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Research Article

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The Treatment of Adolescent Pregnant and Adolescent Mothers Aged 13–18 Years With Non-Obstetric Surgery Indications: The opinions of Turkish surgeons

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ABSTRACT

Introduction: Adolescent pregnancy (AP) is defined as pregnancy in girls between the ages of 13–19 while adolescent motherhood (AM) describes adolescents who become mothers during this period. The current study aimed to gather the opinions of surgeons working in Pediatric Surgery, General Surgery, Gynaecology, and Urology in Turkey on which departments and specialists should perform the surgical management of these patients.

Methods: A questionnaire designed to gather the opinions of Turkish surgeons working in Pediatric Surgery, General Surgery, Gynaecology, and Urology on the management of non-obstetric surgical diseases that occur in AP and AM was distributed using Google Forms.

Results: The questionnaires were answered by pediatric surgeons (n=80), gynaecologists (n=62), general surgeons (n=45) and urologists (n=37). As seen in the responses, while 62,2% of general surgeons believed that all patients under the age of 18 should be considered as children and treated by pediatric surgeons, 88,5% of gynaecologists, 56,8% of urologists, and 52,5% of pediatric surgeons disagreed. The differences between the responses were also found to be significant ($p<0.001$).

Conclusion: The results indicated that most pediatric surgeons working in Turkey — and a significant number of adult surgeons from other specialisms — believed that the surgical treatment of AP and AM patients should not be managed exclusively by pediatric surgeons. Further, the results suggested that in Turkey, pediatric surgeons and adult surgeons failed to agree on this issue, and thus, additional legal regulations are required to guide medical professionals on this issue to mitigate instances of malpractice cases and improve child safety in medical settings. Ultimately, we believe that the best solution is to reduce the number of adolescents becoming pregnant via education on abstinence and/or contraception

Keywords: *Adolescent pregnancy, Adolescent motherhood, Surgical management*

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Introduction

Adolescence is defined as the period between the ages of 10–19; adolescent pregnancy (AP) is defined as pregnancy in girls aged 13–19 [1-5]; adolescent motherhood (AM) describes adolescents who become mothers during this period [2]. AP, which develops before girls reach full adulthood physically and mentally, continues to be a global public health problem in terms of its medical, legal, emotional, financial, and social aspects [1,6]. According to World Health Organization (WHO) data, AP accounts for approximately 12 million births per year in developing countries [2]. In 2018, Turkey's Demographic and Health Survey reported that the average incidence of AP was 35 live births per 1000 women, which was higher than in developed countries [6]. According to data from the Turkish Statistical Institute, Turkey's adolescent birth rate was 0.95% of all births [7].

AP and AM pose a risk of numerous non-obstetric surgical emergencies, the most common of which is acute appendicitis [1]. Apart from appendicitis, AP and AM often results in biliary tract and urinary system diseases, intestinal obstructions, ovarian pathologies, organ perforations in the abdomen, hernias, intraabdominal bleeding, and tumours, for which surgery is often required [2, 4, 6]. Multidisciplinary surgical management of these patients should be provided by departments including Gynaecology, Pediatric Health and Diseases, Pediatric Surgery, Child Psychiatry, and Radiology [1]. However, a consensus has not been reached between pediatric surgeons and adult surgeons in the surgical management of such patients. The debate about the appropriate age limits to decide if pediatric or adult surgeons should treat AP and AM patients remains controversial. To address this gap in the literature, the current study aimed to gather the opinions of surgeons working in Pediatric Surgery, General Surgery, Gynaecology, and Urology in Turkey as departments and specialists involved in the surgical management of these patients.

Methods

The study was approved by the Ethics Committee of Mustafa Kemal University (03/06/2021-01). A questionnaire designed to gather the opinions of Turkish surgeons working in Pediatric Surgery, General Surgery, Gynaecology, and Urology on the management of non-obstetric surgical diseases that occur in AP and AM was distributed using Google Forms. The questionnaires were sent online via Google Forms to pediatric surgeons, gynaecologists, general surgeons, and urology specialists separately. The questionnaire questions are summarised in Table 1. In Turkey, those aged 16–18 can legally marry after the age of 16 with parental consent; thus, the questionnaire targeted the opinions of Turkish surgeons in relation to two cohorts of PA and AM patients, namely, 13–16 and 16–18-year-olds. The responses of each branch of surgeons to the questionnaire were examined.

