

The Impact of Polygyny on the Mental Health of Students at Jazan University: A cross-sectional study

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Abstract: Polygyny is a common practice in a wide range of societies across the globe. Increasingly, many studies suggested that polygyny has a significant impact on mental health. This study aimed to investigate the impact of polygynous family structure on the mental health of students at Jazan University. A stratified sample of 489 undergraduate students, 379 of whom were from monogynous families and 110 were from polygynous families, participated in this study. The participants completed the Brief Symptom Inventory (BSI-18), the McMaster Family Assessment Device (FAD), and the Self-esteem Scale (SE). Independent-samples t-tests were employed to compare psychiatric symptoms, general family functioning, and self-esteem of students from polygynous families and students from monogynous families. Regression analysis was conducted to detect the main predictors of the study's dependent variables. The students from polygynous and monogynous family structures did not differ significantly in their scores on the scales of mental health, family functioning, and self-esteem. Low mother's education was significantly associated with the prevalence of polygynous family and was a strong predictor of poor family functioning. Female gender was significantly associated with more somatization ($p < 0.01$) and anxiety ($p < 0.05$) symptoms. The findings of the present study suggest that University students' mental health did not differ significantly with respect to their family structure. Implications for health practitioners, teachers, and policy makers are discussed. Future studies could investigate the impact of polygyny on mental health of children, adolescents, and fathers and mothers themselves.

Keywords: Polygamy, polygyny, University students, mental health, polygyny in Saudi Arabia

INTRODUCTION

Polygamy refers to the marital relationship that involves multiple partners in the same time [1]. It has three particular types: a) when one man has more than one wife (polygyny), when one woman has more than one husband (polyandry), or when one family is consisted of multiple husbands and wives (polygynandry) [2]. The only concern of the current study is the first type, and to be more specific, from now on polygamy is referred to as "polygyny".

Globally, polygyny is prevalent in 850 communities [3], and it is accepted by a wide range of religious and ethnic groups [4]. It is legally acceptable in Tanzania, Chad, Ghana, Congo, Benin, Togo, Algeria [5], Saudi Arabia, and Bedouin-Arab communities in Israel [4]. Also polygyny is known to be practiced in North America and Europe, and other Western societies [6]. According to Chamie [7], 2-12% of married men living in Arab countries are polygynous, with the vast majority (90%) having two wives, 5-7% having three wives, and only 1% having four wives.

Islam permits the practice of polygyny and allows men to have as many as four wives at a given

time [8, 9]. Qur'an states that men who choose to marry more than one woman have to deal with them fairly [10]. Although polygynous wives may live in the same house, they usually have their own households where each wife lives with her sons [11,12]. The first wife who is followed by another wife (or wives) is called "senior wife". The most recent wife in a polygynous family is called "junior wife" [13]. In Saudi Arabia, like other Arab cultures, the first-time marriage is commonly organized by parents or their substitutes, or is consanguineous or exchange (i.e. two men marry each other's sister) [11]. Consecutive marriages, however, are associated with both romantic love and greater predilection toward choice. Therefore, second and subsequent wives often have favored status regarding economic resources, attention, and social support [11,14]. There are some conditions in which a man can marry another woman (or women): (a) if the first wife is infertile, post-menopausal, unable to bring children, mentally or physically ill, or unable to meet his sexual needs. If these conditions are not met, a man can simply proclaim his intention to increase the number of children [11].

Increasingly, the impact of polygyny on mental health has been concerning many studies [2, 11,

12, 15–18]. For example, a study of psychiatric patients in Kuwait reported higher rates of depression, neurosis, or both among polygynous wives than monogynous wives [13]. Another study of 81 Bedouin Arab wives from Negev (Israel) indicated lower levels of potency (i.e. self-esteem, sense of control, commitment, and belief that society is ordered and fair) and higher rates of wife abuse among polygynous wives as compared to monogynous wives [11]. Al-Krenawi reported that wives in polygynous families experienced lower self-esteem, less marital satisfaction, less quality of life, and more mental problems than wives in monogynous families [18]. These findings have been supported by earlier studies in Egypt, Palestine, Kuwait, Saudi Arabia, and Turkey, which confirmed that substantial mental and health risks are prevalent among senior wives in polygynous families [19–21].

