Research Article

Striae Gravidarum Impact and Influence on Quality of Life Issues

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Abstract

Background: Stretch marks is considered a very common dermatological benign issue in pregnancy Feminine sense of permanent marks on the skin could influence the psychological wellbeing and consequently the quality of life.

Aim of the work: To assess the quality of life affection as regards emotions, symptoms and functioning by presence of stria gravidarum in pregnant females.

Methodology: A cross-sectional study performed on 200 pregnant women attending the outpatient clinics in Al-Hussain University Hospital. Dermatology, Gynecology and Obstetrics Departments from January 2018 till January 2019.

Results: There was a statistically significant correlation between Skindex-16 QoL questionnaire and Davey's score revealed by the statistically significantly higher median scores of the three domains in women with severe SG in comparison to women with mild SG according to the Davey's score (symptoms, emotions, functions, p values <0.001).

Conclusions: The current research study has shown clearly that straie gravidarum although a benign skin change that is commonly occurring in pregnancy is a major factor that could influence the quality of life causing distressing symptoms and concerns about aesthetic appearance.

Introduction

Stria gravidarum or what is known as stretch marks is considered a very common dermatological benign issue in pregnancy that predominantly occur on the skin of the anterior abdominal wall but could appear at other sites such as thighs and breasts. Feminine sense of permanent marks on the skin could influence the psychological wellbeing and consequently the quality of life. Although the underlying cause for stretch marks is still not fully elucidated it is considered a distressing benign dermatological change that occur during pregnancy for many females leaving disfigurement of abdominal wall skin besides other sites that are considered the marks that reduces the quality of beauty in the back mind of many females [1-5].

As regards the quality of life after occurrence of stria gravidarum that affects around 90 percent of pregnant females during pregnancy is considered a crucial issue to be investigated by researchers to aid in analysis of the best management protocols to enhance the psychological, social and self-esteem for many females after finishing their gestational period .it is considered a physical modification of skin affecting females during pregnancy due to hormonal changes triggered by estrogen, progesterone and relaxin besides the mechanical challenges that lead to overstretch of the skin causing collagen breakdown of the dermal structure of the skin in a manner that leaves atrophic linear marks [6-10].

Decreased elastin and fibril content of the skin are considered to be predisposing factors for those stretch marks to occur, that denotes that there is genetic predisposition for the condition besides the age, race and birth weight. Even though it is more common in multigravida females the primigravidas are more concerned and affected by the cosmetic issues and quality of life stretch marks could cause [11-15].

Interestingly it could occur due to rapid weight gain during pregnancy ,or during second or third trimester in different frequencies according to the clinical condition of the skin and genetic susceptibility besides the changes that occur particularly in abdominal girth .various scoring tools were implemented to classify and categorize the severity of the condition as regards the physical appearance and the impact on psychological quality of life by various prior research groups to help to improve the quality and level of care giving to those cases .famous examples of those clinically implemented score in research were Davey's scoring tool implemented in a prior Japanese research study to assess the gravity of stria gravidarum and the Skindex 29 tool

implemented to evaluate the Dermatology specific Quality of Life [16-18].

Females during pregnancy usually were observed by different research groups to take preventive measures to avoid stria gravidarum whether or not they occurred denoting its emotional impact and it influence on self-esteem [19,20].

Aim of the work

To assess the quality of life affection as regards emotions, symptoms and functioning by presence of stria gravidarum in pregnant females.

Methodology

A cross-sectional research study performed on 200 pregnant women attending the outpatient clinics in Al-Hussain University Hospital. Dermatology, Gynecology and Obstetrics Departments from January 2018 till January 2019.The 200 recruited pregnant women have been counselled during antenatal care routine visits in third gestational trimester having Stria gravidarum. Pregnant cases with no stria gravidarum were excluded from the research study. initially an informed.

written consent was taken from all participating study subjects after explaining the aim and methodology of the research, in which the following research data were obtained including demographic variables e.g. age, parity, residence. The recruited study subjects have undergone full dermatological clinical examination for presence and severity of abdominal stria gravidarum and categorized according to Davey's scoring system.

The following was applied to all cases Abdominal wall skin was divided in four quadrants each was observed clinically for stria. no striae score=0, few striae score =1 and many striae score =2. Then all of four quadrant scores were added all together. consequently, the results were interpreted as follows in which Score 1-2 was categorized as mild and scores 3-8 was categorized as severe. Skindex 16 dermatology specific QOL (Quality of life) questionnaire system have been implemented by the research team of investigators to assess the quality of life Each component of the questionnaire was marked with 7 - point scaling type having scores range from 0 (no effect) to 100 (effect experienced all the time). Those components were divided into 3 domains Emotions (item 5-11), Symptoms (item 1-4), Functioning (item 12-16). Higher the score= higher impact of skin disease.

Statistical analysis

Inferential analyses were done for quantitative variables using independent t-test in cases of two independent groups, ANOVA test for more than two independent groups with post hoc Tuky's test. In qualitative data, inferential analyses for independent variables were done using Chi square test for differences between proportions and Fisher's Exact test for variables with small expected numbers.

