

Quality medical care for adolescents: adolescents *versus* physicians' perception

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Abstract

Introduction and Objectives: Adolescence is a key developmental period, requiring a distinct clinical approach. Aspects such as communication, confidentiality, and privacy are particularly relevant in adolescence, as indicators of the quality of health care according to the World Health Organization. This study aimed to assess the quality of health care provided to adolescents in a tertiary hospital, based on adolescents' and physicians' perspectives. **Method:** Adolescents attending the outpatient clinic and physicians who may regularly see adolescents in consultation (including pediatricians and other specialties) were invited to participate. Two content-matched questionnaires assessing medical care for adolescents were applied to both groups. **Results:** A total of 112 adolescents and 80 physicians participated. Most adolescents felt empathy with the doctor (98.1%), felt involved in therapeutic decisions (90.7%), and reported spending time alone with the doctor during the consultation (85.9%). Almost all physicians (98.8%) reported showing an empathetic attitude towards gender identity, sexual orientation, ethnicity, and religion and reported that they managed to establish a therapeutic relationship with the adolescents. There was a tendency for non-pediatricians to report a greater interest in seeing adolescents compared to pediatricians (Md = 4/5 versus Md = 3/5; $p = 0.057$). Most physicians (81.3%), but a minority of adolescents (37.1%), perceived that the concept of confidentiality was explained during the appointment ($p < 0.001$). **Discussion:** There seems to be a growing awareness in the medical community of the emergent need for differentiated care in adolescence. Yet, topics such as confidentiality still require improvement, which highlights the need to invest in medical training in this area, even among pediatricians.

Keywords: Adolescents. Quality medical care. Perceptions.

Cuidado médico de qualidade para adolescentes: percepção dos adolescentes *versus* a dos médicos

Resumo

Introdução e Objetivos: A adolescência é um período chave do desenvolvimento, exigindo uma abordagem clínica distinta. Aspectos como comunicação, confidencialidade e privacidade têm especial relevância, sendo indicadores da qualidade dos cuidados de saúde prestados segundo a Organização Mundial de Saúde. Este estudo teve como objetivo avaliar a qualidade dos cuidados de saúde prestados a adolescentes num hospital terciário, com base na percepção dos adolescentes e dos médicos.

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Métodos: Participaram no estudo adolescentes seguidos em consulta e médicos que observam adolescentes em consulta (independentemente da especialidade). Dois questionários complementares foram aplicados a ambos os grupos, de forma a avaliar o atendimento médico ao adolescente. **Resultados:** Participaram 112 adolescentes e 80 médicos. A maioria dos adolescentes sentiu empatia com o médico (98,1%), sentiu-se envolvido nas decisões terapêuticas (90,7%) e relatou ficar sozinho com o médico (85,9%). Quase todos os médicos (98,8%) relataram ter uma atitude empática em relação à identidade de género, orientação sexual, etnia e religião; e relataram estabelecer uma relação terapêutica com os adolescentes. Constatou-se uma tendência para os médicos não pediatras relatarem maior interesse em atender adolescentes em comparação com os médicos pediatras ($Md = 4/5$ versus $Md = 3/5$; $p = 0,057$). A maioria dos médicos (81,3%), mas não a maioria dos adolescentes (37,1%) considera que o conceito de confidencialidade foi explicado durante a consulta ($p < 0,001$). **Discussão:** Parece haver uma consciência crescente na comunidade médica da necessidade emergente de cuidados diferenciados na adolescência. Contudo, a abordagem de temas como confidencialidade, precisa de ser melhorada, evidenciando a necessidade de investir na formação médica nesta área, inclusive entre os pediatras.

Palavras-chave: Adolescentes. Qualidade dos cuidados de saúde. Percepções.

Keypoints

What is known

- Adolescence is a key period in the development of the individual.
- Adolescents need a clinical approach that is considerably distinct from that used at other ages.
- The World Health Organization has established indicators of the quality of health care in adolescence.

What is added

- This is a pioneering study in Portugal comparing the perspectives of adolescents and physicians on the quality of health care provided.
- There seems to be a growing awareness in the medical community of the need for differentiated care in adolescence.
- The approach to some topics, such as suicidal ideation, obtaining informed consent, and explaining the concept of confidentiality still needs improvement.
- The low level of interest among pediatricians in observing adolescents reinforces the need to invest in training in this area.

