

Çocuk Hastalara Hizmet Veren Hekimlerin, Çocuk Hakları ve Çocuk Hasta Onamına İlişkin Bilgi ve Tutumlarının Değerlendirilmesi^{*,**,***}

Assessment of Knowledge and Attitudes of Physicians Serving Pediatric Patients on Children's Rights and Informed Consent in Children

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Özet: Hekimlik uygulamaları, yüzyıllar içinde hekimin hastası için tüm kararları aldığı yaklaşımdan hastaların tıbbi karar verme sürecine bilgilendirilmiş şekilde dahil olduğu, merkezinde aydınlatılmış onamın olduğu, hastanın özerkliğine değer veren bir yaklaşıma evrilmiştir. Çocuk hastaların aydınlatılmış onam sürecinde sağlık personeli ve çocuk hastaya ek olarak ebeveyn ya da yasal temsilciler paydaşı bulunmaktadır. Hekimlerin ve tıp fakültesi öğrencilerinin çocuklarda aydınlatılmış onam süresi hakkındaki bilgi ve tutumları yapılacak tıbbi müdahalenin etkinliği ve çocukların biyopsikososyal gelişimi için önem taşımaktadır. Bu çalışmada, çocuk hastalara hizmet veren hekimlerin ve tıp fakültesi öğrencilerinin çocukların aydınlatılmış onam sürecine katılımları ve çocuk hakları üzerindeki bilgi seviyeleri ve günlük klinik pratiklerindeki tutumlarının anlaşılması hedeflenmiştir. Çalışma tanımlayıcı tipte bir araştırma olup, üniversite tıp fakültesi kampüsü ve üniversite hastanesinde çalışan son sınıf tıp fakültesi öğrencileri ve çocuk hastalara hizmet veren hekimlerden n=150 katılımcı gelişigüzel olarak çalışmaya dahil edilmiştir. Katılımcılara sosyodemografik özellikleri, çocuk hasta hakları hakkında daha önce aldıkları eğitimleri ve yasal hükümler üzerine bilgilerini ölçen anket uygulanmıştır. Veriler SPSS 20.00 yazılımı ile değerlendirilmiştir.

Araştırmaya katılanların %62'si (n=93) dönem 6 tıp fakültesi öğrencisiyken, %29,33'ü (n=44) asistan hekim geri kalan katılımcılar ise öğretim üyelerinden oluşmaktadır (%8,67; n=13). Hekimlerde çocuk haklarına yönelik eğitim almayanların oranı %80,7 (n=46), tıp fakültesi öğrencilerinden (%49,45; n=45) istatistiksel olarak anlamlı şekilde yüksek bulunmuştur (p<0,01). Ancak çocuk hakları hakkında eğitim almamış katılımcılar, eğitim alan katılımcılara göre istatistiksel olarak anlamlı şekilde fazla oranda (p=0,019), karar verme yeterliliği olan 18 yaşından küçük bireylerden tıbbi girişim öncesi aydınlatılmış onam alınması gerektiğini bildirmişlerdir (%44,83; n=65'e karşı %20,69; n=30). Katılımcıların çoğunluğu, 18 yaşından küçük bireylerde acil durumlarda yasal temsilcinin izni olmadan girişim yapılabilmesini etik ve yasal olarak uygun bulmuştur (%59,5; n=88) (p <0.001). Katılımcılar, 18 yaşından küçük bireyin yasal temsilcisi olmadan girişim yapılmasının etik ve yasal olarak uygun olduğunu düşünmektedir (%36,7; n=54) (p <0.001). Bu çalışma ile daha önce çocuk hakları konusunda eğitim almış ve almamış katılımcıların çocuk hakları ve çocuklarda aydınlatılmış onam hakkında bilgi seviyeleri ve tutumları karşılaştırılmıştır.

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Ancak katılımcıların çocuk hakları hakkında daha önce aldığı eğitimin niteliği sorgulanmamıştır. Alınan eğitimin çocuk hakları üzerinde yasal bilgi seviyesini anlamlı olarak artırmadığı bu çalışma ile gösterilmiştir. Tıp fakültesi öğrencilerinin çocuk haklarına ve çocuklarda aydınlatılmış onama yönelik tıbbi deontoloji ve etik eğitimi kapsamında konuya odaklanmış bir dersin olması, bilgi seviyelerinin artması ve tutumlarının gelişmesini sağlayabilir. Bu çalışma, tıp fakültelerinde ve hekimlere yönelik hazırlanacak eğitimlerde odaklanılması gereken konulara ışık tutmuş, hekimlerin ve tıp fakültesi öğrencilerinin çocuk hakları ve çocuklarda aydınlatılmış onam konularında tamamlanması gereken eksik kalan bilgileri ve geliştirilmesi gereken tutumlarını ortaya koymuştur.

