

Determinants and causes of son preference among women delivering in Mansoura, Egypt

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أسباب ومحددات تفضيل النساء اللاتي يلدن في المنصورة للأبناء الذكور
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الخلاصة: قيس في هذه الدراسة التي أجريت في مصر، مؤشر تفضيل الذكور، ومحدداته، وأثره على السلوك الإنجابي والنوايا لدى 400 سيدة يحضرن للولادة. وقد بلغ المؤشر العام لتفضيل الذكور 1.4، وكانت أسباب تفضيل جنس معين أسباباً اجتماعية وسيكولوجية. فالأمهات اللاتي لم يلدن إلا بنات هن أكثر تفضيلاً للذكور بـ 496 مرة من الأمهات اللاتي لم يلدن إلا بنين. كما أن الأمهات المتزوجات برجال أميين هن أكثر تفضيلاً للولدان الذكور بعشر مرات من المتزوجات برجال متعلمين. كما أن إنجاب الجنس المفضل سواء كان ذكراً أم أنثى يرتبط بانخفاض الرغبة في المزيد من الأبناء، وبالعزم على المباشرة بين الأحمال، وباستخدام موانع الحمل.

ABSTRACT This study in Egypt, measured the son preference index, its determinants, and impact on reproductive behaviour and intention of 400 mothers attending for delivery. Overall son preference index was 1.4. The causes of sex preference were mainly psychological and social. Mothers with only girls were 496 times more likely to prefer a son as compared to those with boys only. Mothers with illiterate husbands were nearly 10 times more likely to prefer a son than those married to highly educated husbands. Achievement of the desired sex, whether son or daughter, was associated with less desire for more children, intention to prolong pregnancy spacing and intention to use contraceptives.

Déterminants et causes de la préférence pour un enfant mâle chez des parturientes de Mansoura (Égypte)

RÉSUMÉ Cette étude effectuée en Égypte a mesuré l'indice de préférence pour les fils, ses déterminants et son impact sur le comportement et les intentions déclarées en matière de procréation de 400 parturientes. L'étude a révélé un indice de préférence global pour les fils de 1,4. Les causes de la préférence pour un sexe donné sont essentiellement de nature psychologique et sociale. Les mères n'ayant eu jusque là que des filles sont 496 fois plus susceptibles de préférer un fils que celles n'ayant eu que des garçons. Si le mari est analphabète, les mères montrent une tendance 10 fois supérieure à préférer un fils par rapport à celles mariées à un homme présentant un degré d'instruction élevé. L'obtention d'un enfant du sexe désiré, qu'il s'agisse d'un garçon ou d'une fille, a été associée à une réduction du nombre d'enfants souhaité, à une intention d'espacer davantage les grossesses et à une intention de recourir à la contraception.

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Introduction

Since the Cairo International Conference on Population and Development in 1994, and the Beijing Conference on Women and Girl Child in 1995, gender equality has been a priority area of demographic research [1]. Almost all societies have at some time valued sons more than daughters and exhibited son preference or preference for the male child. Even where there is no preference for sons, few cultures actively prefer daughters. Son preference can mean that a female child is disadvantaged from birth [2]. A preference for sons, or for more sons than daughters, has been documented in several countries in the world. Preference for male children is especially prevalent in South Asia, East Asia and North Africa; while in many European and Latin American countries, a balanced sex composition of children is more commonly preferred [3].

Son preference is generally viewed as a socially determined bias; in a patriarchal society, couples prefer to raise a child who has the culturally accepted characteristics, status and economic potential. This preference often influences behaviour and may result in gender biases that negatively affect the welfare, health and survival of girls and women. Thus, preference may lead to discrimination [1]. Although strong preference for sons is often assumed to be a significant barrier to fertility reduction, no consistent association has been observed between the sex composition of children and fertility regulation. For better understanding of son preference, it is important to bear in mind the socioeconomic and cultural settings of the country. As son preference is largely sociocultural, its effect should not be underestimated in traditional poor societies [4].

Prevalence of son preference in itself does not signify more than an attitude according to women a low value. Wherever son

preference is strong, it tends to be accompanied by discriminatory practices against daughters, many of which have serious immediate and/or long-term consequences for their health and well being. Quantitative data on the prevalence of son preference have been obtained by demographers interested in its impact upon fertility level [2].