Introduction

The World Health Organization (WHO) defines adolescence as the age between 10 and 19 years old¹. This is a key period in the development of the individual, with several changes taking place at the biological, cognitive, and psychosocial levels^{2,3}. Over the last few decades, there has been an epidemiological shift in the health problems affecting adolescents worldwide¹. This has included a reduction in the prevalence of most infectious diseases and an increase in mental health problems, intentional and unintentional violence, substance use, sexually transmitted infections, unplanned pregnancy, abortion, obesity, and chronic illness¹. Many of these major health problems reflect the high rates of risky behaviors typical of this age, motivated by the delayed maturation of the prefrontal cortex, which controls impulses and critical capacity⁴. Besides genetic and biological factors, social context also contributes to these problems (stressful life, insertion in unsafe communities, family dysfunction, lack of resources for physical exercise and adequate nutrition, amongst others)⁵.

Therefore, it is evident that there is a need for a differentiated clinical approach to adolescents, as an adolescent is neither a child nor an adult¹. Aspects such as communication, confidentiality, privacy, informed consent, and prevention/anticipatory care require particular attention^{5,6}. This new paradigm in adolescent treatment requires health professionals to have specific knowledge about this age group, namely their biopsychosocial development, particularities in interviewing adolescents, ethical-legal aspects, nutrition, mental health, substance use and other risky behaviors, sexual health, prevalent pathologies, and chronic diseases⁵. According to the WHO, the concept of a quality service in adolescence is based on eight global standards: adolescent health literacy; community support; adequate provision of services (adequate language regarding information, counseling, diagnoses, and treatments); increase in the competence of professionals; improvement of the characteristics of the facilities; equity and non-discrimination; improvement in available data and its quality; and more active adolescent participation in the decisions about their health^{7,8,9,10}.

It is extremely important to develop and implement national quality standards and a monitoring system to better respond to the health needs of this population sector, aiming to reach the standards recommended by the WHO. This continuous improvement in the provision of care to adolescents will have to be interconnected with the training of not only pediatricians, but also other physicians dedicated to other areas who may see adolescents, since they have a very relevant role in their health care.

As such, this study aims to assess the quality of health care provided to adolescents in the context of a consultation in a tertiary-level hospital. It takes into account the perceptions of adolescents and physicians, analyzing potential differences in the perceptions of pediatricians and non-pediatricians. It also aims to identify the aspects that should be improved in order to meet the needs of this particular population sector.

Method

Participants

This exploratory study used a non-probabilistic, non-intentional, convenience sample of adolescents attending an outpatient clinic, as well as an independent sample of physicians who may regularly see adolescents in consultation (regardless of the specialty), in a tertiary-level hospital in Portugal. Exclusion criteria included cognitive alterations or mental issues in adolescents that could compromise their interpretation and response to the questionnaires.

Informed consent/assent was signed by all the participants (i.e., adolescents and physicians).

This study was approved by the Ethics Committee of the Faculty of Medicine of the University of Lisbon, Portugal (2023) and is in accordance with the 1964 Helsinki Declaration and its subsequent amendments or comparable ethical standards.

Procedures

Two content-matched questionnaires were administered to adolescents (in the hospital waiting room) and physicians (online) throughout one month.

Questionnaire

The questionnaires were drafted based on a WHO document that had been developed and validated to assess the quality of health services provided to

adolescents according to defined global standards for quality services to adolescents⁹.

The questionnaires were split into two sections: i) sociodemographic characteristics and ii) perceptions of medical care for adolescents (section II).

Statistical analyses

Data analysis was performed using the IBM SPSS statistics software (version 28.0, IBM, New York, USA). Descriptive characteristics, i.e., median (interquartile range [IR]), were calculated for skewed outcomes. Chi-squared tests were used to analyze differences between adolescents' and physicians' perceptions and between pediatricians' and non-pediatricians' perceptions. Additionally, for variables showing significant differences between pediatricians' and non-pediatricians' perceptions, regression models were computed, which were also adjusted for the length of time since finishing their medical degree and age. A p-value of ≤ 0.05 was considered statistically significant.