Anahtar Kelimeler: *Aydınlatılmış onam, çocuk hasta, çocuk hakları, sağlık çalışanları, tıp öğrencileri*

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Summary: *The practice of medicine has evolved from old approach, in which all decisions for the patient are taken by physician, to a new approach, which includes patients to the medical decision-making process and endorses informed consent of the patients. In addition to healthcare professionals and patients, parents or legal representatives are stakeholders in the informed consent process of children. The knowledge and attitudes of physicians and medical school students about the informed consent period in children are important for the effectiveness of the medical intervention and the biopsychosocial development of children. In this study, it was aimed to understand involvement of medical students and physicians in the informed consent process of children and their level of knowledge on children's rights and their attitudes in daily clinical practice. The study is a descriptive study and n = 150 participants, who were randomly selected from senior medical school students working in medical school campus or university hospital and physicians serving pediatric patients, were included to this study. Questionnaires were applied for the measurement of participants' socio-demographic characteristics, education on pediatric patient rights, and legal provisions. The data were evaluated using SPSS 20.00 software. Of participants, 62% (n = 93) were phase 6 medical students, while 29.33% (n = 44) were resident physicians and the rest were faculty members (8.67%; n = 13). The proportion of physicians, who didn't received training on child rights, was 80.7% (n = 46) and statistically significantly higher than medical students (49.45%; n = 45) (p <0.001).*

However, participants who were not educated about the children's rights stated with higher ratio (44.83%; n=65), that informed consent should be obtained before medical intervention from individuals under 18 years of age, when they are compared to the the participants who received education (20.69%; n=30) (p = 0,019). The majority of participants (59.5%; n = 88) find the intervention in individuals under the age of 18 years in emergencies without consent of legal representatives ethically and legally appropriate (p <0.001). The participants believe that it is ethically and legally appropriate to conduct an intervention on an individual under the age of 18 years without the legal representative (36. 7%; n=54) (p <0.001).

This study compared the levels of knowledge and attitudes of participants, who were previously trained in or didn't received any training about children's rights and informed consent of children. However, the quality of the training of the participants on children's rights, was not questioned. This study showed that education on children's rights does not significantly increase the level of legal knowledge on children's rights. Having well-designed a subject focused on this theme in medical deontology and ethics education can increase the knowledge levels and improve the attitudes of medical students. This study sheds light on the issues that need to be focused in the medical faculties and the trainings of physicians and showed lack of information and need for development of attitudes regarding children's rights and informed consent in children.

INTRODUCTION

The practice of medicine has evolved from old approach, in which all decisions for the patient are taken by physician, to a new approach, which includes patients to the medical decision-making process and endorses informed consent of the patients (1). Participation of the patients to the decision-making process during interventions concerning physical and mental integrity of patients, is a fundamental human right. In addition, it enhances patient compliance with treatment and reinforces patient's relationship with healthcare personnel (2, 3) . In clinics, participation of the patients in the decision-making and treatment processes, or the refuse of the treatment by the patients, are structured in the form of informed consent (4) . The autonomy and free choice components of informed consent process depend on the precondition, that the patient must be informed in the proper manner and adequately before his approval (5).

Although there is a sufficient accumulation of knowledge in the theory and clinical practice in the context of informed consent for adult patients, there are not sufficient information regarding the informed consent process of pediatric patients. In addition to healthcare personnel and child patient, parents or legal representative stakeholders are present in the informed consent of the pediatric patients (6). Nevertheless, taking solely the consent of the parents or legal representatives during the informed consent process conflicts with the principle concerning the freedom of expression of children, which is pointed out by the children's rights conventions (7).

Participation of the child, who is constantly in maturation process, in the medical decision-making process as a stakeholder should be increased. In US, the minimum age of maturity for children to participate in the informed consent process is 7 years. However, possible variations among children regarding developmental stages must be considered. Sufficient information should be given in an understandable manner in accordance with the child's cognitive skills and children should be included in the decision-making process in accordance with their cognitive level (8).

In this study, it was aimed to understand the involvement of medical students and physicians in the informed consent of children; their level of knowledge on children's rights and their attitudes in daily clinical practice. The knowledge and attitudes of physicians and medical school students regarding the informed consent process in children are of importance for the effectiveness of the medical intervention and for the biopsychosocial development of children. The results of this study might shed light on the establishment of an educational intervention regarding children's rights and informed consent.

MATERIAL AND METHODS

Prior to the study, ethical approval is received from Marmara University Non-interventional Clinical Research Ethical Committee with protocol number 09.2017.585. The study is a descriptive study and participants were randomly selected from senior medical school students working in medical faculty campus or university hospital and physicians serving child patients in departments of pediatrics, child and adolescent psychiatry, pediatric surgery and family medicine. From the defined population, with a sample size of $n = 150$ participants were randomly included to this study. The sample size was calculated by the G-Power 3.1 software, with $1-\beta = 80\%$ power and $\alpha = 0.05$ type 1 error.