Data analysis was performed using IBM's SPSS statistical package (Windows v. 21.0, IBM Corp., Armonk, NY, USA). Values of categorical variables are expressed as frequencies and percentages. Chi-square testing was used to analyse the relationships between these variables (likelihood ratio). Values below $P < 0.05$ were accepted as significant.

Results

The questionnaires were answered by pediatric surgeons (*n*=80), gynaecologists (*n*=62), general surgeons (*n*=45), and urologists (*n*=37). The responses to questions 1–4 are summarised in Table 2; the responses to questions 5–8 are summarised in Table 3. As seen in the responses to item 5, 84.4% of general surgeons believed that pediatric surgeons should treat AP and AM patients aged 13–16; 80.6% of gynaecologists, 40.5% of urologists, and 37.5% of pediatric surgeons believed that adult surgeons should treat these patients. The differences between the responses to item 5 were found to be significant ($p<0.001$). As seen in the responses to item 6, while 55,6% of general surgeons believed that pediatric surgeons should treat AP and AM patients, 95,2% of gynaecologists, 70,3% of urologists, and 56,3% of pediatric surgeons opined that adult surgeons should treat these patients. The differences between the responses to item 6 were found to be significant ($p<0.001$).

	The questionnaire questions
1	Name of institution
2	Specialism.
3	How many years have you been working in this profession
4	Your academic title
5	Who do you think should treat pregnant adolescents or adolescent mothers between the ages of 13–16 who have non-obstetric surgical indications?
6	Who do you think should treat pregnant adolescents or adolescent mothers between the ages of 16–18 who have non-obstetric surgical indications?
7	In your clinic, which department or departments manage the pregnant adolescents or adolescent mothers between the ages of 13–18 who have non-obstetric surgery indications?
8	Do you agree that all children under the age of 18 who are pregnant or adolescent mothers should be considered children and should be treated by pediatric surgeons?

Table 1. The questionnaire questions

Question			**Departments** Pediatric surgery n (%)	General surgery n (%)	Gynaecology n (%)	Urology n (%)
1	Institution	University	64 (80)	29 (64.5%)	4 (6.5%)	31(83.8%)
		Public Hospital	10 (12.5)	12 (26.6%)	28 (45.1%)	2 (5.4%)
		Private hospital	6 (7.5)	4 (8.9%)	30 (48.4%)	4 (10.8%)
2	Specialism	Pediatric surgery	72 (90)	45 (100%)	62 (100%)	37 (100%)
		Pediatric surgery + Pediatric urology	8 (10)			
3	Year	0-5	8 (10)	15 (33.3%)	10 (16.1%)	15 (40.5%)
		6-10	19 (24)	11 (24.4%)	9 (14.5%)	5 (13.5%)
		11-15	16 (20)	8 (17.8%)	13 (21%)	9 (24.4%)
		>16	37 (46)	11 (24.4%)	30 (48.4%)	8 (21.6%)
4	Academic title	Research fellow	39 (48)	38 (84.4%)	59 (95.2%)	28 (75.7%)
		Associate professor	19 (24)	5 (11.1%)	1 (1.6%)	2 (5.4%)
		Professor	22 (28)	2 (4.5%)	2 (3.2%)	7 (18.9%)

Values are expressed as totals and percentages in parentheses.

Table 2. Responses to items 1—4. Values are expressed as totals and percentages in parentheses.

As seen in the responses to item 8, although 62,2% of general surgeons believed that all patients under the age of 18 should be considered as children and treated by pediatric surgeons, 88,5% of gynaecologists, 56,8% of urologists, and 52,5% of pediatric surgeons disagreed. The differences between the responses to item 8 were also found to be significant ($p<0.001$).

Discussion

Adolescence usually occurs between the ages of 10–19 and is marked by the emergence of secondary sex characteristics and ends with the completion of physical growth and emotional maturity [8]. The global prevalence of AP varies depending on cultural and socioeconomic differences such as traditional behaviours, age at marriage, religious beliefs, family structure, access to family planning services, and education and economic status [2, 3]. Both the mother and the baby are adversely affected if a woman becomes pregnant before completing her physical, mental, and social development [2, 3]. Because adolescent girls do not have the necessary physical preparation for childbirth, the risk of maternal mortality is higher for mothers of this age than for mature mothers [2-4]. The issue of which department or departments should manage non-obstetric surgical interventions for AP and AM patients during this stressful period remains a matter of debate among surgeons. While some social and obstetric studies have investigated these patient cohorts [2, 3, 6], there is a lack of consensus on which department(s) should provide surgical management for AP and AM patients.