Results

Sample characteristics

A total of 112 adolescents (59.8% females), with a median age of 15 years (95% CI: 13.91-14.79), participated in this study. The majority ($n = 63$, 64.9%) were seen in a pediatric consultation. The remainder were seen in seven other specialties.

Eighty physicians (86.3% females), with a median age of 31 years (95% CI: 33.9-39), participated in this study. Almost 70% ($n = 54$, 67.5%) of the physicians were dedicated to pediatrics, with the rest from 13 other specialties. Approximately half of the physicians ($n = 38$, 47.5%) were specialists and the median time since finishing their medical degree was seven years (95% CI: 9.8-14.8).

The participants' characteristics are presented in [table 1](#).

Adolescents' perceptions

Regarding the adolescents' responses to the questionnaires ($n = 112$), 98.1% felt empathy with the doctor during the appointment, 90.7% felt involved in therapeutic decisions, 86.5% considered the appointment's scheduling convenient, 85.9% reported spending some time alone with the doctor during the consultation and having the perception of privacy during observation,

Table 1. Demographic characteristics of adolescents and physicians interviewed

Variable	Age (years) Median (IR) [Age; range]	Gender (feminine) n (%)	Consultation specialty, n (%)	Professional grade (specialist) n (%)	Time since finishing MD (years) Median (IR) [Time; range]
Adolescents (n = 112)*	15 (4) [10; 18]	67 (59.8%)	Pediatrics, 63 (64.9%) Rheumatology, 7 (7.2%) Neurosurgery, 7 (7.2%) Pediatric Surgery, 6 (6.2%) Endocrinology, 6 (6.2%) Dermatology, 5 (5.2%) Genetics, 2 (2.1%) Pediatric Cardiology, 1 (1%)		
Physicians (n = 80)	31 (15) [25; 66]	69 (86.3%)	Pediatrics, 54 (67.5%) Immunoallergy, 4 (5%) Child Psychiatry, 4 (5%) Pediatric Surgery, 2 (2.5%) Dermatology, 2 (2.5%) PMR, 2 (2.5%) GFM, 1 (1.3%) Neurosurgery, 1 (1.3%) Neurology, 1 (1.3%) Stomatology, 1 (1.3%) Endocrinology, 1 (1.3%) Genetics, 1 (1.3%) Psychiatry, 1 (1.3%) Rheumatology, 1 (1.3%) Not applicable, 4 (5 %)	38 (47.5%)	7 (14) [1; 43]

*Out of all the adolescents, only 97 answered the consultation specialty.

GFM: general and family medicine; IR: interquartile range; MD: medical degree; PMR: physical medicine and rehabilitation; SD: standard deviation.

and 78.4% reported being asked for informed consent prior to any treatment, procedure, or examination. Most of the adolescents reported that the physicians evaluated eating habits (67.3%), physical activity (73.8%), and school environment (74.3%). A minority of adolescents (37.1%) reported that the concept of confidentiality was explained to them and that the physician asked about home or family (46.2%), substance abuse (21.9%), healthy sexuality (12.4%), and the presence of self-injurious behaviors or suicidal ideation (43.7%).

The overall totals for adolescents' answers to the questionnaire are presented in [table 2](#).

Physicians' perceptions

Almost all physicians (98.8%) reported that, exceptionally, they may see an adolescent in follow-up with no appointment who comes looking for help; consider having an empathetic attitude towards gender identity, sexual orientation, ethnicity, and religion; and reported that they managed to establish a therapeutic relationship with the adolescents. Seventy-one (91.3%) physicians reported promoting the autonomy of adolescents, involving them in therapeutic decisions and asking them

for informed consent, before any treatment, procedure, or examination. Most of the physicians also reported respecting adolescents' preferences when scheduling appointments (82.5%), being aware of the rights of adolescents as users of health services (82.5%), explaining the concept of confidentiality to the adolescent (81.3%), and having companions (78.8%). Half of the physicians reported asking directly about self-injurious behaviors and suicidal ideation and 32.5% reported not reserving a moment during consultation to be alone with the adolescent.