A questionnaire including 51 questions about socio-demographic characteristics of the participants and their knowledge about pediatric patient rights was applied. Before appliance of the questionnaire, the participants were informed, that the information obtained from this research is confidential and will not be evaluated personally, and informed consent of the participants were taken. The survey questioned participants' knowledge about the UN Convention on the Rights of the Child, their previous training in children's rights, and legal provisions. The level of legal knowledge about the children's rights of the participants was measured by the 15 items in the questionnaire and their score was calculated, ranging from 0 to 15 points. The obtained data were

analyzed with SPSS 20.00 software. Chi-square test was applied in evaluating relations between categorical variables. Legal information scores were compared with t-test method in independent groups.

RESULTS

The majority of participants in the study were women (64.0%; n = 96). While most participants were single (78.67%, n=118), fewer were married (20.67%; n = 31). Of the participants 62.0% (n=93) were phase 6 medical faculty students, 29.33% (n=44) were resident physicians, and the rest were faculty members (8.67%; n = 13). The median age of the participants was 24.0 (Interquartile Range, IQR=4.0) (Table 1).

Most participants (53.0%; n = 79) stated that the principles of the United Nations Convention on the Rights of the Child regarding right for survival, right for protection from exploitation and harmful effects, right to participate in family and social life and the right to development, are equally important. Most of the participants (54.0%; n = 81) reported that they did not experienced any problems regarding the rights of pediatric patients. Similarly, most participants reported that they did not receive any education for children's rights (61.50%; n = 91) (Table 2).

The proportion of physicians, who did not receive education, (80.70%; n = 46) was found statistically significantly higher than those of medical faculty students (49.45% n = 45) ($p < 0.001$). Conversely, when they are compared to participants received training on children's rights previously, participants without training, reported with significantly higher rates (44.83%, n = 65), that informed consent was required before medical intervention in patients who are younger than 18 and capable of decision making ($p = 0.019$). Participants who did not receive any education on children's rights stated with statistically significantly higher rates (20.0%, n = 29), that the approval of the legal representative for the collection of renewable tissue from individuals younger than 18 years of age is not enough, and the consent of the child is mandatory ($p = 0.036$). (Table 3 and 4, Supplementary Table 1 and 2). Most of the participants, who see themselves as advocates for children's rights, feel self-sufficient in terms of the United Nations Convention on the Rights of the Child and domestic laws regarding children's rights ($p < 0.001$ and $p < 0.001$, respectively). The rate of reading the United Nations Convention on the Rights of the Child was found to be significantly higher in medical faculty students (49.50%, n = 46) than in physicians (28.10%, n = 16) ($p < 0.001$) (Table 2).

When they are compared to physicians, medical students reported with statistically higher rates, that individuals younger than 18 with the ability for higher decision making can able to give consent for organ and tissue donations ($p = 0.022$). They also stated that even though the consent of their legal representatives present, tissues and organs may not be taken without child's consent ($p = 0,015$), and that there is no need for approval of children's legal representatives for termination of pregnancies before 10 weeks ($p = 0.012$). Medical faculty students reported with significantly higher rates, that the physicians did not have the legal authority to administer intrauterine device (IUD) in individuals under 18 years of age with the ability of decision making ($p < 0.001$). Still, they reported that this intervention may be done with the request of the individual under 18 ($p < 0.001$).

Participants from both female and male genders were stated with high rates the need for informing individuals younger than 18 years of age in reproductive health issues (72.9%, n = 70 and 84.6%, n = 44, respectively), but the proportion of men was statistically significantly higher ($p = 0.049$). Women participants think with significantly higher rates, that there is a need for approval of a legal representative for pregnancy termination for female patients younger than 18 years of age ($p = 0.027$).

Initiation of an emergency procedure without the consent of the legal representative in individuals under 18 years of age was considered ethically and legally appropriate, significantly by most participants (59.5%, n = 88, $p < 0.001$). In addition, execution of medical procedures excluding emergencies settings without the consent

of the legal representative in individuals under 18 years of age was considered also ethically and legally proper significantly by most participants (36.7%, $n = 54$, $p < 0.001$). While most participants (30.82%; $n=45$) found the consent of individuals with decision making capability under 18 regarding tissue and organ donation ethically and legally inappropriate ($p < 0.001$); the consent by legal representative for renewable tissue donation to pediatric patient's sibling was considered appropriate, both ethically and legally (48.63% $n=71$; $p < 0.001$). But, they did consider this intervention without the consent of the legal representative legally and ethically inappropriate (52.70%; $n=78$ $p < 0,001$) (Table 3 and 4, Supplementary Table 1).