Sex preference in Egypt has received little attention, possibly because the overall sex ratio at birth is similar to the expected value. In addition, Egypt is in the early stage of fertility decline; hence, sex selective abortion is rare. It must be mentioned here that data dealing with the subject are scanty, which in itself is telling evidence of the lack of awareness of a problem that affects millions of girls.

In Egypt, there is evidence of sex differentials from data collected on health, nutrition, education and socialization with discrimination against girl children and women [5]. An essential prerequisite for action is information that helps identify whether the problem exists in a given country [2]. To the authors' knowledge this study is the first in Egypt to measure the son preference index (SPI), its determinants, causes and its impact on reproductive intention in Mansoura, Egypt.

Methods

This study was carried out in the Department of Obstetrics, Mansoura University Hospital during a 6-month period from 1 March to 31 August 2004. The catchment area includes Mansoura city and the surrounding rural agricultural areas.

To estimate the sample size, the proportion of mothers who preferred sons was assumed to be 50%. So a sample of 400 mothers was appropriate to give a study power of 80%. They were selected through

a systematic random sample (every other case) from attendants for delivery. A total of 823 women attended for delivery during the study period. After their informed verbal consent, mothers were interviewed on admission before they give birth to their babies. Only 21 (2.6%) of target women refused to participate. To cover the 3 working shifts, 3 trained female nurses carried out the interviews. Women were interviewed alone without their husband or any female companions.

Data was collected through a questionnaire covering the sociodemographic characteristics of the mother and her family, previous parity and pregnancy spacing, sex composition of her offspring, wantedness of the current pregnancy, her preferred sex of the expected baby and the reasons for such preference, as well as her reproductive intention. These questions were open-ended, with responses later coded and grouped. The preferred sex intention was obtained by asking women: "At the time you became pregnant did you want the baby at that time to be male or female, or were you indifferent?" The son preference index (SPI) was defined as the ratio of the number of mothers who preferred the next child to be male to the number of mothers who preferred the next child to be female [2]. Socioeconomic status was classified according to Fahmy and El-Sherbini [6].

Analysis

The data were analysed using *SPSS*, version 10. The chi-squared test was used as a test of significance. Significant predictors of high SPI on univariate analysis were entered into multivariate stepwise forward Wald logistic regression analysis. Logistic regression is useful to predict the presence or absence of a dichotomous variable (son preference) based on values of a set of predictor variable. The logistic regression

coefficients were used to estimate odds ratios for each of the independent variables in the model. $P < 0.05$ was considered to be statistically significant.

Results

Only 2.3% of the 400 pregnant women studied did not prefer any sex for their baby. On the other hand 57.0% and 40.8% of them expressed a preference for a son and daughter, respectively. Thus, the overall SPI was $228/163 = 1.4$ (Table 1).

The commonest reasons for son or daughter preference were psychological (mainly all siblings are of the other sex) and social (help in household tasks, lower risk of divorce and old age care/support). The economic causes were limited to son preference (help in or inherit family business/land and contribution to family income) (Table 2).

Table 3 shows that SPI was significantly higher among mothers from rural areas, married to illiterate husbands and working as farmers, who belonged to low or very low socioeconomic status and those having only girl offspring.

By logistic regression analysis only sex of previous offspring and husband's education were strong predictors of son preference (Table 4). Mothers with only girls were about 496 times more likely to prefer

Table 1 Reported sex preference of baby for 400 expectant mothers in Mansoura, Egypt

Sex preferred	No. of mothers	%
Any sex (no preference/God's will)	9	2.3
Son	228	57.0
Daughter	163	40.8

Table 2 Reported reasons for sex preference among expectant mothers who expressed a preference

Reasons ^a	Preferred sex			
	Son (n = 228)		Daughter (n = 163)	
	No.	%	No.	%
Psychological				
Companionship	15	6.6	32	19.6
Love females	0	0	63	38.7
All sibling are boys	0	0	89	54.6
All sibling are girls	126	55.3	56	34.4
Easy to raise	3	1.3	0	0
Power/status to the family	113	49.6	0	0
Economic				
Contribute to family income	76	33.3	0	0
Inherit family business/land	86	37.7	0	0
Help family in business/land	103	45.2	0	0
Social				
Old age care/support	49	21.5	19	11.7
Continue family name	33	14.5	0	0
Decrease risk of divorce	97	42.5	0	0
Help in household tasks	0	0	79	48.5

^aFigures are not additive.

a son when compared to those having boys only. Also mothers married to illiterate husbands were about 10 times more likely to prefer a son compared with those married to highly educated husbands.