Half of the physicians (n = 40) reported that adolescents correspond to 25-49% of their clinical practice and 25 (31.3%) reported that adolescents represent less than 25%. Regarding their interest in seeing adolescents, 33.8% of physicians reported a level 4 of interest and 32.5% reported a level 3 of interest. When dealing with transgender adolescents, 46.3% of physicians answered by addressing them by the name of the trans sex and 43.8% answered "Never happened to me".

When comparing responses from pediatricians and non-pediatricians (n = 54 versus n = 26), there was a greater chance of the biopsychosocial sphere ($\beta = 1.58$, $p = 0.009$), puberty ($\beta = 1.72$, $p = 0.002$),

Table 2. Adolescents' answers to the questionnaire

Questions applied to adolescents (n = 112)	Yes, n (%)
Are appointments scheduled at times that are convenient for you and that take into account your school hours/holidays?	96 (85.7%)
Has the concept of confidentiality and its exceptions been explained to you?	39 (34.8%)
Do you usually spend some time alone with the doctor during the consultation?	73 (65.2%)
Is your consultation frequently interrupted by telephone calls or people entering the medical office?	25 (22.3%)
Does your doctor ask you about your eating habits?	70 (62.5%)
Does your doctor ask you about physical activity?	79 (70.5%)
Does your doctor ask you about school?	78 (69.6%)
Does your doctor ask you about family/home?	49 (43.7%)
Does your doctor ask you about substance abuse (including alcohol and tobacco)?	23 (20.5%)
Does your doctor ask you about your sexuality?	13 (11.6%)
Does your doctor ask you directly about self-injurious behaviors and suicidal ideation?	45 (40.2%)
Before any treatment, procedure, or examination, does your doctor ask you for informed consent?	80 (71.4%)
During your observation, do you have a perception of privacy (windows and doors closed, use of a folding screen)?	73 (65.2%)
Do you feel that you are involved in therapeutic decisions and that your opinion and preferences are taken into account?	88 (78.5%)
Do you feel empathy with your doctor during the consultation?	104 (92.9%)

and anthropometry ($\beta = 2.1$, $p = 0.001$) being assessed by pediatricians, regardless of the professional's age and years of experience (Table 3). Regarding the biopsychosocial sphere, significant differences were observed in the evaluation of eating behaviors ($p < 0.001$), physical activity ($p = 0.002$), school environment ($p = 0.004$), family/home ($p = 0.001$), and risk behaviors ($p = 0.046$), with these parameters being assessed more consistently by pediatricians. Also, there was a tendency for non-pediatricians to report a greater interest in seeing adolescents compared to pediatricians ($Md = 4/5$ versus $Md = 3/5$; $p = 0.057$). No significant differences were observed in the perception of the percentage of adolescents seen in clinical practice ($p = 0.062$) or in other variables.

Out of all the pediatricians ($n = 54$), 15 (27.8%) reported not allowing a moment during the consultation to be alone with the adolescent, 10 (18.5%) reported not explaining the concept of confidentiality, and 7 (13.0%) mentioned not asking the adolescent for informed consent before treatments, procedures, or physical examinations.

The overall totals for physicians' answers to the questionnaire are presented in table 4.

Perceptions of adolescents compared to physicians

Most physicians (81.3%), compared to 37.1% of adolescents, reported that the concept of confidentiality and its exceptions were explained during the appointment ($p < 0.001$). Other statistically significant differences were noted in the assessment of family life/home (70% versus 46.2%, $p = 0.001$), substance use (62.5% versus 21.9%, $p < 0.001$), and sexuality (56.3% versus 12.4%, $p < 0.001$). No other statistically significant differences relevant to the study were found.

An overall comparison of adolescents' and physicians' answers is presented in table 5.

Discussion

Adolescents' perceptions

Adolescents' perceptions regarding medical care highlighted several positive aspects, namely the establishment of empathy with the physician during the consultation and the empowerment of adolescents through their involvement in medical decisions, aspects that are known to be crucial in the therapeutic process, increasing therapeutic adherence^{11,12,13}. Appointment scheduling according to the adolescent's school hours or holidays is also reported by most adolescents, a strategy that is known to reduce the number of missed appointments or drop-outs, which is common in this age group¹¹. The majority of adolescents (65.2%) mentioned spending some time alone with the physician during the consultation, with this being a higher percentage than those found in other studies carried out in countries such as Belgium (35%) or the United States of America (30.6-34.6%). This is a very positive point, as this gives the adolescent the message that the physician is primarily interested in him or her, helping in the establishment of a rapport and a sense of trust^{11,14,16,16}. Most of the adolescents also reported that the physicians evaluated eating habits, physical activity, and school, themes that are part of the HEEADSSS

