



Adolescents' opinions and thoughts about consanguineous marriages: A Turkey sample

Funda Özpulat¹
Esma Kabasakal²
Melike Taşdelen Baş³

Abstract: Family is the core of social life. Consanguineous marriage means the blood relation between spouses, in other words cognation. Consanguineous marriage is a comprehensive phrase and socio-economic reasons lie behind consanguineous marriages. Consanguineous marriages are observed more commonly in societies having a closed economy and societies living a nomadic life.

Objectives: It is aimed to find out adolescents' thoughts and opinions with regard to consanguineous marriages.

Methods: This study, conducted between dates of March 12th, 2015 – February 15th 2016, is a cross sectional descriptive type. Research was conducted as a two-centre study in Konya and Ankara with 2073 students.

Findings: The percentage of adolescents' whose parents made consanguineous marriage is 12,1%. The rate of students who have consanguineous marriage among their relatives is 50,8%. Demand of family is mainly pointed (56,3%) out as the reason of consanguineous marriage.

Conclusion: When dominant attitude of families on marriages are considered, it is suggested to include parents while holding public health education programs. When it is considered that adolescents access necessary information through school classes, it is of importance for the Ministry of National Education to display more sensitivity on this matter.

Keywords: Consanguineous marriage; high school students; adolescent.

Introduction

Family is the core of social life. Creation of this core happens with the marriage phenomenon. Types of marriage that creates the umbrella of family differs basing on standards of judgment, social and economic structure and life-styles in countryside and cities (1,2). Consanguineous marriage means the blood relation between spouses, in other words cognation. Relatives with blood relation carry more common genes compared to the common gene percentage in society in general (3). Consanguineous marriages take an important place in maintaining patriarchal family structure and traditional understanding; in general, consanguineous marriages are defined in two categories as; first degree consanguineous marriage of a couple whose either mothers or fathers are siblings and second degree consanguineous marriage of a couple whose either grandmothers or grandfathers are siblings (4, 5, 6).

While first degree significant health problems arise in marriages between children of siblings, second degree health problems occur in marriages between grandchildren of siblings (7). One million of world population prefers consanguineous marriage (8, 9, 10). These marriages are traditional and honourable in many regions of North Africa, Middle East and West Asia and 20% to 50% of all marriages in these societies are consisted of consanguineous marriages (9, 11, 12, 13).

¹ Ph.D., Selçuk University, Public Health Nursing Department, funda_ozpulat@hotmail.com

² Corresponding author: Res. Asst., Hacettepe University, Public Health Nursing Department, esm.akf@gmail.com

³ Ph.D. Candidate, Selçuk University, Pediatric Health and Disease Nursing, meliket@gmail.com

In terms of the data in Turkey; while the rate of consanguineous marriages in countryside is confirmed as 24.60%, this rate is 18.80% in cities; and according to the same data of the year, the rate of consanguineous marriages among the youth is 21,2 and first degree consanguineous marriages rate among the ones who made consanguineous marriage is 51,9% . In some other studies in Turkey, it is observed that the rate of consanguineous marriages ranges from 11,5% to 49,6% and these rates are lower in western regions while they are higher in east and southeast regions (5, 14, 15, 16, 17, 18, 19).

Consanguineous marriage is a comprehensive phrase and socio-economic reasons lie behind consanguineous marriages. Consanguineous marriages are observed more commonly in societies having a closed economy and societies living a nomadic life (7). The concept of consanguineous marriage turned into a more attraction-drawing topic in public agenda along with progressions in science works (20). Due to the fact that they are encountered frequently and have possible negative outcomes, consanguineous marriages maintain being a significant problem in terms of genetic consultancy not only in our country but in other countries with poor socio-economic conditions (21). In order to maintain necessary health service works in our society efficiently, the youth and their families should be educated pertaining to possible health problems of consanguineous marriage; if consanguineous marriage already took place, these individuals should be guided to health institutions for genetic consultancy service. At the end, adolescents' perspective towards consanguineous marriage should be learned and their awareness should be increased in line with requirements. This study is required in order to create the data source which is necessary for all these studies and to contribute in literature. This study is conducted so as to find out high school students' thoughts and opinions with regard to consanguineous marriages.

Method

This study, conducted between dates of March 12th, 2015 – February 15th 2016, is a descriptive type of study which is planned with the intent of determining high school students' thoughts and opinions concerning consanguineous marriages. Research was conducted as a two-centre study in Akşehir District of Konya and Yenimahalle district of Ankara. Students of 4 high schools in central regions of Akşehir District form population of research. The number of participants who volunteered in the study is 1116. 3 high schools in Yenimahalle district of Ankara generate Ankara population of research. The number of volunteer participants of the research from these 3 high schools is 957. Total number of participant students in the research is 2073. Acquired data are evaluated using SPSS 17.0 program. The data are evaluated in percentages and numbers and also chi square calculation is used. Questionnaire from used in data acquisition is consisted of 2 sections.

Socio-Demographic Characteristics of Student: There are 12 questions in the first section of questionnaire aimed at questioning grade of student, profession of student's parents, educational status of parents, income status of parents, family type, social insurance of family and their residential location.

Ideas and Opinions Concerning Consanguineous Marriages: There are 9 questions in second part of questionnaire aimed at questioning whether there is consanguineous marriage in students' family or relatives, whether there is a health problem as a result of consanguineous marriage, their information resources regarding consanguineous marriage and questioning their opinions in regard to consanguineous marriage and effects of consanguineous marriages on health.

Ethical Permission

The study is planned to be conducted as a two-centre study. Written permissions are received from Konya and Ankara Provincial Directorates for National Education; verbal consents of volunteer participant students and principles of high schools, where the research would be applied, are received.

FINDINGS

Table 1. Socio demographic features

City	n	%	Gender	n	%
Akşehir	1116	53,8	Female	1033	49,8
Ankara	957	46,2	Male	1040	50,2
High School			Grade		
Commercial High School	404	19,5	9 th Grade	815	39,3
Science High School	344	16,6	10 th Grade	491	23,7
Industrial Vocational High School	161	7,8	11 th Grade	522	25,2
Girls' Vocational School	207	10,0	12 th Grade	245	11,8
Anatolian High School	957	46,1			
Educational Status of Father			Educational Status of Mother		
Primary School	484	23,3	Primary School	810	39,1
Secondary School	311	15,1	Secondary School	370	17,8
High School	589	28,4	High School	491	23,7
University	689	33,2	University	402	19,4
Father's Occupation			Mother's Occupation		
Unemployed	86	4,0	Housewife	1520	73,3
Civil Servant	360	17,4	Civil Servant	288	13,9
Self-Employment	907	43,8	Self-Employment	79	3,8
Labourer	395	19,1	Labourer	50	2,4
Other	325	15,7	Other	136	6,6
Family Type			Income Status of Family		
Elementary Family	1751	84,5	Good	672	32,4
Large Family	236	11,4	Medium	1296	62,5
Fragmented Family	86	4,1	Poor	105	5,1
Regular Income Status of Family			Longest Resided Dwelling Unit		
Regular income	1721	83,0	City	917	44,2
No regular income	352	17,0	District	814	39,3
Longest Resided Region			Village-Town	342	16,5
Central Anatolia	1858	89,6	Total	2073	100,0
South-east Anatolian Region	30	1,4			
Eastern Anatolian Region	20	1,0			
Black Sea Region	25	1,2			
Mediterranean Region	26	1,3			
Aegean Region	81	3,9			
Marmara Region	33	1,6			
Total	2073	100,0			

53,8% of participants are students from schools in Akşehir County, 46,2% of participants are from schools in Ankara. 39,3% of them are in 9th grade, 23,7% in 10th grade, 25,2% are in 11th grade.

With close percentages, 50,2% is male students and 49,8% is female students. 33,2% of fathers of students are graduates of university, 28,4% graduated from high school; 39,1% of mothers of students graduated from primary school and 23,7% of mothers are graduates of high school. 43,9% of students' fathers are self-employed, 19,1% are labourers; 73,3% of students' mothers are housewives. Majority of families of students (84,5%) is elementary family and also majority of their family (83,0%) have regular income. While 62,5% of students state income status of their family as "Medium"; 89,6% of students pointed out "Central Anatolian Region" as the region they resided longest and 44,2% of students replied "City" as their longest resided dwelling unit.

Table 2. Ideas and opinions regarding consanguineous marriage

Condition of thinking you are informed of consanguineous marriages	n	%
Yes	1890	91,2
No	183	8,8
Sources of information for those who are informed of consanguineous marriages		
School classes	1033	24,4
Television	661	15,6
Internet	787	18,6
Book/Magazine	405	9,5
Family	811	19,1
Friend/Neighbour	480	11,3
Other	65	1,5
Total	4242	100,
Presence of health problem in family or relative who made consanguineous marriage		
Yes	104	5,0
No	1969	95,0
Health problem in family or relative as a result of consanguineous marriage		
Child Growth Development Problems	12	11,2
Epilepsy	6	5,6
Physical Handicap	61	57,0
Mental Disability	16	14,9
Cardiac Disease	2	1,9
Nutrition Problems	2	1,9
Other	8	7,5
Total	107	100,
Diseases as possible outcome of consanguineous marriages (*Multiple answers given)		
Lung diseases	455	7,2
Blood diseases	1024	16,2
Liver diseases	235	3,8
Hepatitis	592	9,4
Kidney diseases	473	7,6
Muscle and Bone diseases	566	8,9
Epileptic seizure	252	3,8
Mental retardation	1142	18,1
Growth retardation	1070	16,9
Diabetes	337	5,4
Cancer	45	0,8
Psychological disorders	118	1,9

Table 3. Ideas and opinions regarding consanguineous marriage on district basis

	Akşehir		Ankara		Total	
	n	%	n	%	n	%
Informed of consanguineous marriages						
Yes	1002	89,8	888	92,8	1890	91,2
No	114	10,2	69	7,2	183	8,8
$X^2=5,780, sd=1, p=,016$						
Having consanguineous marriage between parents						
Yes	167	15,0	83	8,7	250	12,1
No	949	85,0	874	91,3	1823	87,9
$X^2=19,227, sd=1, p=,000$						
Having consanguineous marriage among relatives						
Yes	597	53,5	457	47,8	1054	50,8
No	519	46,5	500	52,2	1019	49,2
$X^2=6,795, sd=1, p*=,009$						

Presence of any health problem in parents or relatives who made consanguineous marriage						
Yes	104	9,3	-	-	104	5,0
No	1012	90,7	957	100,	1969	95,0
$X^2=93,893, sd=1, p^*=,000$						
Ideas regarding consanguineous marriage						
I approve and think it is right	55	4,9	28	2,9	83	4,0
Better if not done	234	21,0	221	23,1	455	21,9
I disapprove but it can be	251	22,5	252	26,3	503	24,3
I am completely against it	354	31,7	398	41,6	752	36,3
I have no idea	222	19,9	58	6,1	280	13,5
$X^2=96,158, sd=1, p=,000$						
Opinions regarding source of consanguineous marriages						
Family	621	55,6	546	57,0	1167	56,3
Will of individual	338	30,3	306	32,0	644	31,1
Environment	157	14,1	105	11,0	262	12,6
Total	1116	100,	957	100,0	2073	100,

*Fisher's Exact Test is applied.

While the rate of students informed of consanguineous marriage is 91,2%, no difference is found between genders. The percentage of students whose parents made consanguineous marriage is 12,1%. The rate of students who have consanguineous marriage among their relatives is 50,8%. Many of health problems among students whose relatives made consanguineous marriage are consisted of physical disability. The rate of students who completely oppose to consanguineous marriage is 36,3%. Demand of family is mainly pointed (56,3%) out as the reason of consanguineous marriage.

DISCUSSION

In researches concerning consanguineous marriage, it is set forth that this particular type of marriage is still common in developing countries although it decreased in developed countries (16). In our study, consanguineous marriage rate among parents is found (12,1%) which is similar to the rate of Düzce district basing on the literature, and it is found lower compared to other studies (5, 14, 15, 17, 22, 23, 24, 25). When it is considered that children's statement about their parents reflect consanguineous marriage among spouses, the rate of consanguineous marriage (23,3%) in our study is much lower than TÜİK data; therefore this result gives rise to the thought there might be a decrease in this type of marriages.

However, while the rate of consanguineous marriage among parents is 8,7% in Ankara, this rate is doubled up in Akşehir with 15,0%. This difference between countryside and cities in Turkey is also presented in other studies similarly (6, 26, 27).

Being highly common in countryside regions of East and South-East Anatolia, this type of marriage might occur basing on socio-economic and psychological reasons. This specific type of marriage is preferred due to reasons such as to prevent sharing of inheritance and the hope that close relatives and children of siblings might look after mother in law and father in law better in their old ages (1).

It is possible to point out high necessity of raising awareness and conscious in countryside. All of the students who stated a health problem arose in pregnancy, birth or afterbirth in their family or relatives who made a consanguineous marriage are located in Akşehir district. It can be said the fact that the rate of consanguineous marriage in Akşehir is twice can arise from multi-directional determinants of health such as access and transportation to health services, health consciousness, carrying out early protective measure and scanning and postnatal care (1).

Among students whose family members or relatives have health problems as a result of consanguineous marriage, physical disability ranks first, mental disability ranks second and growth and development problems rank 3rd. As it is known, one of the most significant outcomes of consanguineous marriage is health problems resulted from these types of marriages. In children who are born as a result of this type of marriage that bases on blood relation; birth defects, pathologies breaking genetic structures, increase in baby mortality rate, spontaneous abortion, increase in cerebral palsy prevalence, Mediterranean fever and children deaths under 5 ears occur and the risk of giving birth a handicapped child is doubled up (3, 6, 15, 16, 18, 23, 26, 28, 29, 30, 31, 32) . As one can see, our study results confirm health problems in individuals who made consanguineous marriage in literature and they point out the significance of the situation.

When opinions of adolescents regarding consanguineous marriage are viewed; the number of students who said “*completely against it*” is lower than the number of those who stated “*better if not done*” and “*disapprove but it can be*”. The number of students who approve consanguineous marriage in Akşehir county is approximately twice of Ankara Yenimahalle district. In the study carried out by Şenel on high school students, regional differences are found likewise. In our study, the rate of approving consanguineous marriage is lower than Şenel’s study; however, the fact that the number of students who absolutely oppose is roughly one third of grand total is challenging (33).

The fact that the generation who will be family units of future cannot present a precise opinion in this direction makes one think that awareness and consciousness could not be generated adequately. In a study conducted by Tabak, women are against consanguineous marriage at the rate of 70%; therefore, this shows that awareness and consciousness can be gained basing on the age and it should be paid more attention to works aimed at adolescent group who are highly likely to present risky behaviours in this aspect (26). Opinions of adolescents are asked regarding cause of consanguineous marriages in our study. More than half of participants (56%) presented their opinions that the cause might be family. This situation gives right to the thought that parents have a dominant attitude on marriage of their children.

Conclusions and Suggestions

In our study, the rate of students whose parents made a consanguineous marriage is 12,1%, the rate of those who are absolutely against consanguineous marriage is 36,3%. There is almost twice as much difference between Akşehir county and Ankara Yenimahalle county in terms of blood relation of parents; this shows that the difference between countryside and urban areas lasts. Health problems such as physical and mental disability and developmental retardation in students’ families who made a consanguineous marriage are primarily indicated. In our study, it is observed that the knowledge in regard to consanguineous marriage is generally gained in classes which points out the required significance to be attached in education curriculum. To raise social awareness in regard to consanguineous marriage is can only be performed by country-wide, more participative works and controlled and regular trainings.

When dominant attitude of families on marriages are considered, it is suggested to include parents while holding public health education programs. The necessity of genetic consultancy services bears more significance in regions where it is not possible to avoid consanguineous marriage and to have a significant level of information in this regard.

Providing consultancy services to those who made consanguineous marriage and carrying out more advanced level of researches on possible negative results of this type of marriage and also encouraging such researches are among other requirements. When it is considered that adolescents access necessary information through school classes, it is of importance for the Ministry of National Education to display more sensitivity on this matter. The most recent data of our country in relation to consanguineous marriage dates back to 2011; thus, it is suggested to make evaluations country-wide under the light of new data

REFERENCES

1. Bittles, A. H., & Black, M. L. (2010). Consanguinity, human evolution, and complex diseases. *Proceedings of the National Academy of Sciences*, 107(suppl 1), 1779-1786.
2. Sezen, L. (2005). Türkiye'de Evlenme Biçimleri. *TAED*, 27: 185-195.
3. Veyis, S. Ö. (1995). Türk Halkbilimi. Kültür Bakanlığı Yayını. Ankara.
4. Uskun, E. (2001). Akraba Evlilikleri. *STED*, 10 (2).
5. Başaran, N. (1996). Tıbbi Genetik. 6th ed. Bilim ve Teknik Yayınevi. İstanbul.
6. Mayda, A. S, Dağlı, Ç., Şahin, R. A, Danışman, F., Dere, F., Çeler, A., Çelik, D., Burgucu, S., Bulut, N., Başar, R., Avcı, Ö. (2010). Düzce İli Yığılca İlçe Merkezinde Akraba Evliliği Sıklığı ve Etkileyen Faktörler. *Düzce Tıp Dergisi*, 12(2): 36-41.
7. Nar, M. Ş. (2012). Tıbbi Antropoloji: Akraba Evliliklerinin Patolojik Etkileri. *Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi Dergisi*, 52 (1): 219-238.
8. Doğrusöyler, F., Yıldırım, B., Akbaşak, İ., Gürses, H. (1986). Marriage Between Relatives and Genetic Counselling. *Eurasian J Med*, 18: 555-562.
9. Bittles, A. H., Black, M. L. (2009). Human evolution, and complex diseases. *Proc Natl Acad Sci*, 107 (Suppl 1): 1779-1786.
10. Hamamy, H. (2012). Consanguineous marriages. *J Community Genet*, 3: 185-192.
11. Modell, B., Darr, A. (2002). Science and society: genetic counselling and customary consanguineous marriage. *Nat Rev Genet*, 3:225-229.
12. Bittles, A. H., Black, M. L. (2015). Global Patterns & Tables Of Consanguinity. <http://consang.net>.
13. Hamamy, H., et al. (2011). Consanguineous marriages. *Genet Med*, 13: 841-847.
14. Tadmouri, G. O., Nair, P., Obeid, T., Al Ali, MT., Al Khaja, N., Hamamy, H. A. (2009). Consanguinity and reproductive health among Arabs. *Reprod Health*, 6: 17.
15. Akın, G. (2000). Denizli Kırsal Kesiminde Akraba Evliliği Ve Bunu Etkileyen Faktörler. *Ankara University Journal of Languages and History-Geography*, 40(3-4): 67-80.
16. Arslan, K. Incidence of chronic diseases marriage relative in West Black Sea and Genetic Investigation [Master thesis]. Sağlık Bilimleri Enstitüsü, Düzce Üniversitesi, Düzce; 2010.
17. Kayahan, M., Şimşek, Z., Ersin, F., Gözükar, F., Kurçer, M. A. (2003). Şanlıurfa Tıfındır Sağlık Ocağı Bölgesinde Akraba Evliliği Prevalansı ve 5 Yaş Altı Ölümlere Etkisi. *C. Ü. Hemşirelik Yüksek Okulu Dergisi*, 7 (1): 1-5.
18. Koç, T. E. The results of consanguineous marriages in Düzce population. [Master Thesis]. Sağlık Bilimleri Enstitüsü, Düzce Üniversitesi, Düzce; 2008.
19. Şamlı, H., Toprak, D., Solak, M. (2006). Afyonkarahisar ilinde Akraba Evlilikleri ve Bunun Doğumsal Anomaliler ile İlişkisi. *Kocatepe Tıp Dergisi*, 7: 69-74.
20. Şen, R. Ş., (2010). The frequency of consanguineous marriages and their relations to the outcomes of pregnancy in Aydın [Master Thesis]. Sağlık Bilimleri Enstitüsü, Adnan Menderes Üniversitesi, Aydın
21. Ayan, D., Beder, Ş. R., Yurtkuran, S., Gülsen, Ü. G. (2002). Akraba Evliliğinin Kültür Birikiminde ve Toplum Hayatındaki Bazı Görünümleri: Dil, Din ve Tıp. *Aile ve Toplum*, 2(5): 77-90.
22. Bökesoy, I., Gürhan H., Karabulut, H. G. (2005). Akrabalık ve Genetik Danışmanlık. *Türkiye Klinikleri J Pediatr Sci*, 1(2):30-35.
23. Bodur, S., Durduran, Y., Küçükendirci, H., Doğan, C. (2009). Relationship of infant mortality with prenatal and natal service utility and demographic characteristics: Case-control study, *Dicle Med J*, 36 (4):288-293.
24. Donbak, L. (2004). Consanguinity in Kahramanmaraş city, Turkey and its medical impact. *Saudi Med J*, 25 (12): 1991-1994.
25. Durduran, Y., Bodur, S., Çakıl E., Filiz, E. (2012). Konya il merkezinde sağlıkta dönüşüm öncesi ve sonrası gebe ve bebek izlemleri. *Dicle Tıp Dergisi*, 39 (2): 227-233.

26. Karaoğlu, L., Öztürk, C., Pehlivan, E. (2002). Çorum İli Bir Sağlık Ocağı Bölgesinde Yaşayan Evli Kadınlarda Doğurganlık ve Etkileyen Faktörler. *İnönü Üniversitesi Tıp Fakültesi Dergisi*, 9(1) 33-40.
27. Tabak, A., (2008). Endokrinoloji ve Metabolizma Polikliniğimizden Takipli Hastalarda Akraba Evliliği Sıklığı ve Akraba Evliliğini Etkileyen Faktörler [Expertise Thesis]. T.C. Sağlık Bakanlığı İstanbul Bakırköy Kadın Doğru ve Çocuk Hastalıkları Eğitim ve Araştırma Hastanesi, İstanbul
28. TÜİK Aile İstatistikleri. www.tuik.gov.tr. Accessed: January, 2016.
29. Corry, P. C. (2002). Intellectual disability and cerebral palsy in a UK community. *Community Genet*, 5: 201-204.
30. Ertoý, K. H. İ. (2009) Doğumsal Kalp Hastalıkları ve Anne- Baba Akrabalığı Arasındaki İlişkinin Değerlendirilmesi [Expertise Thesis]. T.C. Selçuk Üniversitesi Meram Tıp Fakültesi Çocuk Sağlığı ve Hastalıkları Anabilim Dalı Çocuk Sağlığı ve Hastalıkları. Konya
31. Kasapçopur, Ö., Arısoy, N. (2006). Ailesel Akdeniz Ateşi ve diğer otoenflamatuvar hastalıklar. *Türk Pediatri Arşivi*, 41: 9- 17.
32. Ertem, M., İlçin, E. (2001). Diyarbakır Doğum Evi Hastanesinde doğum yapan gebelerde risk faktörleri. *Perinatoloji Derg*, 9:1-6.
33. Tüzün, E. H., Eker, L. (2003). Consanguinity and Cerebral Palsy: A Case-Control Study, Doğru Akdeniz Serebral Palsi ve Gelişimsel Bozukluklar Kongresi. Poster Bildiri. İstanbul.
34. Şenel, E., Şahin, C., Süslü, İ., Güntürkün, H. (2009). Lise Öğrencilerinin Akraba Evliliği Konusundaki Bilgi Düzeyi ve Eğilimleri Araştırması. *TÜBAV Bilim*, 2(3): 317-326.