Children in polygynous families may be more likely to face a major challenge to develop their sense of trust, confidence, and security [4]. Research has shown that children from polygynous families had poorly developed social competence and sense of security [22], poor academic achievement, and more mental health problems [23]. Children and adolescents from polygynous families may experience higher rates of family violence, disruptions, and conflicts [14, 24], which are commonly associated with their maladjustment [25]. In polygynous families, where marital tension is likely to cause tense interactions between parents and their children [26], older children may play the role of parents and function as parents for the family members; hence they suffer from emotional consequences of their dual roles in the family [4].

A few studies have been concerned with the mental health consequences and academic achievement of children from polygynous families, with the majority conducted among Bedouin-Arab in Israel [27]. Al-Krenawi, Graham, and Al-Krenawi interviewed 25 Bedouin-Arab children (6-12 years) and their mothers and their teachers. They found that polygynous children had a variety of mental and academic problems, with lower than average school attendance, scholastic concentration, and homework completion [23]. Another study of 101 Arab Muslim adolescents, with a mean age of 13.01 years, at Ramla (Israel) revealed that boys and girls from polygynous families had lower self-esteem, more mental symptom, and poorer self-reported family functioning [2]. Additionally, another study of 352 Bedouin-Arabs children (13-15 years) revealed that children of polygynous families had more mental health problems, social difficulties, and poorer school performance [28]. In the same line with the previous studies in Israel, another study of 3278 schoolchildren (6-15 years) in the United Arab Emirates found that children's mental health problems were correlated with the polygynous family structure [29].

Some studies have shown that maladjustment may proceed into early adulthood [27]. In a study of 116 adolescents in Nigeria with an average age of 18 years, male youths from polygynous families experienced worse psychological adaptation than youths from monogynous families [30]. However, a study of 210 randomly selected Bedouin-Arab adolescents with an average age of 15.9 years reported that adolescents of polygynous and monogynous families did not differ significantly in their mental health [31]. Similarly, another study investigated mental health among 406 Bedouin-Arab adolescents with a mean age of 14.5 years did not find difference in mental health assessment of adolescents from polygynous and monogynous families [32]. The authors of the previous studies concluded that adolescents are more able than younger children to cope with family conflicts and disagreements [31], and that polygyny seems to have no damaging psychological impacts on adolescents when it is socially accepted [32].

The current study aimed to investigate the impact of polygynous family structure on the mental health of students at Jazan University. The findings of this study would be of distinct advantage to policy makers and practitioners, and can help teachers to predict the mental well-being of students based on their family structures; hence they will be able to help students enhance their life quality and academic performances.

MATERIALS AND METHODS

Study Area, design, and Population

Jazan province is located on the Red Sea coast, in the southwest of Saudi Arabia and 70-km from Yemen. It is highly populated with 1,248,190 Saudis and 320,537 non-Saudis according to the 2015 census [33]. Jazan University was initiated in 2006. This is an observational cross-sectional survey targeting Jazan university students who are over 18 years and registered for the academic year 2016/2017. The target colleges were Applied Medical Sciences, Pharmacy, Business administration, Computer sciences, and Sciences.

Sample size and sample design

First, the sample was stratified according to the three sectors namely health-related faculties, arts faculties and other scientific faculties. Second, we randomly selected two faculties from each sector and, at last, clusters of classes were randomly selected from each stratum. A sample of 500 participants was calculated for the purpose of this study. The sample size was calculated using the formula for a cross-sectional study, $n = [(z^2 * p * q)]/d^2$. Sample size was calculated using the following parameters: p = prevalence of Knowledge 50%, Z = 95% confidence interval, d = error $\leq 5\%$, and a 25% non-response rate. Probability

proportional to size sampling (PPS) was used to adjust the number of students in each faculty.

Data Collection Method

An arabic structured questionnaire was distributed by the researchers to the study population in their faculties. After explaining the purpose of the study and obtaining verbal consents, researchers waited somewhere near for the completion of the questionnaire without supervising participants. The data collection process took place in the period from 22 to 29 March.