Table 3. Regression models with biopsychosocial, puberty, and anthropometric assessment as dependent variables (pediatricians' versus non-pediatricians' answers to the questionnaire)

Variable	Model 1			Model 2*			Model 3†		
	Beta	Standard error	p	Beta	Standard error	p	Beta	Standard error	p
Biopsychosocial assessment									
Specialty (Ref Pediatricians)	−1.609	0.592	p = 0.007	−1.630	0.596	p = 0.006	−1.575	0.603	p = 0.009
Puberty assessment									
Specialty (Ref Pediatricians)	−1.735	0.544	p = 0.001	−1.746	0.555	p = 0.002	−1.715	0.559	p = 0.002
Anthropometric assessment									
Specialty (Ref Pediatricians)	−2.079	0.584	p < 0.001	−2.101	0.589	p < 0.001	−2.060	0.595	p = 0.001

*Model 2 – adjusted for time since finishing medical degree.

†Model 3 – adjusted for time since finishing medical degree and age.

(Home, Education/Employment, Eating, Activities, Drugs/Substance use, Sexuality, Suicide, Safety) psychosocial interview, a useful tool, firstly described by Cohen et al. (1991)¹⁷, that provides a framework for clinicians to comprehensively evaluate different domains of adolescents' lives, helping to identify potential areas of concern or areas where intervention may be needed. It aids in understanding the holistic needs of adolescents and tailoring interventions accordingly¹⁸. On the other hand, only a minority reported being asked about other important items in the HEEADSSS psychosocial interview, such as home or family, substance abuse, healthy sexuality, and the presence of self-injurious behaviors or suicidal ideation. It is recommended that adolescents are asked directly about suicidal ideation, which does not increase the risk of committing the act, a common myth among healthcare professionals^{19,20}. This topic should be addressed in consultations and given even more importance in adolescents with mood swings, substance abuse, voluntary ingestion of medication, acute intoxication, accidents, or self-inflicted injuries^{11,19}.

Finally, an explanation of the concept of confidentiality was only reported by a minority of the adolescents. Confidentiality in a healthcare setting is defined as an agreement between the patient and the provider that the information discussed during or after the encounter will not be shared with other parties without the explicit permission of the patient, with the exception of the risk of imminent harm to the patient or others or suspected abuse²¹. It is best classified as a rule of biomedical ethics that derives from the moral principle of autonomy and accompanies other rules like promise-keeping, truthfulness, and privacy²¹. This is a mandatory aspect

of consultations with adolescents because if an assurance of confidentiality is not extended, this may raise a barrier to health care and may lead to the adolescent withholding information, delaying entry into health care, or even refusing treatment²¹. Other authors have reported that most adolescents desire confidentiality when questioned about their specific healthcare needs²².

Physicians' perceptions

Physicians' perceptions regarding adolescents' medical care fulfilled many of the criteria for a quality service in adolescence: most of the physicians reported observing an adolescent with no appointment; having an empathetic attitude towards gender identity, sexual orientation, ethnicity, and religion; being aware of the rights of adolescents as users of health services; and promoting the autonomy of the adolescents. These points highlight the importance of opportunism, non-discrimination, equity of care, competence of health professionals, and more active participation of adolescents in decisions, all of which are part of the standards recommended by the WHO^{7,8,9,10}.

On the other hand, half of the physicians reported not asking directly about self-injurious behaviors and suicidal ideation, consistent with the myth described in the above section among healthcare professionals, and approximately one third reported not allowing a moment during the consultation to be alone with the adolescent, which may create an obstacle to the health care of this population sector since the adolescent may withhold information in the presence of the caregiver¹¹.