Almost all the participants (73.6%, $n = 109$) found informing of individuals under 18 years about the sexually transmitted diseases and contraception, legally and ethically right ($p < 0.001$). Participants did not approve the application of IUDs ethically and legally (34.46%; $n=51$) and surgical sterilization (51.70%; $n=76$) methods by the consent of individuals under 18 ($p < 0.001$ and $p < 0.001$ respectively). Participants considered the termination of pregnancy without their consent of legal representatives in individuals under 18 with the ability of decision making, ethically and legally inappropriate (39.86%; $n=59$; $p < 0.001$). Most participants (48.28%; $n=70$) found the argument regarding the prohibition of conduction of medical experiments on children ethically and legally correct ($p < 0.001$). (Table 3 and 4, Supplementary Table 1) However, the participants reported (55.1%; $n=81$), that the conduction of research on pediatric patients in case of the benefit of the child and presence of the consent of the legal presentative is ethically and legally right ($p < 0.001$). The mean score of the medical faculty students (9.0345) of the questionnaire's legal information part was statistically lower than the physicians (10.1607) ($p = 0.019$). However, there was no statistically significant difference between the legal knowledge scores participants who did and did not received any education on children's rights ($p = 0,523$). The ethical arguments of the participants were not evaluated by using scoring method, since ethical arguments didn't have definitive answers and were asked for their correlation with the legal arguments. (Table 3 and 4, Supplementary Table 1).

DISCUSSION

This study compared knowledge and attitudes of the participants regarding children's rights and informed consent of children. Some of the participants reported their previous education on children's rights. However, the quality of the training on children's rights, which participants previously received, was not questioned. Although the quality of education received by physicians and medical students on children's rights is not known, an education focusing this subject needs to be developed. In particular, the percentage of physicians who do not receive education on children's rights is high (80.70%, $n = 46$). This lack of education for physicians about children's rights should be completed with training workshops (9).

It has been shown in this study that the education on children's rights does not significantly increase the level of legal knowledge on children's rights. The results of this study showed, that individuals who are not received any education about children's rights are more sensitive to informed consent concept. Thus, it is necessary to increase the quality of education for children's rights. However, these results can also be explained with the relatively low percentage of the physicians with education on children's rights. The previous experiences of the physicians might have increased their sensitivity on informed consent and their level of knowledge on legal arguments. For the legal argument items 2, 5, and 7 of the questionnaire, the participants with previous education on children's rights and participants without education on this theme showed significantly different responses ($p=0.019$, $p=0.041$, and $p=0.036$, respectively) Nevertheless, the stratified analyses including medical student vs physician subgroups for item 2 ($p= 0.081$ and $p=0.199$, respectively), item 5 ($p= 0.044$ and $p= 0.530$, respectively) and item 7 ($p= 0.064$ and $p=0.468$, respectively) showed distributions of responses similar to the preceding analyses (Supplementary Table 2).

Most participants with previous education think that medical intervention cannot be applied without legal representative consent in individuals under 18 years of age. Nevertheless, there is no legal or ethical consensus regarding this argument, according to the previous studies (10, 11) . Thus, the response of the participants cannot be linked with the lack of education on children's rights. Conversely, the participants with prior education on children's rights stated with higher rates, that informed consent of pediatric patients is not mandatory. Thus, any education on children's rights should emphasize on the informed consent process in children. This education should also cover the facts that the physicians are allowed to do any medical intervention in emergency settings, even they cannot reach to the parents of the child. With this education, any delays in diagnosis and treatment processes can be prevented and lives can be saved. The education should also cover the themes regarding organ donation, particularly the need of both child's and parents/legal preventatives' informed consent.

According to this study, female participants have been more concerned about the importance of parents or legal representatives as the stakeholders in informed consent process related to the termination of pregnancy. But, regardless of gender, all physicians and medical students stated the necessity of involving parents or legal representatives in application of interventional/surgical methods for family planning and termination of pregnancy. The vast majority of participants stated ethical and legal eligibility of education for sexually transmitted diseases and methods of family planning for individuals under 18 years of age. But communication skills to transfer this knowledge to children at different ages and according to their different cognitive skills may be included in the physician training programs (12, 13). The attitudes of the participants towards the clinical trials conducted on children, are considered positive. However, their level of knowledge should be increased, and positive attitudes should be reinforced.

A possible limitation of this study is the social desirability bias, which might affect the answers of physicians working in departments and caring for pediatric patients. Their statements regarding their attitudes may not represent the truth. The sample size for the comparisons between physicians working in different departments (i.e. surgical, diagnostic,) was not sufficient for further subgroup analysis. The questionnaire didn't examined the quality of previous education of the participants on children's rights. Medical student participants were a heterogeneous group, not all medical students have completed their pediatrics internship during data collection period. Another limitation of the study is that the physicians participated in this study were working with pediatric patients. Their previous experiences might affect their answers and increased their scores regarding the legal knowledge. Age of the participants is a potential confounder, since the participants without education tended to be older (24.0, IQR=2.0 vs 25.0, IQR=5.0, with $p < 0.001$). Nevertheless, the age was not correlated with the legal knowledge score in both educated and uneducated physician groups. ($Rho = 0.1087$; $p = 0.7650$ and $Rho = 0.1071$; $p = 0.4785$, respectively).

CONCLUSION

Having a well-designed subject focused on this theme in medical deontology and ethics education can increase the knowledge levels and the attitudes of medical faculty students to become better equipped physicians regarding children's rights and informed consent in children. This lecture should cover the both theoretical and practical aspects of informed consent process in pediatric patients. In addition, the modules of this course might target both preclinical and clinical years of medical education. The course might include case analyses and realistic simulations focusing on informed consent in children. This study sheds light on the issues that need to be focused in the medical faculties and the trainings for physicians and showed lack of information and need for development attitudes regarding children's rights and informed consent in children.

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ATTACHMENTS

Table 1: Some Sociodemographic Characteristics of the Participants

Median age of the participants		(IQR*=4.0) 24.0	
		n	%
Gender of participants	Female	96	64.0%
	Male	54	36.0%
Marital status of participants	Single	118	78.67%
	Married	31	20.67%
	Divorced	1	0.67%
Occupational status of participants	Phase 6 medical students	93	62.0%
	Resident physicians	44	29.33%
	Faculty members	13	8.67%

*Interquartile range

Table 2: Previous knowledge and training of participants

			n	%
United Nations Convention on the Rights of the Child	Ever heard of	Yes	138	92.0%
		No	12	8.0%
	Read	Yes	62	41.3%
		No	88	58.7%
	Know	Yes	23	15.3%
		No	112	74.7%
Not sure		15	10.0%	
Knowledge about domestic law about children's rights	Yes	17	11.4%	
	No	113	75.8%	
	Not sure	19	12.8%	
Previous education on children's rights	Yes	57	38.5%	
	No	91	61.5%	
Experiencing any problem regarding children's rights	Yes	69	46.0%	
	No	81	54.0%	

Table 3: Legal arguments for the informed consent of child patients in medical interventions

		n	Row %
1. According to the law, an individual who is competent in decision-making but does not meet the age of 18 may give his / her medical consent alone without the consent of his / her legal representative.	Yes*	18	12.2%
	No*	118	79.7%
	Not sure	12	8.1%
2. According to the law, there is no need for consent for medical interventions in an individual who is eligible for decision making but under 18.	Yes	38	25.9%
	No*	96	65.3%
	Not sure	13	8.8%
3. According to the law, it is mandatory for the individual, who is capable of decision making but under 18, to be informed about the medical intervention in medical interventions	Yes*	114	77.0%
	No	23	15.5%
	Not sure	11	7.4%
4. According to the law, medical interventions cannot be carried out for individuals who do not meet the age of 18, without the permission of the legal representative, even in emergency situations.	Yes	29	19.6%
	No*	103	69.6%
	Not sure	16	10.8%
5. According to the law, medical intervention cannot be carried out for individuals who do not meet the age of 18, if physician cannot reach to the legal representatives.	Yes	56	38.1%
	No*	69	46.9%
	Not sure	22	15.0%
6. According to the law, an individual who does not fill the age of 18 but has the capability to decide, can choose to donate of organs and tissues.	Yes	33	22.4%
	No**	94	63.9%
	Not sure	20	13.6%
7. According to the law, if the legal representative has the consent, renewable tissues can be harvested from an individual who does not fill the age of 18	Yes	89	60.5%
	No**	38	25.9%
	Not sure	20	13.6%
8. According to the law, renewable tissues from a person under the age of 18 can be collected for donation to his sibling without his/her consent, if the legal representative has consent.	Yes	33	22.3%
	No**	89	60.1%
	Not sure	26	17.6%
9. According to the law, individuals who are competent to make decisions but do not meet the age of 18 can benefit from preventive health services such as health education and counseling, without legal representatives.	Yes*	100	67.6%
	No	35	23.6%
	Not sure	13	8.8%
10. According to the law, an individual who is competent to make decisions but does not meet the age of 18 may receive information from the physician on topics such as protection from pregnancy and sexually transmitted diseases.	Yes*	112	75.7%
	No	16	10.8%
	Not sure	20	13.5%
11. According to the law, physicians have to apply intrauterine device (IUD) as a family planning method, if it's requested by individuals who are competent in decision making but do not meet the age of 18.	Yes	23	15.5%
	No*	80	54.1%
	Not sure	45	30.4%
12. According to the law, physicians have to apply surgical sterilization techniques for family planning, if it's requested by individuals who are competent in decision making but do not meet the age of 18.	Yes	19	12.8%
	No*	95	64.2%
	Not sure	34	23.0%
13. According to the law, if an individual who is competent to make decisions but does not meet the age of 18 gives her consent for the termination of pregnancy during the legal period, it is not compulsory to obtain the approval of the legal representative for the termination of the pregnancy.	Yes	16	10.8%
	No*	103	69.6%
	Not sure	29	19.6%
14. According to the law, no scientific experiment can be conducted on children.	Yes*	90	61.6%
	No	28	19.2%
	Not sure	28	19.2%
15. According to the law, clinical trials on individuals who do not meet the age of 18 can only be carried out, if it is beneficial for the child, and the parents or guardians have consent.	Yes*	94	63.9%
	No	23	15.6%
	Not sure	30	20.4%

*The marked answers are compatible with the statements of the law. The first argument has no definitive answer, and it's aimed to improve the awareness of the participants about the children's rights and informed consent in children.

