

Knowledge and Attitude of Parents toward Their Son's Circumcision at King Saud Hospital in Unaizah City: Cross-Sectional Study

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ABSTRACT

Introduction: The male circumcision is a vastly applied surgery around the world with 37-39% of men being circumcised. Surgically it comprises of the removal of part or the entire foreskin (prepuce) from the penis. Complication related to circumcision was found to be minimal especially if it was done in neonatal/infancy period compared to older children.

Aim: To assess the knowledge and attitude of parents regarding male circumcision and to determine the purpose of circumcision-related to the religious or medical background.

Method: A cross-sectional study conducted in the King Saud Hospital using a validated self-administered questionnaire.

Results: A total number of respondents included in the current study was 321. Among them, 191 (59.5%) was female. Almost all the parents (99.4%) thought of circumcision of their son(s) and 314 (97.8%) thought it was an absolute necessity. All the circumcision knowledge related questions were compared with the monthly family income. This study has identified statistically significant number of respondents from comparatively low family income family thought their son might be ridiculed by peers with the appearance of the phallus if uncircumcised ($p < .001$), son may be ridiculed by peers if he remains uncircumcised ($p < .001$) and anesthesia is unnecessary in

neonatal circumcision because neonates do not feel pain ($p < .031$). Responses to all other circumcision knowledge related questions were statically similar across the salary range.

Conclusion: This study indicates that most of parents did not think circumcision to be an unnecessary procedure and more than half of parents believed anesthesia is not necessary for neonatal circumcision because newborns do not feel pain.

Keywords: Knowledge; Attitude; Son's Circumcision.

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INTRODUCTION

Male circumcision is a vastly applied surgery around the world with 37-39% of men being circumcised.¹ Surgically it comprises of the removal of part or the entire foreskin (prepuce) from the penis.¹ It is exercised in many countries as part of religious or cultural act yet in some countries it is gaining popularity for its health benefits such as reducing the risk of acquiring UTIs and HIV/AIDS.²

The American Academy of Pediatrics (AAP) released many recommendations concerning circumcision and one of the recommendations is that "parents are entitled to factually correct, non-biased information about circumcision that should be provided before conception and early in pregnancy, when parents are most likely to be weighing the option of circumcision of a male child".² Complication related to circumcision was found to be minimal especially if it was done in neonatal/infancy period compared to

older children. Generally, severe complications were seen with inexperienced providers and in an inadequately equip non-sterile setting.³

Parental education and views play a significant role in the decision making. In a study based in Korea, it was found that mothers, highly educated parents and parents with high socioeconomic status were more likely to agree ($P=0.001$). In the same study, 36.2% thought that circumcision is necessary and 55.1% thought it is probably necessary with 82.4% to think that it should be done for better penile hygiene.⁴

To conclude, for a procedure that is considered one of the most common pediatric surgeries in the world more research can be done on the subject. Our objective in this study is to determine the knowledge and attitudes of parents toward Circumcision as well as to determine their reasons behind acquiring circumcision.

METHODOLOGY

A cross-sectional study was conducted among 321 parents seen on an out-patients clinic at King Saud Hospital in Unaizah city, AL-Qassim region, Kingdom of Saudi Arabia. Before data collection, an IRB approval has been obtained from the IRB committee at Al-Qassim University. Informed consent has been secured before participant's enrollment in the study. The identity of the participants has been kept anonymous and confidential. The study was conducted from July 10, 2018, into July 22, 2018, among all parents presenting on waiting area on an out-patients clinic at King Saud Hospital. The sample size for the study was 322 participants. It has been calculated by a suitable technique. 95% confidence interval with 5% maximum error and 30% worldwide estimated prevalence of Male circumcision have been used on calculation. The inclusion criteria were done based on any parents having at least one son. A questionnaire has been valid and reliable on English version in a previously published study. Consequently, we distributed a hard and soft copy of the questionnaire with the help of medical students to translate and clarify each question to the parents. One of the parents completed the questionnaire. A used questionnaire was comprised into two sections. The first section was socio-demographic details of both parents and their sons including gender, age, level of the education, religion, whether your son underwent the circumcision and the age at which your son underwent circumcision. The

second section included questions related to the knowledge and attitude of parents about Circumcision. Necessity and reason for Circumcision have been asked as well. If parents have not believed in need of Circumcision, they have been requested to clarify a reason. Also, the parents have been asked for their opinions about the best time for circumcision. The questions have been presented on multiple choice styles and yes / no style. For analysis, Categorical variables were presented as frequencies and percentages. Continuous variables were presented as mean \pm SD. The relationship between salary and circumcision-related questions were compared by independent samples t-test (for dichotomous variables) and one-way ANOVA (for variables with more than two attributes). The analysis was performed in 95% confidence interval using the Statistical Package for Social Science (SPSS), version 24 (IBM, Armonk, NY, USA). A p value of less than 0.05 was considered statistically significant.

Statistical Analysis

Categorical variables were presented as frequencies and percentages. Continuous variables were presented as mean \pm SD. The relationship between salary and circumcision-related questions were compared by independent samples t-test (for dichotomous variables) and one-way ANOVA (for variables with more than two attributes). The analysis was performed in 95% confidence interval using the Statistical Package for Social Science (SPSS), version 24 (IBM, Armonk, NY, USA).

Table 1: Baseline characteristics of the respondents (n = 321)

Characteristics		N (%)
Gender of the responder	Male	130 (40.5)
	Female	191 (59.5)
Age of the responder (in years)	20-35	76 (23.7)
	36-45	115 (35.8)
	≥ 46	130 (40.5)
		3.27 \pm 1.73
Number of children (mean \pm SD)		
Age of sons (mean \pm SD)	First son	18.50 \pm 12.91
	Second Son	16.97 \pm 11.11
	Third son	16.22 \pm 9.91
Sons underwent circumcision	First son (n = 321)	316 (98.4)
	Second son (n = 240)	237 (98.8)
	Third son (n = 154)	151 (98.1)
Age at which the first son underwent circumcision (n = 316)	Immediately after birth – 1 month	183 (57.0)
	Two months – 6 months	16 (5.0)
	Seven months – 18 months	117 (36.4)
	Two years or more	5 (1.6)
Age at which the second son underwent circumcision (n = 240)	Immediately after birth – 1 month	140 (43.6)
	Two months – 6 months	15 (4.7)
	Seven months – 18 months	80 (24.9)
	Two years or more	5 (1.6)
Age at which the third son underwent circumcision (n = 154)	Immediately after birth – 1 month	93 (60.4)
	Two months – 6 months	5 (1.6)
	Seven months – 18 months	52 (16.2)
	Two years or more	4 (1.2)
Q9. What is your level of education?	No education	30 (9.3)
	Elementary school	45 (14.0)
	Middle school	35 (10.9)
	High school	71 (22.2)
	College or University	140 (43.6)
Monthly family income		4788 \pm 9399
Religion	Muslim	318 (99.1)
	Other	3 (0.9)
Location	Unaizah	269 (83.8)
	Buraydah	15 (4.7)
	Al-Badayaa	12 (3.7)
	Riyadh	6 (1.9)
	Other	19 (5.9)

Table 2: Answers to the circumcision knowledge related questions (n = 321)

Questions	Responses	N (%)
Q1. Have you ever thought of the circumcision of your son(s)?	Yes	319 (99.4)
	No	2 (0.6)
Q2. Do you think circumcision is necessary for your son(s)?	Necessary	314 (97.8)
	May be necessary	5 (1.6)
	I do not know	0 (0.0)
	May not be necessary	2 (0.6)
	Unnecessary	0 (0.0)
Q3-1. Do you have any particular reason for viewing circumcision to be necessary?	Yes	317 (98.8)
	No	4 (1.2)
Q3-2. What is the main reason for circumcision?	Better penile hygiene	29 (9.0)
	To help improve sexual function as an adult	1 (0.3)
	Good appearance (cosmetic reason)	0 (0.0)
	Look like his peers (peer pressure)	2 (0.6)
	Religious reasons	286 (89.1)
	Others	3 (0.9)
Q3-3. When do you think it is the best time to have your son circumcised?	Immediately after birth	317 (98.8)
	Pre-school period	2 (0.6)
	Early elementary school period	1 (0.3)
	Late elementary school period	0 (0.0)
	Middle school period	0 (0.0)
	High school period	0 (0.0)
	Just before military recruitment	0 (0.0)
	During military service	0 (0.0)
	Just before marriage	0 (0.0)
	Middle age	0 (0.0)
	Old age	1 (0.3)
	I have never given a thought.	0 (0.0)
	Q4. If you think circumcision is unnecessary, what is the main reason?	Because I do not know the exact medical benefits.
Because I am anxious about postoperative complications.		1 (0.3)
Because the peers may ridicule the appearance of the circumcised phallus.		0 (0.0)
Because it may spontaneously be retracted with time.		0 (0.0)
Others		0 (0.0)
Q5. Agrees the statements	The white material under the uncircumcised preputial skin is an unhealthy material infected by microorganisms.	292 (91.0)
	Circumcision may help prevent penile cancer.	220 (68.5)
	Circumcision may help prevent bladder or kidney infection.	240 (74.8)
	Circumcision may help prevent cervix cancer of the sexual partner.	206 (64.2)
	Circumcision may help prevent genital tract infection of the sexual partner.	246 (76.6)
	My son has experienced inflammation, redness, and pain of the penile prepuce when uncircumcised.	78 (24.3)
	Others	0 (0.0)
Q6. Have you ever had your newborn son circumcised within the first month?	Yes	262 (81.6)
	No	59 (18.4)
Q7. What was your primary reason for disagreeing with neonatal circumcision?	The appearance of the circumcised phallus may ridicule my son.	1 (0.3)
	It may be risky because the penis of a newborn is too small to circumcise.	3 (0.9)
	It looks terrible when done too early.	2 (0.6)
	Even a newborn may feel the pain from circumcision.	0 (0.0)
	I have heard from others that there are many complications.	0 (0.0)
	Others	0 (0.0)
Q8. Agrees with the statements	My son may be ridiculed by peers with the appearance of the circumcised phallus if uncircumcised.	213 (66.4)
	Peers may ridicule my son if he remains uncircumcised.	193 (60.1)
	Anesthesia is unnecessary in neonatal circumcision because neonates do not feel pain.	178 (55.5)
	Circumcision improves male sexual potency in adulthood.	230 (71.7)
	Circumcision effectively prevents premature ejaculation by decreasing penile sensitivity.	141 (43.9)
	Circumcision facilitates penile growth.	216 (67.3)
	Circumcision strengthens the urinary stream.	237 (73.8)
	Others	0 (0.0)

RESULTS

A total number of respondents included in the current study was 321. Among them, 191 (59.5%) was female. Age of the respondents was as follows – 23.7% were between 20-35 years old, 35.8% were between 36-45 years old, and 40.5% were 46 years or older. The mean number of children per parent was 3.27 ± 1.73. The mean age of first son, second son and third son were

18.50 ± 12.91 years, 16.97 ± 11.11 years and 16.22 ± 9.91 years respectively. Most of the sons (57.0% first son, 43.6% second son and 60.4% third son) underwent circumcision immediately after birth to 1 month of age. The monthly family income of the respondents was 4788 ± 9399 SR. The clear majority was Muslim (99.1%) and from Unaizah (83.8%). [Table 1]

Table 3: Relationship between salary and answers to the circumcision-related question (n = 321)

Questions	Responses	F	p-value
Q1. Have you ever thought of the circumcision of your son(s)?	Yes	1.195	0.471
	No		
Q2. Do you think circumcision is necessary for your son(s)?	Necessary	0.302	.740
	May be necessary		
	I do not know		
	May not be necessary		
	Absolutely unnecessary		
Q3-1. Do you have any particular reason for viewing circumcision to be necessary?	Yes	2.307	.346
	No		
Q3-2. What is the main reason for circumcision?	Better penile hygiene	0.260	.904
	To help improve sexual function as an adult		
	Good appearance (cosmetic reason)		
	Look like his peers (peer pressure)		
	Religious reasons		
	Others		
Q3-3. When do you think it is the best time to have your son circumcised?	Immediately after birth	0.129	.879
	Pre-school period		
	Early elementary school period		
	Late elementary school period		
	Middle school period		
	High school period		
	Just before military recruitment		
	During military service		
	Just before marriage		
	Middle age		
	Old age		
	I have never given a thought.		
Q4. If you think circumcision is unnecessary, what is the main reason?	Because I do not know the exact medical benefits.	-	-
	Because I am anxious about postoperative complications.		
	Because the peers may ridicule the appearance of the circumcised phallus.		
	Because it may spontaneously be retracted with time.		
	Others		
Q5. Agrees the statements	The white material under the uncircumcised preputial skin is an unhealthy material infected by microorganisms.	0.139	0.710
	Circumcision may help prevent penile cancer.	0.794	0.594
	Circumcision may help prevent bladder or kidney infection.	2.202	0.008
	Circumcision may help prevent cervix cancer of the sexual partner.	0.845	0.052
	Circumcision may help prevent genital tract infection of the sexual partner.	0.328	0.050
	My son has experienced inflammation, redness, and pain of the penile prepuce when uncircumcised.	0.016	0.964
Q6. Have you ever had your newborn son circumcised within the first month?	Yes	0.362	0.628
	No		
Q7. What was your primary reason for disagreeing with neonatal circumcision?	The appearance of the circumcised phallus may ridicule my son.	0.789	0.440
	It may be risky because the penis of a newborn is too small to circumcise.		
	It looks terrible when done too early.		
	Even a newborn may feel the pain from circumcision.		
	I have heard from others that there are many complications.		
Q8. Agrees with the statements	Others		
	My son may be ridiculed by peers with the appearance of the circumcised phallus if uncircumcised.	11.796	0.001
	Peers may ridicule my son if he remains uncircumcised.	7.794	<.001
	Anesthesia is unnecessary in neonatal circumcision because neonates do not feel pain.	6.171	0.031
	Circumcision improves male sexual potency in adulthood.	1.996	0.162
	Circumcision effectively prevents premature ejaculation by decreasing penile sensitivity.	0.011	0.369
	Circumcision facilitates penile growth.	0.020	.058
	Circumcision strengthens the urinary stream.	0.007	0.033

Almost all the parents (99.4%) thought of circumcision of their son(s) and 314 (97.8%) thought it was an absolute necessity. Most of them (98.8%) also had a particular reason for viewing circumcision as necessary. That particular reason was 'religious reasons' for (89.1%) followed by 'better penile hygiene' (9.0%). Almost all thought (98.8%) the best time to have their son circumcised is immediately after birth. Only two parents (0.6%) thought circumcision as an unnecessary procedure; one of them thought it because of unknown medical benefits and the other one thought this was because of being anxious about the postoperative complications. When given a statement – the white material under the uncircumcised preputial skin is an unhealthy material infected by microorganisms, 91.0% agreed to it. About 24% of parents had a son(s) who experiences inflammation, redness, and pain of penile prepuce when uncircumcised. 81.6% newborn son underwent circumcision. Three (0.9%) respondents thought that the newborn's penis is too small to circumcise without risk. More than two-thirds (66.4%) of the parents thought their son might be ridiculed by the peers with the appearance of phallus if uncircumcised. Interestingly, 55.5% of parents believed anesthesia is not necessary for neonatal circumcision because newborns do not feel pain. Other circumcision knowledge related questions and responses were given in. [Table 2]

When all the circumcision knowledge related questions were compared with the monthly family income this study has identified statistically significant number of respondents from comparatively low family income family thought their son might be ridiculed by peers with the appearance of the phallus if uncircumcised ($p < .001$), son may be ridiculed by peers if he remains uncircumcised ($p < .001$) and anesthesia is unnecessary in neonatal circumcision because neonates do not feel pain ($p .031$). Responses to all other circumcision knowledge related questions were statically similar across the salary range. [Table 3]

DISCUSSION

As it was previously mentioned male circumcision is a standard procedure around the world as well as in Saudi Arabia. Concurrently the results of our study in Qassim displays that; with a 98.4% of parents having their first child circumcised. With such prevalence we were intrigued to know parents knowledge concerning circumcision and if there were any misconceptions.

Approximately two-thirds of circumcised males around the world are Muslim. However, non-religious circumcision is on the rise due to its perceived preventive benefits. The majority of our sample population is Muslim (99.1%) hence 89.1% said they circumcised their sons due to religious reasons. Contradictory, it was highlighted in a report in some studies that religion is less important with the following results (11%, 12.1%, 13%, and 19%) respectively.⁵

Parents vastly (97.8%) thought it was an absolute necessity to circumcise their sons compared to 36.2% in a study conducted in Korea.⁵

Moreover, almost all thought (98.8%) the best time to have their son circumcised is immediately after birth. Which was shown by a systematic review that complications were less when done at infancy/neonatal period with a median frequency of adverse events of 1.5% and median frequency of severe adverse event was 0%.⁷ Of our 321 participants, only two (0.6%) thought circumcision to be an unnecessary procedure; one of them

thought that because of unknown medical benefits and the other one thought this was because of being anxious about the postoperative complications.

Interestingly, 55.5% of parents believed anesthesia is not necessary for neonatal circumcision because newborns do not feel pain. When given a statement – the white material under the uncircumcised preputial skin is an unhealthy material infected by microorganisms, 91.0% agreed to it. About 24% of parents had a son(s) who experiences inflammation, redness, and pain of penile prepuce when uncircumcised.

It seems that socioeconomic status is significantly correlated with parents perception of social acceptance. Family with low thought their son might be ridiculed by peers with the appearance of the phallus if uncircumcised ($p .001$) and may be ridiculed by peers if remains uncircumcised ($p < .001$). Compared to another study where 41.9% of parents also anxious of the child to be ridiculed by peers if uncircumcised, while 27.4% of parents thought that their child might ridicule if circumcised.⁶

Additionally, Parents with low income also believed that anesthesia is unnecessary in neonatal circumcision because neonates do not feel pain ($p .031$) while in the previously mentioned KAP study showed that parents with high socioeconomic status were more inclined to stress penile hygiene rather than sexuality ($P < 0.05$).⁶

CONCLUSION

This study indicates that most of parents did not think circumcision to be an unnecessary procedure and more than half of parents parents believed anesthesia is not necessary for neonatal circumcision because newborns do not feel pain. Family with low thought their son might be ridiculed by peers with the appearance of the phallus if uncircumcised. Regardless, our result point to the need for educating the population about the medical benefits of male circumcision, to increase parents' knowledge and the positive outcomes.

RECOMMENDATIONS

- Parents should educate regarding the benefit and disadvantage of circumcision. Demonstration to the parents about the ongoing system regarding circumcision in our country.
- We think the presence of many campaign and educational program in the hospital that will explain the importance of anesthesia, analgesic, and preparation psychologically to the child if they circumscribed at an older age.

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