Table 5 shows that the percentage of women who wanted the pregnancy was significantly higher among mothers who preferred sons (91.7% versus 84.7%). Also son preference was associated with short pre-pregnancy spacing (< 3 years) than daughter preference (79.6% versus 60.8%). Achieving the desired sex, whether son or daughter, was associated with less desire for more children, intention to prolong pregnancy spacing and intention to use family planning methods.

Discussion

Son preference is a well-known phenomenon in many low-income countries where

the status of women is low. Son preference is commonly believed to be widespread in many developing countries, particularly where women are economically and socially dependent on men [7,8]. In the Arab world, "Abu Banaat" (father of daughters) is an insult to a man in Arabic, representing just one of the countless ways in which Middle Eastern women learn how little they are valued [9].

In this study 57.0% and 40.8% of mothers preferred the next child to be male and female, respectively. Thus, the SPI was 1.4. This index is moderate relative to other countries. In world fertility surveys, asking about the preferred sex of the next child, the countries with the strongest son preference were Bangladesh, Pakistan, Jordan, Korea, Nepal and Syrian Arab Republic (SPI ranging from 4.9 to 1.9). Egypt, Sudan, Tunisia, Yemen and Morocco were among countries with moderate son preference (SPI ranging

Table 3 Determinants of the son preference index (SPI) among mothers who expressed a preference

Determinant	Sex preferred				SPI	Significance		OR (95% CI)
	Son		Daughter			χ^2 -value	P-value	
	No.	%	No.	%				
Residence								
Rural	140	68.3	65	31.7	2.2	17.7	0.000	2.4 (1.6–3.7)
Urban	88	47.3	98	52.7	0.9			1 ^a
Mother's age (years)								
< 25	66	57.4	49	42.6	1.3	0.15	0.93	1.01 (0.5–1.9)
25–	122	59.2	84	40.8	1.5			1.1 (0.6–1.95)
35+	40	57.1	30	42.9	1.3			1 ^a
Mother's education								
Illiterate	40	69.0	18	31.0	2.2	4.4	0.22	1.8 (0.8–3.8)
Up to secondary	33	63.5	19	36.5	1.7			1.4 (0.6–3.0)
Secondary	112	54.9	92	45.1	1.2			0.96 (0.6–1.7)
Above secondary	43	55.8	34	44.2	1.3			1 ^a
Mother's work								
Housewife	99	63.9	56	36.1	1.8	3.3	0.07	1.5 (1.0–2.3)
Working	129	54.7	107	45.3	1.2			1 ^a
Husband's education								
Illiterate	51	82.3	11	17.7	4.6	30.0	0.000	5.7 (2.4–13.7)
Up to secondary	49	72.1	19	27.9	2.6			3.2 (1.5–6.8)
Secondary	94	50.8	91	49.2	1.0			1.3 (0.7–2.3)
Above secondary	34	44.7	42	55.3	0.8			1 ^a
Husband's occupation								
Farmers	28	73.7	10	26.3	2.8	18.1	0.000	3.2 (1.4–7.5)
Manual worker	54	60.0	36	40.0	1.5			1.7 (1.0–3.0)
Others	68	70.1	29	29.9	2.3			2.7 (1.5–4.7)
Professional/semi-professional	78	47.0	88	53.0	0.9			1 ^a
Socioeconomic status								
High	53	40.2	79	59.8	0.7	28.1	0.000	0.3 (0.2–0.5)
Middle	81	64.3	45	35.7	1.8			0.8 (0.4–1.3)
Low/very low	94	70.7	39	29.3	2.4			1 ^a
Offspring's sex								
Girls only	126	97.7	3	2.3	42.0	178.5	0.000	378 (91.5–1830.2)
No offspring	19	59.4	13	40.6	1.5			13.6 (4.6–39.0)
Both sexes	73	56.2	57	43.8	1.3			11.5 (5.2–26.0)
Boys only	10	10.0	90	90.0	0.1			1 ^a
Previous parity								
0	14	58.3	10	41.7	1.4	1.4	0.51	0.8 (0.3–2.2)
1–3	146	56.4	113	43.6	1.3			0.8 (0.5–1.2)
4+	68	63.0	40	37.0	1.7			1 ^a

OR = odds ratio, CI = confidence interval.

^aReference group.

Table 4 Logistic regression analysis of significant predictors of son preference

Item	Value		
Variables	β	P	OR (95% CI)
Offspring's sex			
Girls only	6.2	0.000	496.2 (124.5–1978.0)
No offspring	2.7	0.000	15.0 (5.1–44.5)
Both sexes	2.5	0.000	12.5 (5.6–27.9)
Boys only	–	–	1 ^a
Husband's education			
Illiterate	2.7	0.007	9.7 (1.9–50.8)
Up to secondary	1.3	0.094	3.8 (0.8–18.2)
Secondary	0.3	0.53	1.4 (0.51–3.7)
Above secondary	–	–	1 ^a
Statistics			
Constant		–2.9	
Log likelihood		274.3	
Model		$\chi^2 = 256.9, P = 0.000$	
Number		391	

OR = odds ratio, CI = confidence interval.

^aReference group.

This model predicts 85.4% of variation in son preference.

from 1.5 to 1.2). Equal preference was reported from Indonesia, Kenya and South American countries. On the other hand, daughter preference (SPI less than 1) was reported from Venezuela and Jamaica [2]. Another study in Pakistan found that sons were preferred to daughters by nearly 10 to 1 [10].

Sons are generally preferred over daughters due to a complex interplay of economic and sociocultural factors. In this study the main causes of son preference were the female sex of all siblings, followed by economic and social causes. On the other hand, the main causes of daughter preference were psychological and social with no economic causes at all. In Bangladesh the birth of a daughter is seen as bringing neither benefit nor prestige to the family. Daughters are often considered as an economic liability

because of the high cost of weddings. Once married, daughters become physically as well as psychologically isolated from their birth home and are seldom seen as making a significant contribution to their birth family [11]. Parents view male and female children as having different roles and obligations towards them, in keeping with existing cultural norms and this in turn reinforces their preference for the male child [12].

Although the common preference is for sons, there is evidence that parents may prefer to complete their family with a daughter. Thus, rather than an exclusive son preference, couples strive for one or more sons and at least one surviving daughter [10,13]. It is argued that children of a particular sex are often desired to provide certain utilities, such as financial, social or psychological benefits. In developing countries, for exam-

Table 5 Some aspects of reproductive behaviour and intention of studied mothers

Item	Sex preference			
	Son		Daughter	
	No.	%	No.	%
Pregnancy wanted	209	91.7	138	84.7
		$\chi^2 = 4.7, P = 0.03$		
Pregnancy timely	218	95.6	154	94.5
		$\chi^2 = 0.3, P = 0.6$		
Previous pre-pregnancy space (years) ^a				
< 3	168	79.6	96	60.8
3+	43	20.4	62	39.2
		$\chi^2 = 15.8, P = 0.000$		
Need more children				
If desired sex achieved	86	37.8	21	12.9
If desired sex not achieved	123	54.0	62	38.0
		$\chi^2 = 12.1, P = 0.000$		$\chi^2 = 27.2, P = 0.000$
Future pregnancy spacing of 3 years or more				
If desired sex achieved	193	84.6	149	91.4
If desired sex not achieved	140	61.4	121	74.2
		$\chi^2 = 31.3, P = 0.000$		$\chi^2 = 16.9, P = 0.000$
Future use of family planning				
If desired sex achieved	197	86.4	146	89.6
If desired sex not achieved	159	69.7	117	71.8
		$\chi^2 = 18.5, P = 0.000$		$\chi^2 = 16.6, P = 0.000$

^aPrimigravidas were excluded.

ple, sons are presumed to have greater economic net utility than daughters, since male offspring are able to provide assistance in agriculture and to serve as a form of social security. In patrilineal society sons are also valued for continuing the family name. Daughters, on the other hand, are considered more reliable in providing assistance in old age. In addition, they are frequently desired to help with household tasks or to care for young siblings [14,15].

