

# Satisfaction levels about hospital wards' environment among adolescents hospitalized in adult wards vs. pediatric ones

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## ABSTRACT

**Background:** Adolescents admitted to hospital are either surrounded by children or adults. However, age-appropriate facilities are often not provided to meet the needs of adolescents, which should be incorporated in the wards. This study compares the satisfaction level about physical environment of the wards among adolescents who have been admitted to pediatric and adult wards.

**Materials and Methods:** In a cross-sectional study, 200 adolescents aged 10–19 were selected from adult and pediatric wards and studied for their level of satisfaction about physical environments of selected wards in Isfahan city.

**Results:** Among the adolescents surveyed in adult and pediatric wards, 44% and 54% reported high satisfaction levels with physical aspects of the ward environment and its facilities, respectively. The average satisfaction level among adolescents in pediatric wards was higher than among adolescents in adult wards ( $P = 0.04$ ). However, no significant difference was found between age, number, and length of *hospital admissions*, insurance, and satisfaction levels with physical aspects of the ward environment and facilities.

**Conclusions:** Adolescents reported better satisfaction with the pediatric wards' environment compared to adults' ward. They require specialized wards to meet their needs according to their developmental period. If not available, facilities should be provided in pediatric wards where adolescents have reported better satisfaction with the wards' environment.

**Key words:** Adolescents, environment, hospital, hospitalization, Iran, patient satisfaction

## INTRODUCTION

The environment consists of the surroundings and the cohesion of external factors and conditions which encompasses and affects one's development.<sup>[1]</sup> The adolescents are hospitalized in wards where they have to abide by schemes developed by adults.<sup>[2]</sup> However, adolescents have unique developmental requirements and medical needs which distinguish them from adults and children in terms of treatment plans and management challenges.<sup>[3]</sup> Providing age-appropriate care to adolescents is a challenge because adolescence is in a critical social and psychological developmental period which can be disrupted when hospitalized.<sup>[4]</sup> Hospitalized adolescents are either surrounded by adults with an average age above 60 years or by children. However, adolescents, making a substantial proportion of the population and belonging to the age group 10–20 years, form

13–15% of the population. So, greater consideration should be given to their hospitalization conditions.<sup>[5]</sup>

Adolescents need an environment which provides them with a sense of privacy, especially for activities like grooming and making phone calls. Adolescents with an increased history of hospitalization have a greater expectation in terms of privacy compared with those who are hospitalized less.<sup>[2]</sup> Most adolescents in general wards were unhappy with the lack of privacy which impacted in their activities of daily living such as showering, going to toilet, dressing, and grooming. Privacy is also particularly important when examination of breasts or genitalia is performed.<sup>[6]</sup>

Since 1959, adolescents' needs in hospital environments have attracted more attention. The concept of a "suitable environment" has been a common theme among different studies, which emphasizes on the unique needs of adolescents which are not met in adult or pediatric wards. An important study by Smith (2004) on 4000 adolescents showed that 81% of those who were hospitalized in adult wards felt alienated and withdrawn from the environment. Sixty-three percent believed the adults did not understand them and 50% believed adolescents should be hospitalized separately. Similar feeling of alienation was also felt

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in pediatric wards. Adolescents need to be among the adolescents who have shared experiences, with 99% believing they should be hospitalized with other teenagers.<sup>[4]</sup>

In another study by Ontario (2008), it was shown that adolescents in adult wards were unsatisfied about their daily activities, roommates, personal space, and privacy, especially in terms of phone conversations. In those who were in pediatric wards, 66% were unsatisfied about ward environment and 87% were unsatisfied with facilities.<sup>[6]</sup>

Despite protocols regarding communication with adolescents and provision of gender- and age-appropriate care facilities,<sup>[3]</sup> as well as clear guidelines to separate adolescents from rest of the patients,<sup>[7]</sup> adolescents are unfortunately being admitted to adult or pediatric wards in Iran. This could be due to lack of attention given to adolescents as a distinctive group.<sup>[4]</sup> Although there have been multiple surveys on adults' satisfaction with ward environment in Iran, no studies have been found that looked at teenagers. Adolescents are therefore forced to abide by the regulations within adult or pediatric wards, which are not suitable for them.

The main role of nurses is meeting the patients' needs. Given the unique needs of adolescents and the psychological consequences if these needs are not met, as well as the lack of appropriate facilities provided to this group in hospitals in Iran, the aims of this study are to identify and compare teenage satisfaction level about the physical aspects of environment in adult and pediatric wards and to examine the relationship between demographic factors and satisfaction level in the wards.

## MATERIALS AND METHODS

In a cross-sectional study, 100 adolescents aged 10–19 in adult wards and 100 adolescents in pediatric wards were enrolled in simple convenient method. The study took place in Amin and Al-Zahra hospitals in Isfahan city.

Sampling took place from June to September 2009. Inpatient satisfaction questionnaire, which was assessed by Zolphagary *et al.*,<sup>[8]</sup> was further reassessed by some professionals. After a pilot study was conducted, the reliability of the questionnaire was defined by using Cronbach's alpha test, through which the alpha coefficient of the questionnaire was found to be 0.85.

Inclusion criteria were: age 10–19 years, >1 day of hospitalization in adult or pediatric wards, and completion of questionnaire by the adolescent or assistance from the interviewer. Exclusion criteria consisted of questionnaires which were only completed by parents, and disability and hospitalization in multiple or mental wards.