Question			Departments			
			Pediatric surgery n (%)	General surgery n (%)	Gynaecology n (%)	Urology n (%)
5	Specialism	Pediatric surgery	43 (53.8)	38 (84.4)	12 (19.4)	22 (59.0)
		Adult surgeon	30 (37.5)	4 (8.9)	50 (80.6)	15 (40.5)
		Others	7 (8.7)	3 (6.7)	0	0
6	Specialism	Pediatric surgery	25 (31.3)	25 (55.6)	3 (4.8)	11 (29.7)
		Adult surgeon	45 (56.3)	19 (42.2)	59 (95.2)	26 (70.3)
		Others	10 (12.4)	1 (2.2)	0	0
7	Departments	Pediatric surgeon	26 (32.5)	14 (29.5)	1 (1.6)	10.8
		Adult surgeon	10 (12.5)	6 (11.4)	36 (57.4)	26.9
		Pediatrician Pediatric surgeon Gynaecology Radiology	44 (55)	25 (54.5)	25 (41)	48.6
8	Agree	Yes	29 (36.3)	28 (62.2)	6 (9.8)	14 (37.8)
		No	42 (52.5)	16 (35.6)	54 (88.5)	21 (56.8)
		Other	9 (12.2)	1 (2.2)	1 (1.7)	2 (5.4)

Values are expressed as totals and percentages in parentheses.

Table 3. Responses to items 5-8. Values are expressed as totals and percentages in parentheses.

To the best of our knowledge, the present study is the first to address this subject in the literature. International conventions clearly state that all patients under the age of 18 years old should be considered children [9]; the Turkish Ministry of Health stated that those under 18 years old are defined as children and should be treated by pediatric surgeons (circular letter dated 2018/30) [10]. The Turkish pediatric surgery education curriculum (TÜMKOS) (28.09.2018) defines the age range of interest for pediatric surgery as from fetus to adult [11]. However, there is no separate definition for AP and AM patients in the same curriculum [11]. Furthermore, no definitions of AP and AM patients exist in the Turkish Gynecology education curriculum (TÜMKOS, 12.10.2017), the Turkish Urology education curriculum (26.05.2021), and the Turkish general surgery education curriculum (10.11.2021) (TÜMCOS) [12, 13, 14]. Unfortunately, females aged 13–18, who are considered children under these definitions, continue to become pregnant and raise their babies. For this reason, as seen in the responses to items 5, 6, and 8 (Table 3), pediatric surgeons, gynaecologists, and urologists working in Turkey mostly think that although these patients are under the age of 18, they should be treated by adult surgeons. On the contrary, general surgeons mostly think that this patient group should be accepted as children and should only be treated by pediatric surgeons. As suggested by the responses to the questionnaire, general surgeons are reluctant to treat under-18s due to concerns about the possibility of malpractice cases. Conversely, the majority of pediatric surgeons believe that under-18s will no longer be accepted as children physiologically and so adult surgeons should operate on them. A statistically significant difference was observed between the responses given to items 5, 6, and 8 ($p<0,001$). Based on our clinical observations and the responses to the questionnaire items, it appears that no consensus exists among pediatric surgeons and adult surgeons on who should treat this particular age group. As seen in Table 2-3, the approach of each clinic differs. For example, while some doctors think that adolescent patients should no longer be treated as children, others think that because these patients are under 18, they should be considered to be children regardless. In adolescent pregnancies, mothers and babies face life-threatening events such as maternal death, premature birth, low birth weight, preeclampsia,

neonatal death, labour interventions, and/or psychiatric diseases [1, 3, 6]. In light of the above findings on treating patients under 18, as well as the increasing number of malpractice cases and concerns over child safety, we posit that it remains difficult to reach a consensus about the exact cut-off age for AP and AM patients to be treated by either pediatric surgeons or adult surgeons.

According to a study by Pandis and colleagues, the management of adolescent patients requires interventions carried out by multidisciplinary teams in tertiary referral centres, usually gynaecologists specialising in adolescents, fertility specialists, geneticists, endocrinologists, pediatricians, psychologists, specialist nurses, and endoscopic surgeons [8]. It was noteworthy that pediatric surgeons were not specified as being required for the management of adolescent patients in this study [8]. In addition, in Turkey, no such specialist centres dedicated to the treatment of AP and AM patients exist. Meanwhile, the literature on the treatment of AP and AM patients shows that, in a few cases, these patients were treated by pediatric surgeons only [1, 4]. In addition, in practice, it remains unclear as to which surgical departments will agree to treat AP and AM patients. Crucially, the declaration of Sick Child's Rights issued at the 7th Conference in Brussels in 2001 recommended that children should not be admitted to adult units [15, 16]. In our opinion, İt would be beneficial to provide special separate services for AP and AM patients within Turkish hospitals.

In our study, in the case of non-obstetric surgical diseases in AP and AM patients, over half (56,3%) of pediatric surgeons believed that those aged 16–18 should be treated by adult surgeons (Table 3). On the contrary, general surgeons mostly believed that pediatric surgeons should treat AP and AM patients aged 16–18 (Table 3). In contrast, gynaecologists and urologists believed that AP and AM patients aged 13–16 — and especially those aged 16–18 — should be treated by adult surgeons (Table 3).

Conclusion

The results indicated that most pediatric surgeons working in Turkey — and a significant number of adult surgeons from other specialisms — believed that the surgical treatment of AP and AM patients should *not* be managed exclusively by pediatric surgeons. Further, the results suggested that in Turkey, pediatric surgeons and adult surgeons failed to agree on this issue, and thus, additional legal regulations are required to guide medical professionals on this issue to mitigate instances of malpractice cases and improve child safety in medical settings.

Despite its merits, the present study is subject to the limitation that it focused only on Turkish healthcare professionals' beliefs about which specialisms should treat AP and AM patients in Turkey. Therefore, the results do not reflect the opinions and beliefs of healthcare professionals in other countries on which specialisms should manage these patients. Future studies should address this issue in other countries to provide a more comprehensive overview of this controversial area because which department(s)/specialists should treat AP and AM patients remains an important question to be resolved both to provide the best care to these patients, safeguard healthcare professionals from malpractice, and manage concerns over child safety. Ultimately, we believe that the best solution is to reduce the number of adolescents becoming pregnant via education on abstinence and/or contraception.

References

1. Karaman E, Hamid G, Çabuş Ü, et al. Perforated appendicitis case as acute abdomen in an adolescent pregnant girl. Pamukkale Medical Journal. 2020; 13(3): 827-32.
2. Darroch JE, Woog V, Bankole A, et al. Adding It Up: Costs and Benefits of Meeting the Contraceptive Needs of Adolescents, New York: Guttmacher Institute.2016.
3. Selma Ş, Kavlak O. Child Brides: Approach to Early Marriage and Adolescent Pregnancies. Journal of Social Policiy Studies. 2011; 25(25: 35-44.
4. Brăila AD, Zavate AC, Stepan AE, et al. The acute abdomen in pregnancy and postpartum of a teenager woman. Case report. Rom J Morphol Embryol. 2018; 59(3): 939-43.

5. Cook SMC, Cameron ST. Social issues of teenage pregnancy. Obstet Gynaecol Reprod Med. 2015; 25(9): 243–48.
6. Kaplanoglu M, Bülbül M, Konca C, et al. Gynecologic age is an important risk factor for obstetric and perinatal outcomes in adolescent pregnancies. Women Birth. 2015; 28: 119-23.
7. https://webcache.googleusercontent.com/search?q=cache:vJmFpxJ-b1IJ:https://www.tuik.gov.tr/en/&cd=1&hl=tr&ct=clnk&gl=tr
8. Pandis GK, Michala SM, Creighton, et al. Minimal access surgery in adolescent gynaecology. BJOG: An International Journal of Obstetrics & Gynaecology. 2009; 116.2: 214-19.
9. Unicef. (1989). Convention on the Rights of the Child.
10. https://www.saglik.gov.tr/TR,10357/saglik-mevzuati.html
11. https://tuk.saglik.gov.tr/Eklenti/29662/0/cocukcerrahisimufredati-v24pdf.pdf
12. https://tuk.saglik.gov.tr/Eklenti/29567/0/kadinhastaliklarivedogummufredatv23pdf.pdf
13. https://tuk.saglik.gov.tr/Eklenti/41123/0/urolojimufredat-v24.pdf
14. https://www.turkcer.org.tr/files/publications/95/a2bec2b166c7c55d7cf61e9f7ec917ec.pdf
15. Fuchs E. Children's rights and global civil society. Comparative Education. 2007; 43.3: 393-412.
16. Emel D, Erhan Y. Defining the Effect of Child Labour Training Module on NGO's Attitudes Towards Child Rights. Ankara Med J. 2020; 20(1): 69-78.