Instruments

Several research instruments were distributed over the course of data collection: a basic sociodemographic questionnaire (age, gender, residence, faculty type, type of family structure, number of father's wives, level of parents' education, and self-reported socioeconomic status), Rosenberg's Self-Esteem Scale (SE), the Brief Symptom Inventory (BSI-18), and the McMaster Family Assessment Device (FAD). All the following measuring scales translated into simple Arabic by a professional translator.

Rosenberg's Self-Esteem Scale (SE)

This 10-item scale measures self-esteem. Each item is rated from 1 (strongly agree) through 4 (strongly disagree). It has an excellent internal consistency (Guttman scale coefficient of reproducibility=0.92) and excellent stability (test-retest analysis=0.85). Low self-esteem responses are "strongly disagree" or "disagree" on items 1, 3, 4, 7, and 10, and "strongly agree" or "agree" on items 2, 5, 6, 8, and 9, with higher scores reflect higher self-esteem [34]. The present study yielded a Cronbach alpha of 0.60 indicating a moderate internal consistency.

Brief Symptom Inventory-18 (BSI-18)

This is a widely used self-report scale which measures general psychological distress. It is the briefest and the most recent version of instruments designed by Derogatis. It consists of 18 items regarding emotional and physical complaints. Each item is rated from 0 (not at all) through 4 (very much), with higher scores reflect more mental problems. BSI-18 is the shortened version of the BSI which is consisted of 53 items and 9 subscales: Somatization, Obsessive Compulsive Disorder, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. It was shortened to BSI-18 to decrease the completion time and to enhance its structural validity. BSI-18 is consisted only of three subscales (six items in each subscale): somatization, depression, and anxiety, which are more homogenous than other dimensions from the earlier scales, both empirically and conceptually [35]. The present study yielded a Cronbach alpha of 0.87 indicating a satisfactory level of internal consistency. It

is noteworthy that we excluded "suicidal thoughts" item from the final analysis because of high missing responses which indicated, possibly, that the item was culturally sensitive to the respondents.

McMaster Family Assessment Device (FAD)

This 60-item scale was designed to assess the perceptions of 7 subscales of family functioning: problem solving, communication, roles, affective responsiveness, affective involvement, behavior control, and general functioning. We used only the 12 items of "general functioning" dimension to assess the general health or pathology of the family as a recent study found that the "general functioning" subscale give a satisfactory picture of the family's general functioning, and there is no need to use all 60 questions [36]. Each item in this scale is rated from 1 (strongly agree) through 4 (strongly disagree). Higher scores indicate worse levels of family functioning [37]. The present study yielded a Cronbach alpha of 0.80 indicating a satisfactory level of internal consistency.

Statistical analysis

All analyses were performed using SPSS version 20. Frequencies and percentages were computed for some socio-demographic variables (Table 1). Independent-samples t-tests were employed to compare psychiatric symptoms, general family functioning, and self-esteem of students from polygynous families and students from monogynous families (Table 2). The Independent variable in all t-tests was the type of family structure (monogynous vs. polygynous). *Statistical significance was set to $p < 0.05$* . Finally, regressions were conducted for each of the study's dependent variable, with statistical significance $p < 0.05$ and $p < 0.01$ consequently (Table 3).

Ethical Clearance

All participants have been told that they have all rights to participate and that their information will be kept anonymous. The data collected from study participants used only for scientific purposes. Ethical clearance obtained from the Jazan University Ethical Committee.

RESULTS

Characteristics of Study Population

The original sample included 500 undergraduate students. Participants completed 493 questionnaires giving a response rate of 98.6%. Three participants were not included in analysis because they were under the target age of the current study (i.e. less than 19 years) and one participant was not included because he/she did not respond to the question about family type (i.e. the main concern of the present study). The remaining 489 participants consisted of 379 students from monogynous families and 110 students from polygynous families. Their mean age was 21.44

years (SD=1.57). Table 1 shows the frequencies and percentages of participants' socio-demographic variables. Of monogynous participants, 48.5% were males and 51.5% were females, and 62.9% were rural and 37.1% were urban. Of polygynous participants 50.9% were males and 49.1% were females, 53.7% were rural and 46.3% were urban. According to independent-samples t-test, there was significant difference for mothers' education in polygynous and

monogynous families; $t(485)=2.450, p=0.015$. However, there was no significant difference for fathers' education in both family structures; $t(483)=0.302, p=0.763$. In addition, all students, regardless the type of their family, reported nearly the same economic status, with the vast majority having a very good to good economic status (95% of monogynous students and 96.4% of polygynous students).

Table-1: Socio-demographic Characteristics of the Sample

<i>Demographic variables</i>	Monogynous families (n=379) N (%)	Polygynous families (n=110) N (%)
Gender		
Male	184 (48.5)	56 (50.9)
Female	195 (51.5)	54 (49.1)
Residence		
Rural	234 (62.9)	58 (53.7)
Urban	138 (37.1)	50 (46.3)
Family economic status		
Very good	209 (55.6)	55 (50.5)
Good	150 (39.9)	50 (45.9)
Bad	17 (4.5)	4 (3.7)
Father education		
High	231 (61.6)	66 (60.6)
Low	144 (38.4)	44 (40.0)
Mother education^a		
High	151 (40.1)	30 (27.3)
Low	226 (59.9)	80 (72.7)

^a $p < 0.05$.

Mental health aspects of the students with respect to family type

An independent-samples t-test was conducted to compare psychiatric symptoms (BSI), general family functioning (FAD), and self-esteem (SE) of students from polygynous families and students from monogynous families. As can be seen in Table 2, students from polygynous families (M=2.26, SD=0.991) scored higher than students from monogynous families (M=2.18, SD= 0.851) on the anxiety subscale of BSI (i.e. higher scores reflect more mental health problems). Also, students from

polygynous families (M=2.05, SD=0.537) scored higher than students from monogynous families (M=1.95, SD= 0.504) on the general family functioning scale (i.e. higher scores reflect worse family functioning). However, there was no significant difference between family type and students' scores on all scales (all p values>0.05). In general, these results suggest that there is no significant difference between students from polygynous families and students from monogynous families when it comes to their mental health, family functioning, and self-esteem.

Table-2: T-test Summary Table for Scores on Mental Health, Family Functioning, and Self-esteem among Students from Polygynous and Monogynous Families

<i>Score</i>	Students from polygynous family		Students from monogynous family		<i>t</i>	<i>df</i>	<i>p value</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
BSI¹							
Somatization	2.10	0.799	2.10	0.752	0.029	479	0.799
Depression	1.99	0.825	1.90	0.818	0.984	460	0.326
Anxiety	2.26	0.991	2.18	0.851	0.820	473	0.413
FAD²	2.05	0.537	1.95	0.504	1.811	465	0.071
SE³	2.97	0.386	2.94	0.344	0.706	456	0.481

¹ For BSI, higher scores reflect more mental health problems.

² For FAD, higher scores reflect lower family functioning levels.

³ For SE, higher values reflect higher self-esteem levels.

Note. BSI: Brief Symptom Inventory. FAD: McMaster Family Assessment Device. SE: Self-Esteem Scale.

Predictors of mental health, family functioning, and self-esteem

In order to detect the main predictors of the study's dependent variables (i.e. mental health, family functioning, and self-esteem), regression analysis was conducted. As can be seen in Table 3, gender was positively associated with somatization, that is, being

female was associated with more somatization symptoms ($P < 0.01$). Also, being female was significantly associated with anxiety ($P < 0.05$). Mother education (lower level of education) and college type (non-health related colleges) were significantly associated with poorer family functioning ($P < 0.01$).

Table-3: Family Structure and Socio-demographic Variables as Predictors of the Study's Dependent Measures: Standardized Regression Effect and R-square

Score	Family structure	Gender	College type	Mother education	Father education	R ²
Mental health (BSI)						
Somatization	0.041	0.171 ^{ab}	0.035	0.027	-0.009	0.027 ^a
Depression	-0.104	0.072	0.092	0.072	0.026	0.020
Anxiety	-0.018	0.138 ^a	0.066	0.025	0.023	0.026
Family functioning (FAD)	-0.066	0.051	0.117 ^{ab}	-0.165 ^{ab}	-0.031	0.064 ^{ab}
Self-esteem (SE)	-0.068	-0.010	-0.024	-0.001	-0.048	0.020

^a $p < 0.05$, ^b $p < 0.01$.
BSI: Brief Symptom Inventory. FAD: McMaster Family Assessment Device. SE: Self-Esteem Scale.