The questionnaire consisted of three sections. The first section included five questions regarding demographic characteristics. The second section included seven questions on hospital name and type of ward (adult or pediatrics), hospital admission history, insurance type, and one open question: "Is development of an adolescent ward necessary and why?" Section 3 included 24 questions about ward's environment and facilities. The following scores were given to the available responses: Highly satisfied, 4; satisfied, 3; unsatisfied, 2; highly unsatisfied, 1; no comment, 0. The maximum possible total score was 96. The total score was adjusted to 100, then categorized into five levels of satisfaction: 0–20, very low; 20–40, low; 40–60, moderate; 60–80, high; and 80–100, very high.

A trained nurse was responsible for filling in the questionnaire. First, she explained patient's rights and confidentiality to them and then obtained their informed consent. Patients were also advised that their answers to questions will not affect the quality of their treatment, follow-up, or discharge from hospital. Then, the nurse filled in the questionnaire by interview before patients were discharged from the hospitals. Obtained data were analyzed using statistical descriptive tools such as mean, standard deviation, independent *t*-test, and Mann–Whitney U test by SPSS version 11.5.

## RESULTS

Results showed that males and females formed 73% and 27% of the participants in adult wards, respectively. In pediatric wards, 64% and 36% of adolescents were males and females, respectively. The age ranged from 10 to 19 years, with a mean of 15.9 years (SD = 2.7) in adult wards, 12.3 years (SD = 2.17) in pediatric wards, and 13.9 years (SD = 2.93) in both wards ( $P = 0.001$ ). In pediatric wards, 51% of subjects had past history of hospital admission compared to 25.5% in adult wards. Eighty-one percent of participants in adult wards and 89.7% in pediatric wards had medical insurance.

In response to the question about establishment of adolescent wards, 92.8% of those in adult wards and 90.9% of those in pediatric wards saw its establishment necessary. Satisfaction levels of participants in various wards are shown in Table 1. The subjects who were hospitalized in pediatric wards had higher satisfaction level compared to those in adult wards ( $P = 0.04$ ,  $t = 2.9$ ).

Satisfaction with specific aspects of the wards is further broken down in Table 2. Mann–Whitney U test showed that there was statistically significant higher satisfaction level among adolescents in pediatric wards compared to those in adult wards in regard to ward facilities such as

**Table 1: Adolescent satisfaction with pediatric and adult wards' environment and facilities (%)**

Ward type	Very low (0-20)	Low (20-40)	Moderate (40-60)	High (60-80)	Very high (80-100)	Combined positive level
Pediatric	1	7	11	28	54	72.8 (SD 18.9)
Adult	0	4	25	26	44	77.4 (SD 19.3)

**Table 2: Satisfaction with specific aspects of the wards**

	Adult wards					Pediatric wards				
	Very high	High	Moderate	Low	Very low	Very high	High	Moderate	Low	Very low
Ward facility and condition	28	8	6	16	42	44	17	6	13	20
Toilet condition	44	9	26	7	14	58	22	4	8	8
Toilet location	42	10	25	9	14	57	18	10	9	6
Provision of sanitization	44	20	22	6	8	58	22	8	9	3
Number and condition of public phones	34	14	36	7	9	44	15	31	8	2
Temperature (heating)	52	10	4	19	15	55	19	4	16	6
Ward attraction	58	15	7	9	8	61	19	8	8	4
Ward cleanliness	64	20	3	8	5	66	22	2	8	2
Noise levels	45	17	9	12	17	41	21	9	20	9
Shower location	37	9	40	6	8	40	17	36	4	3
Shower condition	38	8	41	5	8	38	16	38	5	3
Leisure facilities	50	13	20	7	10	55	18	16	8	3
Air conditioning	6	18	5	12	5	62	20	3	12	3
Lighting	73	20	2	1	4	67	24	1	5	3
Clothing	66	15	3	7	9	57	13	3	11	16
Bed condition	65	14	4	5	12	62	24	1	7	6
Facilities for caretakers	57	14	7	10	12	56	27	1	8	8
Caretaker accommodation	51	15	4	14	16	54	25	4	11	6
Room condition and number of chairs	61	17	8	7	7	60	28	1	6	5
Roommate in terms of disease and age	61	17	11	6	5	57	24	7	10	2
Number of beds in room	64	19	9	4	4	61	25	3	8	3
Diet	58	20	14	2	6	53	20	10	9	8

TV, fridge, washing facilities and location of toilets and showers, sanitizers such as soap, shampoo, and phone. However, no significant findings were obtained from other factors.

## DISCUSSION

A similar study by Ontario (2008) found that 81% and 53% Canadian adolescents felt alienated when admitted in adult and pediatric wards, respectively.<sup>[6]</sup> Our results also showed that satisfaction among adolescents was higher in pediatric wards. Caflish and Alvin's study also showed pediatric wards to be more suitable for adolescents than adult wards.<sup>[9]</sup> A study by Viner showed that despite space limitation in pediatric ward, improved facilities for teenagers in pediatric wards lead to better care provision.<sup>[7]</sup> Higher satisfaction level in pediatric wards could be due to lack of attention given to adolescent's psychosocial needs in adult wards. