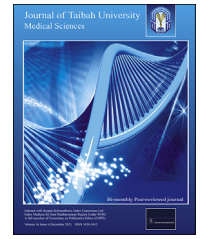Taibah University

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Original Article

Anxiety among multiparous women in the Al-Qatif sector of KSA: A mixed-method study

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الاستنتاجات: لا يوجد ارتباط بين اضطراب القلق العام وتعدد الولادات. رغم ذلك، بعد ضبط باقي العناصر باستخدام الانحدار اللوجستي بقيت ثلاثة عوامل (الخلافات الزوجية، وضغوطات الحياة العصبية، والمستوى التعليمي) مرتبطة باضطراب القلق العام.

الكلمات المفتاحية: اضطراب القلق العام؛ الصحة النفسية؛ المملكة العربية السعودية؛ تعدد الولادات؛ صحة المرأة.

الملخص

أهداف البحث: تعد اضطرابات القلق أحد المسببات الرئيسة لإعاقة الحياة. ويوصف اضطراب القلق العام بالقلق المفرط الذي يصعب السيطرة عليه، ولا ينجم عن موقف أو محفز معين ويستمر لمدة ٦ أشهر أو أكثر. تهدف هذه الدراسة إلى تقييم العلاقة بين اضطراب القلق العام وتعدد الولادات.

طرق البحث: تعد هذه الدراسة مختلطة الأساليب، وتتكون من جزء كمي تم إجراؤه باستخدام استبانة تتضمن أداة مسح اضطراب القلق العام ٧، بالإضافة إلى الجزء النوعي الذي تضمن مناقشة شبه مقننة لتغطية آراء المشاركات فيما يتعلق بتعدد الولادات وتأثيرها على جوانب الحياة المتعددة. أجريت هذه الدراسة في ١٦ مركز من مراكز الرعاية الصحية الأولية في القطيف، المملكة العربية السعودية، وتضمنت ٥١٣ مشاركة. العينة المستهدفة هن النساء في سن الإنجاب متعددات الولادة بعد استبعاد النساء الحوامل، ومن لم يمض على وضعهن ٦ أسابيع.

النتائج: ما يقارب ٧٥٪ من المشاركات لديهن اضطراب القلق العام. الارتباط بين اضطراب القلق العام وتعدد الولادات لم يكن ذا دلالة إحصائية. بينما المتغيرات الأخرى المرتبطة بالقلق هي الحالة الاجتماعية، والمستوى التعليمي، والخلافات الزوجية، وضغوطات الحياة العصبية، ومساعدة أفراد الأسرة، والحالة الصحية للأم، والحالة الصحية للأطفال. بالنسبة للجزء النوعي، توقع ثلثا المشاركات أنه لا توجد علاقة بين تعدد الولادات واضطراب القلق العام.

Abstract

Objective: Anxiety disorders are among the leading causes of disability worldwide. Generalised anxiety disorder (GAD) is characterised as a state of excessive anxiety for six months or more, which is difficult to control and is not triggered by a specific situation or stressor. This study aims to assess the relationship between GAD and multiparity.

Method: This was a mixed-method study in which the quantitative phase was conducted by administering a structured questionnaire involving a GAD-7 screening tool. The qualitative phase involved a semi-structured focus group discussion (FGD) to gather participants' opinions regarding multiparity and its impact on life. This study was conducted on 513 participants from 16 primary health care centres (PHCs) in the Al-Qatif region of the KSA. The target population comprised multiparous women of childbearing age. Pregnant and postpartum women were excluded from this study. A two-sample t-test, a chi-square test, and logistic regressions were used to assess the required associations.

Results: Almost 75% of the participants considered themselves to be anxious. The association between GAD and multiparity was not statistically significant. The variables significantly associated with anxiety were found to be marital status, educational level, marital conflict, stressful life events, family member assistance, mothers' health issues, and children's health issues. The qualitative analysis showed that two-thirds of the women identified no relationship between multiparity and anxiety.

Conclusion: There was no significant association between GAD and multiparity. However, through use of multivariable modelling, anxiety was significantly associated with marital conflicts, stressful life events, and educational level.

Keywords: Educational level; Generalised anxiety disorder; Multiparity; KSA; Women's health

Introduction

Anxiety disorders are increasingly recognised as significant determinants of poor health, a major contributor to health service use, and the sixth leading cause of disability, with the majority of patients aged 15 to 34.[1]

A systematic review study published in June 2014 about generalised anxiety disorder (GAD) showed it to be one of the most common anxiety disorders. It is characterised by 'excessive anxiety for a minimum duration of 6 months that is difficult to control, not focused on a specific situation or objects, and not triggered by stressful events'. GAD's estimated lifetime prevalence in KSA was 1.9% in 2020.[2–4]

Many tools are available to assess GAD symptoms; the most common tools used for screening and diagnosis are GAD-7 and Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5). The GAD-7 used in this study has been validated as a diagnostic tool and a severity assessment scale.[5]

Well-established risk factors for GAD include mental and physical disorders, female sex, and younger age at time of first child's birth. A review of 48 international studies has found that women are nearly twice as likely to experience anxiety as men.[2,6,7]

Another study published in February 2015 on multiparous women who were pregnant and postpartum assessed maternal attitude, anxiety, and depression and concluded that 'multiparous women have higher levels of certain risk factors for depression and anxiety.'[8]

In November 2018, a cohort study was published in southern Brazil on 3701 individuals to investigate the mental health status of multiparous women between 19 and 30 years old; it found that increased presence of GAD risk was proportional to the number of children, even with adjustment for family income, maternal education, relationship status, and the number of abortions.[7]

According to a 2018 household health survey in KSA, the percentage of modern family planning methods used among Saudi married women between 15 and 19 years old is 12% which considered the least among other age groups. That could explain the relationship between increased multiparity and early marriage for women.[9]

In this study, anxiety has been measured among multiparous women (those having birthed more than one child, where grand multiparity is between six and nine births, and great-grand multiparity is 10 births or more, live or stillborn, at 20 weeks or more gestation).[10]

The study was conducted in primary health care centres (PHCs) among attendees. Anxiety disorders are associated with high health care utilisation and are an enormous economic burden for society.[11]

Most reviews focused on specific female populations, such as nulliparous, pregnant, or postpartum women or those having a history of abortion. Others focused on particular risk factors, family conditions or circumstances, obesity, smoking, or early separation anxiety.[8,12–17]

The author found no similar studies on PubMed, Google Scholar, and Simmon, so the present study is the first conducted in the Middle East. This study aims to assess the relationship between GAD and multiparity after controlling for confounding factors, including pregnancy and postpartum status. It aims to measure the prevalence of anxiety among multiparous women in Al-Qatif, KSA, and to assess the relationship between GAD and multiple risk factors, including age, marital status, marital conflict, educational level, employment status, working hours, total income, stressful life events, maternal and child health issues, family member assistance/support, family type, presence of a housemaid, age at first and last pregnancy, abortions, stillbirth, and independence of children.

Materials and Methods

This study was a mixed-method study among active multiparous women who visited PHCs in Al-Qatif, KSA. The study lasted from 16 September to 30 November 2019, using mixed research methods (quantitative and qualitative) conducted through a validated questionnaire and focus group discussions (FGD), respectively.

PHCs in the Al-Qatif region were clustered into large and small centres according to the catchment area population. Centres exceeding 10,000 individuals are classified as large centres and small centres have fewer than 10,000 individuals. The centres were selected through systemic randomisation, and finally, 16 centres were selected.

The entire target population of females of a childbearing age living in Al-Qatif comprises 126,589 individuals. The minimum sample size of 384 women was calculated using Epi Info, with an expected frequency of 50% and 5% precision.[18]

The sample size of each centre was proportional to the catchment area's population. Patients were randomly selected for the study.

Starting from 16 September 2019, all active multiparous attendees of the selected centres were invited to participate.

The desired number according to the inclusion and exclusion criteria was reached on 30 November 2019.

The inclusion criteria applied to any pre-menopausal women with more than one living child. The exclusion criteria included pregnant women, women less than six weeks postpartum as defined by the American Academy of Family Physicians (AAFP), and women with a single child.[19]

The survey was pilot-tested on 35 active multiparous women who attended PHCs in Al-Qatif. The survey's content and face validity were tested, and the questionnaire was modified according to the responses to ensure clarity. The first section of the survey included questions about socio-demographic data, followed by questions about family and social factors; information about the obstetric history; and finally, the GAD-7 screening tool. The screening tool included seven items that screen for and classify the severity of anxiety. Scores of 5, 10, and 15 represent the cut-offs for mild, moderate, and severe anxiety, respectively.[20,21]

The total number of items in the questionnaire was 31. All items were translated into Arabic by native Arabic-speaking physicians. The participants were interviewed by researchers in the waiting room, and the forms were filled in by the researchers.

The questionnaire's reliability was deemed good based on Cronbach's alpha (0.82), calculated using IBM Statistical Package for Social Science Version 25 (SPSS). The questionnaires were distributed with a response rate of 93.3%, with no missing values to report. The participants answered the questions independently, and researchers were available to help with any inquiry or problem.[22]

Statistical significance was set at $p = < 0.05$, and the confidence interval (CI) was 95%. The data introduced for SPSS Version 25 are to be analysed. The data were described using frequency, percentage, and mean values. The relationship of anxiety with different factors was tested by comparing the mean score values between different groups using the students' t-test, chi-square test, and logistic regression.

For the qualitative analysis, data were collected through observation, FGDs, and researchers' lists to ensure triangulation. Observations were conducted in each FGD. Data were collected by inviting active multiparous women who were not participating in the questionnaire, using convenience sampling until data saturation was reached to explore participant experience, emotions, and perceptions regarding anxiety among multiparous women. The researchers facilitated the discussion by using semi-structured open-ended questions, and seven discussion sessions were conducted. Each group contained six to eight multiparous women, with sessions taking place between 16 September and 21 November 2019, each lasting 45–60 minutes.

FGDs were conducted to cover participants' opinions regarding early marriage and multiparity, the impact of multiparity on multiple aspects of life (social, economic, mental, and physical) for mothers and children, and expectations regarding the study's result. The content of the FGDs is elaborated in Table 1. Qualitative data were transcribed verbatim and were coded and categorised. The most-agreed-upon points were given high priority.

The central Institutional Review Board-Ministry of Health (IRB-MOH) reviewed and approved the study, and informed consent was obtained from all the participants. Participation was voluntary.

Results

Descriptive statistics

In total, 513 multiparous women participated in the study. Participants' mean age was 36.14 ± 8.052, ranging from 16 to 55 years old, and they were still menstruating. Of the participants, 93% were married. Almost 53% of the participants had a bachelor's degree or a diploma, while the least-educated category was unlettered women at 0.8%. More than half of the participants were housewives. In the study, 79% of the married participants had no marital conflicts, and 81% had no housemaids.

More than half (65%) of the participants had a family member who assisted them with house chores. Of the study participants, 72% were multiparous, with 2–5 children, while 28% had more than five children. The majority (74.7%) of participants appeared anxious. Table 2 shows the distribution of sociodemographic characteristics and anxiety among participants.

Bivariate analysis

The study showed no statistically significant association between GAD and multiparity ($\chi^2 = 0.714$, $p = 0.700$). However, GAD appeared significantly associated with several other factors, including marital status ($\chi^2 = 8.372$, $p = 0.015$), educational level ($\chi^2 = 13.345$, $p = 0.020$), marital conflicts ($\chi^2 = 10.457$, $p = 0.001$), mothers' health issues ($\chi^2 = 7.227$, $p = 0.007$), children's health status ($\chi^2 = 3.897$, $p = 0.048$), stressful life events ($\chi^2 = 14.179$, $p = 0.000$), and family member assistance/support ($\chi^2 = 5.096$, $p = 0.024$) (Table 2).

Most participants (81%) with severe anxiety appeared to be married, as shown in Table 3. Additionally, all the participants with primary educational levels appeared anxious, followed by elementary and secondary educational levels (88% and 76%, respectively). In contrast, those with a higher educational level were the least anxious group at 47%, followed by those with bachelor's degrees or diplomas (73%) (Figure 1).

More than three-fourths (86%) of participants with marital conflicts had anxiety. Mothers who had marital conflicts were twice as likely to have severe anxiety as mothers without conflicts (14.4% and 7.4%, respectively), as shown in Table 3.