DISCUSSION

The main purpose of the present study was to investigate the impact of polygyny on mental health of students at Jazan University. To the best of our knowledge, this is the first study in Saudi Arabia investigates mental health consequences of monogynous-polygynous family structures among Jazan University students.

Our results (Table 1) indicate a significant difference in parental education between polygynous and monogynous families. Particularly, students from polygynous families reported a significantly lower mother's education than students in monogynous families. This finding is consistent with the earlier studies that correlated low level of parental education with polygyny [2, 38, 39]. Regarding father education, however, there was no significant difference between polygynous and monogynous families. This can be explained by the fact that many women in Saudi Arabia, unlike men, drop their studies at the first opportunity to get married [40], and many of them marry even before they go to university [41, 42]. Furthermore, it is worthy of mention that our questionnaire included "high school or higher" as the cut-off point to distinguish between high and low levels of education. Other studies had a different classification. For instance, one study identified the high level of education as "more than 13 years", which corresponds University level in Saudi Arabia [2]. Therefore, future studies have to be more specific in classifying the levels of parental education.

Our results suggest that there are no significant differences between monogynous and polygynous students in their scores on Brief symptom Inventory (BSI), general family functioning (FAD), and self-esteem (SE). This finding is consistent with many

studies that found no difference in the mental health of adolescents from monogynous and polygynous families [31, 32]. However, our results are inconsistent with previous studies, which indicated that children who raised in a polygynous families had more mental problems, lower self-esteem, and poorer reported family functioning [2, 23]. This inconsistency can be attributed to the major variations between our sample and other studies' samples. Firstly, we targeted only young adults over 18 years and the majority of previous studies targeted children and adolescents whose ages ranged from 6 to 15 years. Being older, more educated, and more independent, university students are more able to cope with the familial disagreements and conflicts [31] than children, and sometimes they may try to control familial tensions by playing the parents' roles in their families [24]. Family violence, disruptions, and conflicts are commonly associated with children and adolescents' maladjustment [25], which may have a deleterious effects on their mental health and academic achievement. Secondly, the absence of a significant association between family type and students' mental health in our sample can be attributed to the cultural acceptability and support [43], which may in fact reduce children vulnerability to family disturbances that would lead to maladaptive behaviors in cultures where polygyny is not culturally supported and valued [4, 32]. Thirdly, Al-Krenawi, Graham, and Sonim-nevo (2002) indicated that socio-demographic variables, namely lower socio-economic status, parental education, and academic achievement may have more direct impact on adolescents' mental health than family structure [2]. Actually, students in our sample reported high family economic status and parental education in general.

As indicated by previous studies, clinical interventions may be best applied with consideration of

the significance of family structure to people's functioning [23]. Health practitioners and teachers should deal with University students' problems with respects to their gender differences and familial dynamics, which may interfere with academic achievement and mental and physical well-being. Finally, it is important to consider the parental level of education as lower parental education was significantly associated with polygyny and predicted poorer family functioning in the present study. Therefore, addressing parental education may have advantageous consequences to family formation.

CONCLUSION

The findings of the present study suggest that University students' mental health did not differ significantly with respect to their family structure. Future studies in Saudi Arabia could investigate the impact of polygyny on mental health of children, adolescents, and fathers and mothers themselves.

Limitations

Since the sample of students from polygynous families was relatively small in the present study, the results are best interpreted with caution and may not generalize to the general population.

Acknowledgment

The author is very thankful to his colleagues in faculty of medicine who did not hesitate to support the present study. Special thanks to Afnan Madkhali, Hind Maghfuri, Murad Akkur, Nasser Marran, Yahya Daghreeri and Zainab Al-Hakami for their efforts in collecting and entering data.

Conflicts of interest: There are no conflicts of interest.

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