+The answers for the 6th, 7th and 8th item of the questionnaire are based on Article 5 of National Law No. 2238 (1979). The Oviedo Convention allows the donation of organs in children under certain circumstances, however Turkey abstained related articles (14).

Table 4: Ethical considerations regarding the informed consent of pediatric patients in medical interventions

		n	Row %
1. I think that, an individual who is competent in decision-making but does not meet the age of 18 may give his / her medical consent alone without the consent of his / her legal representative.	Yes	76	51.4%
	No	63	42.6%
	Not sure	9	6.1%
2. I think that, there is no need for consent for medical interventions in an individual who is eligible for decision making but under 18.	Yes	8	5.4%
	No	137	92.6%
	Not sure	3	2.0%
3. I think that, it is mandatory for the individual, who is capable of decision making but under 18, to be informed about the medical intervention in interventions	Yes	143	96.6%
	No	2	1.4%
	Not sure	3	2.0%
4. I think that, medical interventions cannot be carried out for individuals who do not meet the age of 18, without the permission of the legal representative, even in emergency situations.	Yes	26	17.6%
	No	116	78.4%
	Not sure	6	4.1%
5. I think that, medical intervention cannot be carried out for individuals who do not meet the age of 18, if physician cannot reach to the legal representatives.	Yes	44	29.7%
	No	89	60.1%
	Not sure	15	10.1%
6. I think that, an individual who does not fill the age of 18 but has the capability to decide can choose to donate of organs and tissues.	Yes	78	53.1%
	No	54	36.7%
	Not sure	15	10.2%
7. I think that, if the legal representative has the consent, renewable tissues can be harvested from an individual who does not fill the age of 18	Yes	97	66.0%
	No	39	26.5%
	Not sure	11	7.5%
8. I think, that renewable tissues from a person under the age of 18 can be collected for donation to his sibling without his/her consent, if the legal representative has consent.	Yes	29	19.6%
	No	112	75.7%
	Not sure	7	4.7%
9. I think, that individuals who are competent to make decisions but do not meet the age of 18 can benefit from preventive health services such as health education and counseling, without legal representatives.	Yes	132	89.8%
	No	9	6.1%
	Not sure	6	4.1%
10. I think, that an individual who is competent to make decisions but does not meet the age of 18 may receive information from the physician on topics such as protection from pregnancy and sexually transmitted diseases.	Yes	136	91.9%
	No	8	5.4%
	Not sure	4	2.7%
11. I think, that physicians have to apply intrauterine device (IUD) as a family planning method, if it's requested by individuals who are competent in decision making but do not meet the age of 18.	Yes	68	45.9%
	No	70	47.3%
	Not sure	10	6.8%
12. I think, that physicians have to apply surgical sterilization techniques for family planning, if it's requested by individuals who are competent in decision making but do not meet the age of 18.	Yes	35	23.8%
	No	93	63.3%
	Not sure	19	12.9%
13. I think, that if an individual who is competent to make decisions but does not meet the age of 18 gives her consent for the termination of pregnancy during the legal period, it is not compulsory to obtain the approval of the legal representative for the termination of the pregnancy.	Yes	63	42.6%
	No	69	46.6%
	Not sure	16	10.8%
14. I think, that no scientific experiment can be conducted on children.	Yes	81	55.1%
	No	47	32.0%
	Not sure	19	12.9%
15. I think, that clinical trials on individuals who do not meet the age of 18 can only be carried out in cases, if it is beneficial for the child, and the parents or guardians have consent.	Yes	114	77.0%
	No	20	13.5%
	Not sure	14	9.5%

This part of the questionnaire shows the ethical tendencies of the participants. For the first item, there is no legal or ethical consensus, thus it has no definitive answer. Similar to the legal arguments part (Table 3), with the first item it's aimed to improve the awareness of the participants about the children's rights and informed consent in children.

Supplementary Table 1: Correlations between legal and ethical arguments

Yes No			Item 1 (Ethical)			Total	
			Not Sure				
Item 1 (Legal)	Yes	Count	17	1	0	18	P<0.001
		% of Total	11.5%	0.7%	0.0%	12.2%	
	No	Count	53	60	5	118	
		% of Total	35.8%	40.5%	3.4%	79.7%	
	Not Sure	Count	6	2	4	12	
		% of Total	4.1%	1.4%	2.7%	8.1%	
Total		Count	76	63	9	148	
% of Total			51.4%	42.6%	6.1%	100.0%	
Yes No			Item 2 (Ethical)			Total	
			Not Sure				
Item 2 (Legal)	Yes	Count	3	34	1	38	P=0.229
		% of Total	2.0%	23.1%	0.7%	25.9%	
	No	Count	4	91	1	96	
		% of Total	2.7%	61.9%	0.7%	65.3%	
	Not Sure	Count	1	11	1	13	
		% of Total	0.7%	7.5%	0.7%	8.8%	
Total		Count	8	136	3	147	
% of Total			5.4%	92.5%	2.0%	100.0%	
Yes Yes			Item 3 (Ethical)			Total	
			Yes				
Item 3 (Legal)	Yes	Count	110	2	2	114	P=0.547
		% of Total	74.3%	1.4%	1.4%	77.0%	
	No	Count	23	0	0	23	
		% of Total	15.5%	0.0%	0.0%	15.5%	
	Not Sure	Count	10	0	1	11	
		% of Total	6.8%	0.0%	0.7%	7.4%	
Total		Count	143	2	3	148	
% of Total			96.6%	1.4%	2.0%	100.0%	
Yes Yes			Item 4 (Ethical)			Total	
			Yes				
Item 4 (Legal)	Yes	Count	12	16	1	29	P<0.001
		% of Total	8.1%	10.8%	0.7%	19.6%	
	No	Count	13	88	2	103	
		% of Total	8.8%	59.5%	1.4%	69.6%	
	Not Sure	Count	1	12	3	16	
		% of Total	0.7%	8.1%	2.0%	10.8%	
Total		Count	26	116	6	148	
% of Total			17.6%	78.4%	4.1%	100.0%	
Yes No			Item 5 (Ethical)			Total	
			Not Sure				