Furthermore, most of the participants (84%) with stressful life events appeared to be anxious. Only 9% of mothers with family member assistance had severe anxiety;

Table 1: Focus group discussion items.

Semi-structured interviews: Topic guidance of all questions in the focus group discussion was open-ended.
What is your opinion regarding early marriage?
What is your opinion regarding multiparity?
What is the impact of multiparity on various aspects of life (social, economic, mental, physical)?
What do you expect from this study's result regarding the relationship between the number of children and anxiety?

Table 2: Distribution of sociodemographic characteristics and anxiety among participants.

Variables	Anxiety		Test statistics (p-value)
	Yes n = 383	No n = 130	
Marital status (%)			χ2 = 8.372* (0.015)
Married	127 (26.6)	349 (73.3)	
Widowed	3 (21.4)	11 (78.5)	
Divorced	0	23 (100)	
Employment status (%)			χ2 = 3.603 (0.308)
Student	6 (46.1)	7 (53.8)	
Employee	47 (23.8)	150 (76.1)	
Housewife	74 (25.7)	213 (74.2)	
Retired	3 (18.7)	13 (81.2)	
Educational Level (%)			χ2 = 13.345* (0.020)
Unlettered	1 (25.0)	3 (75.0)	
Primary school	0	8 (100.0)	
Elementary school	4 (12.1)	29 (87.8)	
Secondary school	42 (23.5)	136 (76.4)	
Bachelor or Diploma	74 (27.1)	199 (72.8)	
Higher education	9 (52.9)	8 (47.0)	
Marital conflicts (%)			χ2 = 10.457* (0.001)
Yes (present)	18 (14.4)	107 (85.6)	
No (absent)	112 (28.8)	276 (71.1)	
Maternal health issues (%)			χ2 = 7.227* (0.007)
Yes (present)	23 (16.7)	114 (83.2)	
No (absent)	107 (28.4)	269 (71.5)	
Stressful life events (%)			χ2 = 14.179* (0.000)
Yes (present)	30 (15.8)	159 (84.1)	
No (absent)	100 (30.8)	224 (69.1)	
Housemaid (%)			χ2 = 1.558 (0.212)
Yes (present)	20 (20.4)	78 (79.5)	
No (absent)	110 (26.5)	305 (73.4)	
Family member assistance (%)			χ2 = 5.096* (0.024)
Yes (present)	95 (28.5)	238 (71.4)	
No (absent)	35 (19.4)	145 (80.5)	
Family Type (%)			χ2 = 5.182 (0.075)
Nuclear Family	96 (26.2)	270 (73.7)	
Extended Family	30 (27.7)	78 (72.2)	
Single Mom	4 (10.2)	35 (89.7)	
Independence of children (%)			χ2 = 0.116 (0.733)
Yes	26 (24.0)	82 (75.9)	
No	104 (25.6)	301 (74.3)	
Children's health issues (%)			χ2 = 3.897* (0.048)
Yes (present)	13 (16.4)	66 (83.5)	
No (absent)	117 (26.9)	317 (73.0)	
Abortion (%)			χ2 = 0.181 (0.671)
Yes	54 (26.3)	151 (73.6)	
No	76 (24.6)	232 (75.3)	
Stillbirth (%)			χ2 = 0.594 (0.441)
Yes	13 (21.3)	48 (78.6)	
No	117 (25.8)	335 (74.1)	
Total Economic income (%)			χ2 = 1.589 (0.811)
Less than 5000 Riyal	28 (23.1)	93 (76.8)	
5000 to 10,000 Riyal	42 (25.0)	126 (75.0)	
10,000 to 15,000 Riyal	22 (23.6)	71 (76.3)	
15,000 to 20,000 Riyal	24 (30.3)	55 (69.6)	
More than 20,000 Riyal	14 (26.9)	38 (73.0)	
Multiparity			χ2 = 0.714 (0.700)
Multiparous	97 (26.3)	271 (73.6)	
Grand multiparous	31 (22.7)	105 (77.2)	
Great grand multiparous	2 (22.2)	7 (77.7)	
Total number of children	Median = 35.00	Median = 36.00	Mann−Whitney
(number of living children + stillbirth)	Min = 16, Max = 55	Min = 17, Max = 54	U test = 22884.00 (0.157)
	Mean rank = 241.53	Mean rank = 262.25	
Age (SD)	x = 36.33 (9.2)	x = 36.07 (7.7)	t = −0.288 (0.773)

Table 2 (*continued*)

Variables	Anxiety		Test statistics (*p*-value)
	Yes n = 383	No n = 130	
Working hours	Median = 0 Min = 0, max = 9 Mean rank = 257.82	Median = 0 Min = 0, max = 12 Mean rank = 256.72	Mann−Whitney U test = 24788.000 (0.934)
Mother age at first pregnancy (SD)	x = 21.77 (4.3)	x = 22.15 (4.2)	t = −0.876 (0.381)
Mother age at last pregnancy (SD)	x = 30.90 (6.3)	x = 31 (5.9)	t = −0.165 (0.869)

*Has significant *p* value.

while, 83% of the mothers with health issues and 84% of the mothers whose children had health issues appeared to have anxiety.

The remaining variables (age, employment status, working hours, total economic income, presence of housemaid, family type, multiparity, independence of children, abortion, stillbirth, and maternal age at first and last pregnancy) did not appear to be significantly associated with anxiety.

Odds ratio

The odds of being anxious if the participants were widowed or divorced were 4.1 times higher than for married participants (odds ratio [OR] = 4.1, 95% CI = 1.3−13.7, $p = 0.020$). Furthermore, increased education levels were associated with decreased anxiety (Table 4).

Participants with marital conflicts were 2.4 times as likely to be anxious as women with no marital conflicts (OR = 2.4, 95% CI = 1.4−4.2, $p = 0.002$). Mothers with significant health issues were twice as likely to be anxious as those with generally good health (OR = 2.0, 95% CI = 1.2, 3.3, $p = 0.008$).

Participants who had a child with significant health issues were 1.9 times as likely to be anxious as those with healthy children (OR = 1.9, 95% CI = 1−3.5, $p = 0.051$). Those who had experienced stressful life events were 2.4 times more likely of being anxious compared to those without stressful life events (OR = 2.4, 95% CI = 1.5−3.7, $p = 0.000$). Finally, receiving assistance from a family member decreased the odds of anxiety by 40% (OR = 0.6, CI = 0.4−1, $p = 0.025$), as shown in Table 4.

Multivariable analysis

After bivariate analysis was conducted for all the factors in the study and their association with anxiety, all significant variables were added to a logistic regression model where their crude and adjusted ORs of anxiety associated with different factors were assessed (Table 4). At the crude level of analysis, all the factors remained significant except for having a child with health issues.

In multivariable modelling, only three factors remained significant after adjusting for the remaining model variables using a logistic regression model (Nagelkerke R^2 = 0.132,