Table 4. Overall physicians' answers and pediatricians' versus non-pediatricians' answers to the questionnaire

Questions applied to physicians	Overall (n = 80)	Pediatricians (n = 54)	Non-pediatricians (n = 26)	p
	Yes, n (%)			
Are you aware of the rights of adolescents as users of health services?	66 (82.5%)	47 (87%)	19 (73.1%)	0.124
When scheduling appointments for adolescents, do you keep school hours/holidays in mind?	55 (68.8%)	38 (70.4%)	17 (65.4%)	0.652
Exceptionally, would you observe an adolescent followed by you who had no appointment and who came looking for help?	79 (98.8%)	53 (98.1%)	26 (100%)	0.482
Do you explain the concept of confidentiality and its exceptions to the adolescent?	65 (81.3%)	44 (81.5%)	21 (80.8%)	0.939
Do you explain the concept of confidentiality and its exceptions to the companions?	63 (78.8%)	42 (77.8%)	21 (80.8%)	0.759
Do you reserve a moment during the consultation to be alone with the adolescent?	54 (67.5%)	39 (72.2%)	15 (57.7%)	0.194
Is your consultation frequently interrupted by telephone calls or people entering the medical office?	36 (45%)	25 (46.3%)	11 (42.3%)	0.737
Do you usually take notes/write on the computer while interviewing the adolescent?	62 (77.5%)	42 (77.8%)	20 (76.9%)	0.932
Do you think you show an empathetic attitude towards gender identity, sexual orientation, ethnicity, or religion?	79 (98.8%)	53 (98.1%)	26 (100%)	0.485
Do you routinely carry out a biopsychosocial assessment of the adolescent?	64 (80%)	48 (88.9%)	16 (61.5%)	0.004
Eating habits	59 (73.8%)	47 (87.0%)	12 (46.2%)	< 0.001
Physical activity	65 (81.3%)	49 (90.7%)	16 (61.5%)	0.002
School	64 (80%)	48 (88.9%)	16 (61.5%)	0.004
Family/Home	56 (70%)	44 (81.5%)	12 (46.2%)	0.001
Risky behaviors	55 (68.8%)	41 (75.9%)	14 (53.8%)	0.046
Substance abuse (including alcohol and tobacco)	50 (62.5%)	36 (66.7%)	14 (53.8%)	0.267
Healthy sexuality	45 (56.3%)	34 (63%)	11 (42.3%)	0.081
Do you ask directly about self-injurious behaviors and suicidal ideation?	40 (50%)	28 (51.9%)	12 (46.2%)	0.633
Before any treatment, procedure, or examination, do you ask the adolescent for informed consent?	73 (91.3%)	47 (87%)	26 (100%)	0.055
During the observation of the adolescent, do you provide a guarantee of their privacy (windows and doors closed, use of a folding screen)?	68 (85%)	45 (83.3%)	23 (88.5%)	0.547
Are you usually accompanied by another health professional during the examination of the adolescent?	45 (56.3%)	32 (59.3%)	13 (50%)	0.434
Do you routinely assess the adolescent's pubertal stage?	40 (50%)	34 (63%)	6 (23.1%)	0.001
Do you routinely assess the adolescent's anthropometric data?	61 (76.3%)	48 (88.9%)	13 (50%)	< 0.001
Have you participated in the development and/or provided information leaflets directed to adolescents?	21 (26.3%)	14 (25.9%)	7 (26.9%)	0.294
Do you promote autonomy of adolescents, involving them in therapeutic decisions?	73 (91.3%)	49 (90.7%)	24 (92.3%)	0.816
Do you prepare adolescents for the transition to adult care?	60 (75%)	42 (77.8%)	18 (69.2%)	0.408
Do you believe that during your consultations you manage to establish a therapeutic relationship with the adolescents?	79 (98.8%)	53 (98.1%)	26 (100%)	0.485

(Continues)

Table 4. Overall physicians' answers and pediatricians' versus non-pediatricians' answers to the questionnaire (continued)

