esteem and body dissatisfaction of the participants, leading to a negative self-concept. Additionally, societal expectations and standards related to physical appearance further contributed to their negative self-concept.

Adolescents with PCOS face challenges in realizing their potential and personal growth, which affects their outlook, lifestyle, and productivity. They often engage in self-criticism and negative self-talk based on changes in their physical appearance. It is crucial to provide support and encouragement to individuals with PCOS to help them develop a more positive self-concept. Future research should focus on identifying coping strategies and interventions that can improve self-concept and alleviate negative self-perception in individuals with PCOS.

The study included female adolescents aged 12 to 19 years who were diagnosed with PCOS using the Rotterdam Criteria. It employed a single-group design without a controlled group. According to the Philippine Society for Reproductive Medicine (2020), there is a lack of local research on the physical and affective self-concept among adolescents with PCOS, as well as the use of mindfulness-based programs to manage these constructs. The study provided empirical evidence supporting the effectiveness of mindfulness-based programs in improving the physical and affective self-concept levels of participants.

The results demonstrated a significant effect of the mindfulness-based program on the physical and affective self-concept levels of the participants. Physical self-concept refers to individuals' perceptions of themselves physically, including their appearance, health, and physical abilities. Affective self-concept refers to individuals' evaluative knowledge and acceptance of their emotional states. The age variation among the participants did not significantly affect their physical and affective self-concept, suggesting that adolescents with PCOS share common experiences regardless of age. The study also highlighted the effectiveness of mindfulness interventions in improving self-esteem and growth mindsets across different age groups.

The improvement in physical and affective self-concept levels was supported by the themes generated from the qualitative data. The participants reported developing self-help strategies and techniques through the mindfulness program, such as meditation and breathing exercises, which improved their reactions to situations related to their condition. Seeking professional help and accepting their condition also played a significant role in managing PCOS symptoms and enhancing self-concept. Consistency in practicing these strategies and maintaining helpful practices were identified as crucial factors in improving participants' condition and managing PCOS symptoms effectively.

Furthermore, the comparison of themes generated before and after the mindfulness intervention program provided additional support for the quantitative findings. Participants initially expressed negative feelings, emotions, and perceptions about themselves, but after undergoing the mindfulness program, they reported more positive self-talk and improved self-perception. The reciprocal stimulus-response self-concept acquisition model aligned with the findings, as the participants' negative thoughts and perceptions were transformed into optimism and consistent efforts to maintain healthy habits learned during the mindfulness sessions. Hence, this is supported by the study of Stefanaki and colleagues (2014) confirming the effectiveness of the mindfulness stress management program as an intervention to address emotions like anxiety, depression and gaining high quality of life in women with PCOS. Equally, Young et al (2022), underscores the feasibility, acceptability, and preliminary efficacy of a mindfulness-based healthy lifestyle self-management intervention with adolescents and young adults diagnosed with (PCOS) as expounded that PCOS Kind Mind Program improved self-efficacy in the key areas of nutrition and physical activity and increased physical activity strategies in adolescents and young people with PCOS. These findings are encouraging and suggest the need for larger-scale, randomized controlled trials with longer-term follow-up to more robustly

evaluate the effects of the PCOS Kind Mind Program on the psychological and physiological health and of adolescents and young people with PCOS.

The clinical characteristics of adolescents with PCOS, as discussed in this study, influenced their self-evaluations based on their perspectives, beliefs, and feelings about themselves. Over time, these evaluative actions became consistent within each environment, representing the context-specific self-ideas of the individuals. These context-specific self-conceptions eventually formed a generalized response pattern that cut across multiple domains while remaining distinct within each domain, forming the basis for the global self-concept (Bracken & Pro, 1992).

In conclusion, this study provided valuable insights into the self-concept of adolescents with PCOS, highlighting the impact of clinical symptoms, societal expectations, and the effectiveness of mindfulness-based interventions in improving self-concept. The findings suggest that adolescents with PCOS experience negative self-concept due to physical and affective factors, such as hirsutism, obesity, irregular menstrual cycles, and infertility. These factors, coupled with societal pressures and standards, contribute to low self-esteem and body dissatisfaction.

The study also revealed the positive impact of a mindfulness-based program on the participants' self-concept. Through mindfulness practices, such as meditation and breathing exercises, the participants developed self-help strategies and techniques that improved their reactions to PCOS-related situations. Seeking professional help and accepting their condition were also crucial factors in managing PCOS symptoms and enhancing self-concept.

The qualitative data analysis further supported the quantitative findings, as participants reported a transformation from negative self-perception to more positive self-talk and improved self-perception after the mindfulness intervention. This aligns with the reciprocal stimulus-response self-concept acquisition model, where negative thoughts and perceptions are transformed into optimism and consistent efforts to maintain healthy habits.

The study's limitations include its single-group design without a controlled group or other intervention group, which limits the ability to establish causality and compare the effectiveness of the mindfulness program against other interventions. Additionally, the study focused on a specific age group (12-19 years) and may not capture the experiences of older individuals with PCOS. Future research should consider longitudinal designs, controlled groups, and diverse age ranges to further explore the effectiveness of mindfulness-based interventions on self-concept in individuals with PCOS.

Overall, this study sheds light on the importance of addressing the self-concept of adolescents with PCOS and highlights the potential benefits of mindfulness-based interventions in improving their self-perception. By providing support, guidance, and strategies to enhance self-esteem and body image, healthcare professionals can help individuals with PCOS navigate the challenges they face and promote their overall well-being.

CONCLUSION

Insufficient research exists on PCOS and Mindfulness-Based Stress Reduction (MBSR) for adolescents. Diverse research is crucial for managing PCOS symptoms and enhancing well-being. Future studies should use varied methodologies, increase sample size, and include control groups for stronger findings. Limitations of remote program facilitation and network disruptions suggest the need for in-person MBSR interventions. Exploring MBSR's benefits in different age groups can aid long-term symptom management. Limited local research on mental health and PCOS indicates a literature gap. Future investigations should examine MBSR's effects on psychological distress and disorders like depression, anxiety, and bipolar disorders in women with PCOS. Addressing these gaps through diverse methodologies, larger samples, face-to-face interventions, and mental health outcomes research will advance understanding and improve well-being. Likewise, the results can be considered in generating policy to address the needs of Filipino adolescents with PCOS.

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