Table 3: Bivariate analysis

| Anxiety Groups					Test results	*p*-value
Variables	None n = 130	Mild n = 212	Moderate n = 124	Severe n = 47		
Marital Status (%)					χ2 = 24.219	0.000
Married	127 (26.6)	196 (41.1)	115 (24.1)	38 (7.9)		
Widowed	3 (21.4)	2 (14.2)	4 (28.5)	5 (35.7)		
Divorced	0	14 (60.8)	5 (21.7)	4 (17.3)		
Educational Level (%)					χ2 = 27.988	0.022
Unlettered	1 (25)	1 (25)	2 (50)	0		
Primary school	0	5 (62.5)	1 (12.5)	2 (25)		
Elementary school	4 (12.1)	16 (48.4)	12 (36.3)	1 (3.0)		
Secondary school	42 (23.5)	77 (43.2)	48 (26.9)	11 (6.1)		
Bachelor/Diploma	74 (27.1)	110 (40.2)	59 (21.6)	30 (10.9)		
Higher education	9 (52.9)	3 (17.6)	2 (11.7)	3 (17.6)		
Marital Conflicts (%)					χ2 = 15.420	0.001
Yes (present)	18 (14.4)	51 (40.8)	38 (30.4)	18 (14.4)		
No (absent)	112 (28.8)	161 (41.4)	86 (22.1)	29 (7.4)		
Maternal Health Issues (%)					χ2 = 8.807	0.032
Yes (present)	23 (16.7)	59 (43.0)	42 (30.6)	13 (9.4)		
No (absent)	107 (28.4)	153 (40.6)	82 (21.8)	34 (9.0)		
Stressful Life Events (%)					χ2 = 19.375	0.000
Yes (present)	30 (15.8)	78 (41.2)	61 (32.2)	20 (10.5)		
No (absent)	100 (30.8)	134 (41.3)	63 (19.4)	27 (8.3)		
Family Member Assistance (%)					χ2 = 7.210	0.065
Yes (present)	95 (28.5)	138 (41.4)	71 (21.3)	18 (10)		
No (absent)	35 (19.4)	74 (41.1)	53 (29.4)	29 (8.7)		
Children's Health Issues (%)					χ2 = 6.970	0.073
Yes (present)	13 (16.4)	31 (39.2)	27 (34.1)	8 (10.1)		
No (absent)	117 (26.9)	181 (41.7)	97 (22.3)	39 (8.9)		
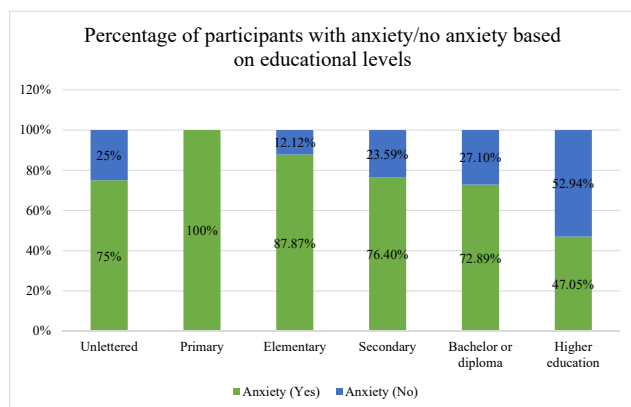
Figure 1: Percentage of participants with anxiety/no anxiety based on educational levels.

$2 = 48.031$, $p < 0.0001$). After the model was adjusted, the factors that remained significant were educational level (elementary school, secondary school, bachelor's degree/diploma), marital conflict, and stressful life events. Marital conflict and stressful life events had a smaller magnitude after adjusting for the remaining model variables.

Education level had an inverse association with anxiety when less-educated participants were compared to those with a higher education certificate (e.g. master's or Ph.D.). The magnitude of this association remained the same after adjusting for the remaining variables in the model.

Qualitative results

Nearly 70% of participants agreed that early marriage means 'below 18 years old'. Half the participants felt that

young mothers had more energy to raise and care for children. The others did not support early marriage due to the huge responsibilities for their age and the prioritising of education and self-achievement.

In our observations regarding early marriage, some older participants got upset with the early marriage question, revealing cultural issues and ideologies that support early marriage. In Saudi Arabian culture, men usually propose marriage. If women were to refuse, their reputations might be affected, especially when it came to another marriage proposal.

Conversely, the young participants' observations were informed by education and self-accomplishment aiming for a better professional career, rather than by accepting the culture that did not meet their ambitions and dreams.

More than half the participants preferred multiparity, possibly due to cultural and religious encouragement. The prophet (peace and blessings of Allah be upon him) was quoted as saying, 'Marry the one who is fertile and loving, for I will be proud of your great number before the nations on the day of resurrection.'

The positive impact of multiparity on children and mothers includes extended family support during childhood and the expectation that more children can support the parents in their later years.

In contrast, participants who dislike the idea of multiparity believe that it can harm mothers and children and affect the mother's physical and mental health.

Regarding physical health, mothers tend to have less time to take care of their own health; they may face chronic fatigue and non-refreshing, interrupted sleep. The effect on a mother's mental health appears in the form of emotional stress, decreased concentration, and overthinking about her children's future. The adverse impact on children's health

Table 4: Binary logistics regression – crude and adjusted odds ratio.

Variables	Crude			Adjusted		
	OR	95% CI	*p*-value	OR	95% CI	*p*-value
Marital status						
Married	1	1.3−13.7	0.020	1	0.7−9.1	0.158
Widowed or Divorced	4.1*			2.5		
Educational Level						
Unlettered	3.4	0.0−3.5	0.332	3.4	0.2−49.3	0.365
Primary school	1.8	0.0−0.0	0.999	2.2	0.0	0.999
Elementary school	8.2**	0.0−0.5	0.004	8.3**	1.8−37.2	0.006
Secondary school	3.6*	0.1−0.8	0.012	4.6**	1.5−13.9	0.006
Bachelor or Diploma	3.0*	0.1−0.9	0.028	3.8*	1.3−11.0	0.016
Higher education	1			1		
Marital conflicts						
Yes (present)	2.4**	1.4−4.2	0.002	1.9*	1.1−3.5	0.035
No (absent)	1			1		
Maternal health issues						
Yes (present)	2.0**	1.2−3.3	0.008	1.7	1.0−2.8	0.062
No (absent)	1			1		
Stressful life events						
Yes (present)	2.4***	1.5−3.7	0.000	1.7*	1.0−2.8	0.034
No (absent)	1			1		
Family member assistance						
Yes (present)	0.6*	0.4−1.0	0.025	0.7	0.5−1.1	0.157
No (absent)	1			1		
Children's health issues						
Yes (present)	1.9	1.0−3.5	0.051	1.7	0.9−3.3	0.131
No (absent)	1			1		

*p-value <0.05; **p-value <0.01; ***p-value <0.001.

could be due to failure to care for children's physical and mental health or childhood neglect. The mother has limited time for self-care or achieving desired goals. One of the mothers said, 'My dreams and ambitions [are] gone with the winds.' For children, negative personality changes could occur because of jealousy.

The social aspect is summarised from the perspectives of both mothers and children. Mothers feel embarrassed by having multiple children without enough space and may experience social isolation due to multiple responsibilities. Playful children are not acceptable to some attendees in gathering places such as mosques and at weddings, among other venues. In addition to the economic effect, an increase in expenses could be unnecessary due to peer pressure and fewer entertainment opportunities.

Regarding participants' expectations of the study results, one-third of the women expect a relationship between multiparity and anxiety. Participants offered multiple explanations for multiparous anxiety, including worrying about their children's career and life difficulties, in addition to the negative economic impact. Conversely, the remaining participants who think that there is no relationship explained that it depends on the mothers' abilities to cope with life stressors and not the number of children. That is, one child with chronic health issues can induce more anxiety than 10 healthy children.

Discussion

Anxiety is highly prevalent and frequently associated with a wide range of comorbidities. GAD affects 7%—8% of patients in a primary care setting.[6,23]

This study was a mixed research study conducted in PHCs in Al-Qatif City. In this study, the aim was to identify the relationship between multiparity and GAD. The study shows no significant relationship between the number of children and the presence of GAD. However, this result is inconsistent with the result of the Brazilian study mentioned above. The latter showed a proven increase in mental health problems for mothers between 19 and 30 years old that is proportionate to the multiparity. Pearson et al. found evidence that an increased number of children, particularly those older than four, was associated with an increased risk of strong maternal mental health disorder symptoms.[7]

However, in this study, the non-significant result could be due to cultural differences, particularly family and social support, parallel to the previous FGD results that emphasised the role of a supportive family system in mitigating life challenges.

GAD appeared to be significantly associated with marital status, educational level, marital conflicts, mothers' health issues, stressful life events, family member assistance, and children's health issues. The remaining variables appeared not to be significant.

Divorced and widowed women tended to be more anxious than married women. This result was partially different from two previous studies in which marital status was assessed through systematic review research. Moreno-Peral et al. found that being divorced or widowed was associated with GAD,[2] as did the study published in KSA by Altwaijri et al.[4] about the lifetime prevalence of mental disorders. The study showed that previously married people had higher odds of anxiety disorders than currently married people.[4] This is similar to the FGD result, which showed divorced or widowed people tended to feel more anxious than married people. This could be explained by the fact that single mothers assume more responsibilities in attempting to provide a perfect home environment.