Questions applied to physicians	Overall (n = 80)	Pediatricians (n = 54)	Non-pediatricians (n = 26)	p
	Yes, n (%)			
In your clinical practice, what is the approximate percentage of adolescents that you observe?				0.062
< 25 %	25 (31.3%)	13 (24.1%)	12 (46.2%)	
25-49%	40 (50%)	32 (59.3%)	8 (30.8%)	
50-75%	10 (12.5%)	5 (9.3%)	5 (19.2%)	
> 75%	5 (6.3%)	4 (7.4%)	1 (1.3%)	
On a scale of 1 to 5, where 1 is "not at all interested" and 5 is "very interested", where is your interest in observing adolescents?				0.150
1	4 (5%)	3 (5.6%)	1 (3.8%)	
2	9 (11.3%)	7 (13%)	2 (7.7%)	
3	26 (32.5%)	21 (38.9%)	5 (19.2%)	
4	27 (33.8%)	17 (31.5%)	10 (38.%)	
5	14 (17.5%)	6 (11.1%)	8 (30.8%)	
When dealing with transgender adolescents, how do you address them?				0.091
By the name of the phenotypic sex	1 (1.3%)	26 (48.1%)	11 (42.3%)	
By the name of the trans sex	37 (46.3%)	0 (0%)	1 (3.8%)	
No gender identification	7 (8.8%)	7 (13%)	0 (0%)	
Avoid using the name	0 (0%)	0 (0%)	0 (0%)	
Never happened to me	35 (43.8%)	21 (38.9%)	14 (53.8%)	

Table 5. Adolescents' versus physicians' answers to the questionnaire

Data evaluated in the questionnaire	Adolescents (n = 112) (Yes) n (%)	Physicians (n = 80) (Yes) n (%)	p
Appointment scheduling according to the adolescent's school hours/holidays	96 (86.5%)	55 (68.8%)	0.003
Explanation of the concept of confidentiality and its exceptions to the adolescent	38 (37.1%)	65 (81.3%)	< 0.001
Time alone with the adolescent during the consultation	73 (85.9%)	54 (67.5%)	0.005
Frequent interruption of the consultation by telephone calls or people entering the medical office	25 (24.3%)	36 (45%)	0.003
Assessment of eating habits	70 (67.3%)	59 (73.8%)	0.344
Assessment of physical activity	79 (73.8%)	65 (81.3%)	0.233
Assessment of school	78 (74.3%)	64 (80%)	0.362
Assessment of family life and home	49 (46.2%)	56 (70%)	0.001
Assessment of substance abuse (including alcohol and tobacco)	23 (21.9%)	50 (62.5%)	< 0.001
Assessment of a healthy sexuality	13 (12.4%)	45 (56.3%)	< 0.001
Assessment of self-injurious behaviors and suicidal ideation	45 (43.7%)	40 (50%)	0.396
Ask for informed consent before any treatment, procedure, or examination	80 (78.4%)	73 (91.3%)	0.019
Perception of privacy (windows and doors closed, use of a folding screen)	73 (85.9%)	68 (85%)	0.872
Involvement in therapeutic decisions	88 (90.7%)	73 (91.3%)	0.903
Empathy between doctor and adolescent during the consultation	104 (98.1%)	79 (98.8%)	0.733

Half of the total number of physicians surveyed indicated that the observation of adolescents corresponds to between a quarter and a half of their clinical practice, which is a considerable percentage and highlights the importance of training physicians in this area to achieve higher quality standards. Most physicians showed an interest in taking care of adolescents, which is a positive sign and reveals motivation. The perception that exists is that, despite the increasing training in this area, many physicians do not yet feel adequately prepared to provide adequate care to this age group⁵. When dealing with transgender adolescents, 46.3% of the physicians answered by addressing them by the name of the trans sex, revealing an empathetic attitude toward this growing community of adolescents.

As expected, the biopsychosocial sphere is more routinely evaluated by pediatricians than by physicians dedicated to other areas, even after adjusting for time since finishing their medical degree and for age. This is an area for improvement, considering that the percentage of adolescents seen is similar in both groups. Pediatricians revealed less interest in observing adolescents, despite the medical specialty of pediatrics in Portugal spanning the age range from 0 to 18 years old. One possible explanation for this finding is the significant variation and gaps that exist in adolescent medicine outpatient care training in pediatric residency programs, compared to training in other areas²³. This may be due, not only to their seeking less training in this field, but also to the limited availability of such training programs. This reinforces the complexity of health in adolescence and the need to invest in training among physicians, especially pediatricians.