Item 5 (Legal)	Yes	Count	28	23	5	56	P<0.001
		% of Total	19.0%	15.6%	3.4%	38.1%	
	No	Count	10	54	5	69	
		% of Total	6.8%	36.7%	3.4%	46.9%	
	Not Sure	Count	5	12	5	22	
		% of Total	3.4%	8.2%	3.4%	15.0%	
Total		Count	43	89	15	147	
% of Total			29.3%	60.5%	10.2%	100.0%	
		Yes	Item 6 (Ethical)			Total	
		No	Not Sure				
Item 6 (Legal)	Yes	Count	25	6	1	32	P<0.001
		% of Total	17.1%	4.1%	0.7%	21.9%	
	No	Count	42	45	7	94	
		% of Total	28.8%	30.8%	4.8%	64.4%	
	Not Sure	Count	10	3	7	20	
		% of Total	6.8%	2.1%	4.8%	13.7%	
Total		Count		54	15	146	
% of Total			37.0%	10.3%	100.0%		
		Yes	Item 7 (Ethical)			Total	
		No	Not Sure				
Item 7 (Legal)	Yes	Count	71	15	2	88	P<0.001
		% of Total	48.6%	10.3%	1.4%	60.3%	
	No	Count	18	16	4	38	
		% of Total	12.3%	11.0%	2.7%	26.0%	
	Not Sure	Count	8	7	5	20	
		% of Total	5.5%	4.8%	3.4%	13.7%	
Total		Count		38	11	146	
% of Total			26.0%	7.5%	100.0%		
		Yes	Item 8 (Ethical)			Total	
		No	Not Sure				
Item 8 (Legal)	Yes	Count	14	19	0	33	P<0.001
		% of Total	9.5%	12.8%	0.0%	22.3%	
	No	Count	10	78	1	89	
		% of Total	6.8%	52.7%	0.7%	60.1%	
	Not Sure	Count	5	15	6	26	
		% of Total	3.4%	10.1%	4.1%	17.6%	
Total		Count		112	7	148	
% of Total			75.7%	4.7%	100.0%		
		Yes	Item 9 (Ethical)			Total	
		No	Not Sure				
Item 9 (Legal)	Yes	Count	91	5	3	99	P=0.349
		% of Total	61.9%	3.4%	2.0%	67.3%	
	No	Count	29	4	2	35	
		% of Total	19.7%	2.7%	1.4%	23.8%	
	Not Sure	Count	12	0	1	13	
		% of Total	8.2%	0.0%	0.7%	8.8%	
Total		Count		9	6	147	
% of Total			6.1%	4.1%	100.0%		
		Yes	Item 10 (Ethical)			Total	
		No	Not Sure				