As a society develops, boy preference, if present, should decline and girls should be treated increasingly with more equal-

ity. However, Brockman [16] showed that modernization does not necessarily neutralize gender preference. The same economic, social and emotional causes of son preference were reported in different proportions in many studies and from different cultures [1,9,10,12,17-22]. On the other hand, some social and psychological factors favouring girls were reported in other studies [14,15,17,23]. Since in industrialized societies children no longer provide economic net utility, but rather become a source of significant time and monetary costs, they are likely to be valued more for social and

psychological reasons. In Germany, there is a clear tendency of childless respondents to have no gender preference at all or to favour a sex mix. Couples with children prefer a specific sex with regard for the sex of the previous children [24].

Although this study was carried out in an Islamic country, no religious causes for sex preference were reported. Thus the reported strong preference for sons is based on cultural norms and values. Actually Islam provides girls and women with equal rights with men. They have the right of ownership and inheritance. However, a cultural image of the female as a weaker sex exists. Women may be totally denied the right to inherit property, or more commonly, given a much smaller share than they are legally entitled. Such a situation is commonly observed in rural areas, where wealth is concentrated in land ownership. Wealthy families fear the loss of their heritage and believe that maintaining the property along the male line is economically and culturally justified [25].

In the present study the bivariate analysis revealed that son preference was significantly greater among mothers of rural residence, whose husbands were of low education or working as farmers, belonging to families of low socioeconomic status and families with only girls. However, on logistic regression, only the offspring's sex and husband's education were predictors of son preference. Similar findings were reported in other studies [3,4,24-27].

Reproductive intention and behaviour in many developing countries are strongly influenced by the sex of the offspring [20,28-31]. This is evident in our study. The previous birth interval was shorter among women preferring sons. Moreover, failure to achieve the desired sex is associated with the need for more children, short pregnancy spacing and low intention to use contraceptives in the future.

Arnold [30] reported that the stated desire by mothers to continue reproducing if they did not have at least one son and one daughter is now the most common preference by parents from a large sample of developing countries. Parents who prefer sons to daughters may be reluctant to stop childbearing until their desired number of sons has been achieved [4]. It was found that birth intervals after the birth of a boy were significantly longer than after the birth of a girl. Furthermore, the birth intervals for women with no sons were shorter than those with at least one son [32].

Rahman and Da Vanzo [33] have argued that if couples desire to have one or more sons then they might have larger families than would otherwise be the case, which could create a significant barrier to future fertility decline. In an Egyptian population it was found that the number of sons a woman had in her first 2 births was a very significant predictor of whether or not that women would use contraception [34].

Little is known about whether son preference simply reflects embedded cultural norms or whether there is potential for it to be eroded by modernization. This also leaves us in the dark as to whether or not public policies will be effective in countering son preference. Nonetheless, efforts are needed to decrease gender inequality as well as to increase the status of women, which potentially could help to decrease further the country's fertility rate. Although the elimination of under-valuation of daughters implies long-term and protracted action to change entrenched attitudes and values, it is essential to initiate short-term measures to prevent and compensate for the health consequences that result from it.

An initial first step is to create awareness among health, religious and social workers as well as the public of the risks run by female children in societies where discrimi-

nation exists. Long-term measures would include removal of the causes of son preference as well as enactment and implementation of legislation against discrimination on the grounds of sex.

We cannot generalize the results of this small-scale hospital based-study to the rest of Mansoura or to the rest of Egypt. There is a need for both quantitative and qualitative national community-based research to

reveal the regional variation in son preference and explore its deeply rooted causes and impact of sex preference on fertility. Repetition of such research is essential to monitor secular changes in son preference. The human costs involved make the elimination of son preference, especially when accompanied with discriminatory practices against women, one of the priority areas for research and policy action.

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