Finally, it should be noted that 12% of pediatricians did not ask adolescents for informed consent before treatments, procedures, or examinations. Informed consent describes the process during which the patient learns the risks and benefits of alternative approaches to management and freely authorizes a course of action proposed by the clinician²¹. This is a legal obligation for adolescents over 16 years of age (mental health law in Portugal) and a moral and ethical concept for those under 16 years of age, since until this age it is the caregivers who give consent legally²⁴. Seeking the assent of a minor who is not legally authorized to consent demonstrates respect for the decision-making skills of a non-autonomous individual to the extent that he or she is able to participate in the decision²¹. This is particularly relevant for adolescents who are cognitively mature despite being below the age of legal majority and still dependent upon adults for their basic health-care decisions²¹.

Perceptions of adolescents compared to physicians

When comparing responses from pediatricians and adolescents, the most relevant aspect to mention is the discrepancy between the perception of the explanation of confidentiality between adolescents and physicians, which is lower in adolescents, with a statistically significant difference. This may reveal that, even though the physician conveys this information, it is not understood by the recipient, in this case, the adolescent. This is a barrier to establishing a trusting, empathetic, and respectful relationship with the adolescent¹. It is also important to explain its exceptions, not only to the adolescent but also to caregivers. Finally, adolescents also report a lower perception of assessment of family or home life, substance abuse, and healthy sexuality, compared to physicians. It is extremely relevant to assess these components in the biopsychosocial sphere because they reveal the adolescent's social context and assess the presence of risky behaviors, enabling the physician to act in prevention and anticipatory care.

Limitations and strengths

The main limitations of this study are its cross-sectional nature and the sample size.

In addition, a bias based on social desirability may have influenced study results, as has been previously reported²⁵. However, strategies such as the option to answer the questionnaire in a private room, anonymity, and confidentiality were adopted in order to minimize the occurrence of bias.

Moreover, since this study included participants (i.e., adolescents and physicians) from a tertiary-level health-care center, its findings may not be generalized to other population sectors.

Despite its limitations, to the best of our knowledge, this study, based on global WHO standards, is unique as it includes both adolescents' and physicians' perceptions of the quality of medical care provided to adolescents. The results and conclusions of this study may be relevant to improve the medical care provided to this age group.

Conclusions

The results of this study show that there seems to be a growing awareness in the medical community of the emergent need for differentiated care in this age group, as has already been demonstrated in previous studies²⁶. However, the approach to some topics, such as suicidal

ideation, obtaining informed consent, and explaining the concept of confidentiality, must be tackled further. Regarding confidentiality, a discrepancy was noticed between the adolescents' and physicians' perceptions, which represented a minority in adolescents, perhaps as a result of the difficulty in transmitting or receiving the information. The low level of interest among pediatricians in observing adolescents should be highlighted, even though Pediatrics as a specialty fully comprises this age group. In conclusion, the results reinforce the complexity of providing high-quality health care to adolescents and the need to continue investing in medical training in this field.

Author contributions

S. Freira: Critical review of the article for important intellectual content; Final approval of the version to be published; Agreement to be accountable for the accuracy or integrity of the work. H. Fonseca: Conception and design of the study, report, review or other type of work or paper; Final approval of the version to be published; Agreement to be accountable for the accuracy or integrity of the work. A. Videira-Silva: Conception and design of the study, report, review or other type of work or paper; Acquisition of data either from patients, research studies, or literature; Analysis or interpretation of data either from patients, research studies, or literature; Drafting the article; Critical review of the article for important intellectual content; Final approval of the version to be published; Agreement to be accountable for the accuracy or integrity of the work. M.B. Fonseca Moura: Critical review of the article for important intellectual content; Final approval of the version to be published; Agreement to be accountable for the accuracy or integrity of the work. Acquisition of data either from patients, research studies, or literature. S. Moeda: Critical review of the article for important intellectual content; Final approval of the version to be published; Agreement to be accountable for the accuracy or integrity of the work.

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Conflicts of interest

None.

Ethical considerations

Protection of humans and animals. The authors declare that no experiments involving humans or animals were conducted for this research.

Confidentiality, informed consent, and ethical approval. The authors have followed their institution's confidentiality protocols, obtained informed consent from patients, and

received approval from the Ethics Committee. The SAGER guidelines were followed according to the nature of the study.

Declaration on the use of artificial intelligence. The authors declare that no generative artificial intelligence was used in the writing of this manuscript.

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