However, another study published in January 2005 assessed the relationship between risk factors, course and type of depression, and GAD, and showed no significant relationship between marital status and GAD.[2]

A significant association was apparent between GAD and educational level. More than half the non-anxious women were university graduates (bachelor's and postgraduate students). This is similar to the work of Bjelland et al.,[24] who in a cross-sectional study showed that higher education had a protective effect on anxiety and depression. However, another longitudinal study showed a negative association between anxiety and educational level. Education can influence motivation to succeed and emotional well-being; this could be one of the leading reasons for the significant association between education and GAD.[24]

The polarity of opinions regarding the relationship between educational level and anxiety was observed; 50% of FGD participants were neutral. In contrast, 25% thought that a high educational level was related to more anxiety. High community expectations can explain this, but the remaining participants expected that a low educational level made people more prone to anxiety. This could be interpreted as meaning that participants had a hard time facing life difficulties and keeping up with the pace of accelerating change.

There is a significant relationship between GAD and marital conflict. More than two-thirds of the participants in situations of marital conflict were anxious. This is consistent with Scott et al.'s[25] study showing marital distress as a risk factor for anxiety. All FGD participants' views aligned with this result. Less marital conflict may confer a sense of control that can contribute to fewer anxiety symptoms. However, the influence of marital conflict on adult anxiety needs to be investigated further.[25]

Moreover, a significant association between stressful events and GAD is noted in the current study. This agrees with previous studies and the unanimous agreement of FGD participants. Studies assessing the relationship between life events and change in anxiety levels are scarce.[26,27]

Further, a significant association was found in the current study between GAD and family support. Most mothers without assistance or support developed GAD. Similarly, Rapee,[14] in a ten-year population study of over 3000 participants, showed that a poor family environment and low support were significantly associated with GAD, in concordance with the qualitative result indicating that loss of a support system was associated with anxiety among all participants. As is known, the family is a part of a person's social support system and plays an essential role in whether the person develops anxiety disorder. Thus, having family support lowers the stress on the mother and decreases anxiety levels accordingly.

A significant relationship was established between the participant's general health condition and GAD. This indicates that most of the mothers who have a significant health condition are anxious. A previous systemic review study

concluded that having physical health problems was associated with the development of GAD.[2] One study examined the association between mental disorders and the diagnosis of chronic physical conditions. It showed an association between GAD and multiple chronic physical diseases.[28] FGDs showed a similar result. This is understandable, as having a health problem increases stress and anxiety; further detailed studies in this area are recommended.

The current study found a significant association between children's general health conditions and maternal GAD. Most mothers whose children had health issues were found to have anxiety. Similarly, Verstraete et al.'s[29] study tested caregivers' quality of life; 90% of them were mothers and showed that caregivers of children with asthma are more anxiety-prone than others. This result is consistent with participants' opinions in the FGD. In general, a loved one's illness results in anxiety, worry, and grief, which result directly in reduced health.

The study had a few limitations. In this study, screening for anxiety included mental and all other, even organic causes. However, excluding organic causes would provide more accurate data. This study could include data on recall bias in some life events and incidents. Longitudinal studies can afford greater clarity on this point than cross-sectional studies. The longitudinal study provides information on the sequence of mental health symptoms. Future research in this area must be considered.

Conclusion

This mixed-method research of qualitative and quantitative data assesses the relationship between GAD and multiparity. Among the participants, Almost 75% of the participants appeared anxious. According to findings, multiparity is not a statistically significant risk factor for future GAD. FGDs showed that more than half of the participants' opinions were supported by the study result. Other variables that showed a significant association with anxiety were marital conflicts, stressful life events, and educational level.

Recommendations

As shown in the research, family support is one of the main healthy behaviours that decrease the chance of developing anxiety. Both husbands and extended family members should provide emotional support to mothers and children.

Providing training and joining therapeutic sessions about life balance and reducing stress can improve awareness in adapting to life's challenges.

Additionally, having additional help alleviate the burden of house chores, especially for families with health issues.

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Conflict of interest

The authors have no conflict of interest to declare.

Ethical approval

Authors' contributions

LAG and SMA conceived and designed the study, conducted research, provided research materials, collected and organised data, and wrote the article's initial and final draft. AKU analysed and interpreted the quantitative data. SZS analysed and interpreted the qualitative data. All authors critically reviewed and approved the final draft and are responsible for the manuscript's content and similarity index.

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