Item 10 (Legal)	Yes	Count	109	2	1	112	P<0.001
		% of Total	73.6%	1.4%	0.7%	75.7%	
	No	Count	13	2	1	16	
		% of Total	8.8%	1.4%	0.7%	10.8%	
	Not Sure	Count	14	4	2	20	
		% of Total	9.5%	2.7%	1.4%	13.5%	
Total		Count		8	4	148	
% of Total			5.4%	2.7%	100.0%		
Yes			Item 11 (Ethical)			Total	
Yes			Yes				
Item 11 (Legal)	Yes	Count	20	3	0	23	P<0.001
		% of Total	13.5%	2.0%	0.0%	15.5%	
	No	Count	26	51	3	80	
		% of Total	17.6%	34.5%	2.0%	54.1%	
	Not Sure	Count	22	16	7	45	
		% of Total	14.9%	10.8%	4.7%	30.4%	
Total		Count	68	70	10	148	
% of Total			45.9%	47.3%	6.8%	100.0%	
Yes			Item 12 (Ethical)			Total	
No			Not Sure				
Item 12 (Legal)	Yes	Count	11	6	2	19	P<0.001
		% of Total	7.5%	4.1%	1.4%	12.9%	
	No	Count	13	76	5	94	
		% of Total	8.8%	51.7%	3.4%	63.9%	
	Not Sure	Count	11	11	12	34	
		% of Total	7.5%	7.5%	8.2%	23.1%	
Total		Count	35	93	19	147	
% of Total			23.8%	63.3%	12.9%	100.0%	
Yes			Item 13 (Ethical)			Total	
No			Not Sure				
Item 13 (Legal)	Yes	Count	12	2	2	16	P<0.001
		% of Total	8.1%	1.4%	1.4%	10.8%	
	No	Count	38	59	6	103	
		% of Total	25.7%	39.9%	4.1%	69.6%	
	Not Sure	Count	13	8	8	29	
		% of Total	8.8%	5.4%	5.4%	19.6%	
Total		Count	63	69	16	148	
% of Total			42.6%	46.6%	10.8%	100.0%	
Yes			Item 14 (Ethical)			Total	
No			Not Sure				
Item 14 (Legal)	Yes	Count	70	17	3	90	P<0.001
		% of Total	48.3%	11.7%	2.1%	62.1%	
	No	Count	5	19	3	27	
		% of Total	3.4%	13.1%	2.1%	18.6%	
	Not Sure	Count	6	10	12	28	
		% of Total	4.1%	6.9%	8.3%	19.3%	
Total		Count	81	46	18	145	
% of Total			55.9%	31.7%	12.4%	100.0%	
Yes			Item 15 (Ethical)			Total	
No			Not Sure				

Item 15 (Legal)	Yes	Count	81	10	3	94	P<0.001
		% of Total	55.1%	6.8%	2.0%	63.9%	
	No	Count	16	6	1	23	
		% of Total	10.9%	4.1%	0.7%	15.6%	
	Not Sure	Count	16	4	10	30	
		% of Total	10.9%	2.7%	6.8%	20.4%	
Total	Count	113	20	14	147		
% of Total		76.9%	13.6%	9.5%	100.0%		

Supplementary Table 2: Subgroup Analyses for Item 2, 5, and 7.

		Yes	No	Not Sure	Total	
Item 2	Yes					p= 0.019
	n	22	30	5	57	
	%	15.17	20.69	3.45	39.31	
	No					
	n	16	65	7	88	
	%	11.03	44.83	4.83	60.69	
	Total					
	n	38	95	12	145	
%	26.21	65.52	8.28	100.00		
Item 2 (Medical Students)	Yes					p= 0.081
	n	17	24	5	46	
	%	19.32	27.27	5.68	52.27	
	No					
	n	7	31	4	42	
	%	7.95	35.23	4.55	47.73	
	Total					
	n	24	55	9	88	
%	27.27	62.50	10.23	100.00		
(Item 2 (Physicians)	Yes					p= 0.199
	n	5	6	0	11	
	%	8.77	10.53	0.00	19.30	
	No					
	n	9	34	3	46	
	%	15.79	59.65	5.26	80.70	
	Total					
	n	14	40	3	57	
%	24.56	70.18	5.26	100.00		

		Yes	No	Not Sure	Total	
Item 5	Yes					p= 0.041
	n	28	21	7	56	
	%	19.31	14.48	4.83	38.62	
	No					
	n	26	48	15	89	
	%	17.93	33.10	10.34	61.38	
	Total					
	n	54	69	22	145	
%	37.24	47.59	15.17	100.00		
Item 5 (Medical Students)	Yes					p=0.044
	n	22	16	7	45	
	%	25.00	18.18	7.95	51.14	
	No					
	n	10	23	10	43	
	%	11.36	26.14	11.36	48.86	
	Total					
	n	32	39	17	88	
%	36.36	44.32	19.32	100.00		
(Item 5 (Physicians	Yes					p= 0.530
	n	6	5	0	11	
	%	10.53	8.77	0.00	19.30	
	No					
	n	16	25	5	46	
	%	28.07	43.86	8.77	80.70	
	Total					
	n	22	30	5	57	
%	38.60	52.63	8.77	100.00		

		Yes	No	Not Sure	Total	
Item 7	Yes					p=0.036
	n	41	8	7	56	
	%	28.28	5.52	4.83	38.62	
	No					
	n	48	29	12	89	
	%	33.10	20.00	8.28	61.38	
	Total					
	n	89	37	19	145	
%	61.38	25.52	13.10	100.00		
Item 7 (Medical Students)	Yes					p=0.064
	n	32	6	7	45	
	%	36.36	6.82	7.95	51.14	
	No					
	n	21	14	8	43	
	%	23.86	15.91	9.09	48.86	
	Total					
	n	53	20	15	88	
%	60.23	22.73	17.05	100.00		
(Item 7 (Physicians	Yes					p= 0.468
	n	9	2	0	11	
	%	15.79	3.51	0.00	19.30	
	No					
	n	27	15	4	46	
	%	47.37	26.32	7.02	80.70	
	Total					
	n	36	17	4	57	
%	63.16	29.82	7.02	100.00		