Logistic regression was done for factors affecting clinical and completed first trimester pregnancy among the studied cases. The level of significance was taken at P value < 0.050 is significant, otherwise is non-significant.

Results

A total of 200 pregnant women were included in the current study.

Age (years) Range Mean ± SD	22 – 39 30.72 ± 5.11
Parity Range Median (IQR)	0 – 4 2 (1 – 3)
Parity Nulliparous Parous	41 (20.5%) 159 (79.5%)
BMI (kg/m²) Range Mean ± SD	17.79 – 38.63 27.85 ± 5.17
Gestational Age (weeks) Range Mean ± SD	24 – 35.86 30.09 ± 3.54
SD standard deviation IQR interquartile range BMI body mass index	

Table 1: Initial Characteristics of Included Women.

Table-1 shows the initial characteristics of included women. The mean age of included women was 30.72 ± 5.11 years (range: 22 – 39 years). Parity median (IQR)=2(1-3),41 cases were nulliparous representing 20.5%,159 cases were parous representing 79.5%, BMI, Gestational age Mean ± SD =27.85 ± 5.17 kg/m², 30.09 ± 3.54 gestational weeks.

Davey's Score Range Median (IQR)	1 – 8 4 (2 – 6)
Davey's Score Mild (1 – 2) Severe (3 – 8)	69 (34.5%) 131 (65.5%)
IQR interquartile range	

Table 2: Davey's Score for Striae Gravidarum Included Women.

Table 2 reveals and displays that the Daveys score of study subjects recruited range =1-8, median (IQR)=4(2-6), mild cases =69 representing 34.5% of the research study cohort, whereas severe cases =131 representing 65.5% of cases of the research study cohort.

Symptoms	
Itching	30 (20 – 70)
Burning	10 (0 – 30)
Hurting	20 (0 – 30)
Being Irritated	20 (10 – 50)
Emotions	
Persistence	10 (0 – 30)
Worry	30 (10 – 60)
Appearance	30 (10 – 60)
Frustration	20 (10 – 40)
Embarrassment	10 (0 – 20)
Being annoyed	15 (10 – 30)
Feeling depressed	10 (0 – 30)
Functioning	
Affecting interactions with others	20 (10 – 30)
Desire to be with people	10 (10 – 30)
Show affection	20 (0 – 30)
Daily activities	10 (0 – 10)
Work or do what you enjoy	10 (0 – 10)
Data presented as median (interquartile range)	

Table 3: Skindex-16 Questionnaire for QoL in Included Women.

Table-3 shows the Skindex-16 QoL questionnaire results. The most prevalent component of 'Symptoms' domain was itching [median (IQR) 30 (20 – 70)]. The most prevalent components of 'Emotions' domain were worry and appearance [median (IQR) 30 (10 – 60) and 30 (10 – 60), respectively]. The most prevalent components of 'Functioning' domain were affecting interactions with others and show affection [median (IQR) 20 (10 – 30) and 20 (0 – 30), consecutively (table-3).

	Davey's Score		
	Mild (1-2) [n=69]	Severe (3-8) [n=131]	*P*
Symptoms	12.5 (7.5-17.5)	35 (25-45)	<0.001
Emotions	11.5 (8.5-14.3)	30 (22.8-38.6)	<0.001
Functioning	8 (4-10)	20 (14-28)	<0.001
Data presented as median (interquartile range) Analysis using Mann-Whitney's U-Test			

Table 4: Association between Davey's Score and Skindex-16 QoL Questionnaire Results.

There was a statistically significant correlation between Skindex-16 QoL questionnaire and Davey's score revealed by the statistically significantly higher median scores of the three domains in women with severe SG in comparison to women with mild SG according to the Davey's score (symptoms, emotions, functions, p values <0.001) (table-4).

	Davey's Score		
	Mild (1 – 2) [n=69]	Severe (3 – 8) [n=131]	*P*
Nulliparous	17 (24.6%)	24 (18.3%)	0.293
Parous	52 (75.4%)	107 (81.7%)	
Data presented as median (interquartile range) Analysis using Chi-Squared Test			

Table 5: Association between Parity and Davey's Score.

There was no statistically significant correlation between parity and severity of SG according to Davey's score (p value =0.293) **(table-5).**

	Parity		
	Nulliparous (n=41)	Parous (n=159)	*P*
Symptoms	22.5 (12.5 – 30)	27.5 (17.5 – 40)	0.039
Emotions	22.8 (12.1 – 29.3)	22.8 (14.3 – 34.3)	0.299
Functioning	16 (9 – 20)	14 (8 – 24)	0.736
Data presented as median (interquartile range) Analysis using Mann-Whitney's U-Test			

Table 6: Association between Parity and Skindex-16 QoL Questionnaire Results.

The median score for 'Symptoms' domain of the Skindex-16 QoL questionnaire was significantly higher among parous women when compared to nulliparous women (p value=0.039). The median scores for 'Emotions' and 'Functioning' domains were comparable in parous and nulliparous women (p values =0.299,0.736, consecutively) (table-6).

Discussion

Various women develop stria gravidarum during pregnancy with raised emotional concerns about self-image and lowered levels of self-esteem .Although females during pregnancy attempt to avoid development of stretch marks they usually develop due to disruption of dermal contents of collagen and fibrils leaving characteristic atrophic scars that are usually present on the anterior abdominal wall skin but could develop simultaneously at other sites such as breast ,thighs ,back according to the site of skin affected self-image is a major concern .Researchers have growing interest to reveal and display the quality of life impact of this distressing in many case scenarios common benign skin change [1,3,5,7].

A total of 200 pregnant women were included in the current study in which the mean age of included women was 30.72 ± 5.11 years (range: 22 – 39 years). Parity median (IQR)=2(1-3),41 cases were nulliparous representing 20.5%,159 cases were parous representing 79.5%, BMI,

Gestational age Mean ± SD =27.85 ± 5.17 kg/m2, 30.09 ± 3.54 gestational weeks. the Daveys score of study subjects recruited range =1-8, median (IQR)=4(2-6), mild cases =69 representing 34.5% of the research study cohort, whereas severe cases =131 representing 65.5% of cases of the research study cohort.

Furthermore, the Skindex-16 QoL questionnaire results. The most prevalent component of 'Symptoms' domain was itching [median (IQR) 30 (20-70)]. The most prevalent components of 'Emotions' domain was worry and appearance [median (IQR) 30 (10-60) and 30 (10-60), respectively]. The most prevalent components of 'Functioning' domain was affecting interactions with others and show affection [median (IQR) 20 (10-30) and 20 (0-30), consecutively. a statistically significant correlation between Skindex-16 QoL questionnaire and Davey's score revealed by the statistically significantly higher median scores of the three domains in women with severe SG in comparison to women with mild SG according to the Davey's score (symptoms, emotions, functions, p values <0.001).

Finally, the current research study results have shown that there was no statistical significant correlation between parity and severity of SG according to Davey's score (p value =0.293) The median score for 'Symptoms' domain of the Skindex-16 QoL questionnaire was significantly higher among parous women when compared to nulliparous women (p value=0.039). The median scores for 'Emotions' and 'Functioning' domains were comparable in parous and nulliparous women (p values =0.299,0.736, consecutively).

A prior research group of investigators conducted a similar research study in aim and methodology in which they implemented Dermatology Life Quality Index and clinical examination of stria gravidarum in full term cases to reveal and observe the risk factors for development of striae gravidarum and to assess the impact on quality of life they performed the study in: Cross-sectional, descriptive manner. the research team of investigators obtained the following results were obtained in which 304 research study subjects were recruited and it was revealed and displayed by gathered research data that the total stria scoring was statistically significantly higher in those cases having prior stria and cases having a family history had the liability to pathologically develop more severe forms and patterns of stria. Cases younger in age than 35 years had the greatest number of newly developed stria gravidarum. The quality of life was affected in 24 study subjects recruited by the implemented scoring system (9.5%). As the level of education was reduced and the count and clinical severity of striae gravidarum increased the, quality of life was directly proportionally reduced in a statistically significant manner they came to an interesting conclusion that clinical follow-up during gestation should put in consideration that after delivery women will have issues and concerns about their asthetic appearance that could impact their life quality. Those findings show great harmony and similarity to the current research study findings [2,4,8,10].

Furthermore, another prior research group of investigators have conducted a research study with the aim to assess the quality of life in postpartum cases with and without stretch marks. The research study was conducted in a cross-sectional manner on 145 study subjects the research team of investigators have revealed and displayed the following research study results in which the study subjects' mean age was 26.3 +/-5.7 years. furthermore, there was a statistically significant difference between mean of Skindex 29 scoring system (P value < 0.001), general quality of life (P value < 0.001 between cases with and without stretch marks. They came to the conclusion that stretch marks developed during pregnancy causes decreased general life quality besides decreased levels of skin quality index in affected cases during the postpartum period [9,11,15,17].

Another similar research study to the current research in aim and methodology was previously performed and was conducted on 112 pregnant study subjects with stria gravidarum assessed and evaluated for life quality in each research subgroup according to clinically observed severity. The following results were revealed and displayed by the research team of investigators in which among the research study subjects recruited 80 cases (71.4%) were multipara in which 47 cases (58.8%) had severe form of striae gravidarum and 32 cases (28.6%) have been primigravida among them 17 cases (53.1%) had severe clinical form of striae gravidarum. the quality of life scoring system had statistically significant correlation to the severity level of the pathologically developed stria gravidarum. p value of <0.001 interestingly those finding show great similarity and harmony to the current research study findings [12,18].

Conclusions and recommendations

The current research study have shown clearly that straie gravidarum although a benign skin change that is commonly occurring in pregnancy is a major factor that could influence the quality of life causing distressing symptoms and concerns about aesthetic appearance .Further research studies however should be multicentric in fashion putting in consideration the racial ,ethnic differences besides the weight gain changes that could affect the results of quality of life affection .Furthermore larger research study samples should be used to aid in clarification of the most affected aspects of the life quality and help in future effective management protocols and future clinical guidelines implantation in those category of cases.

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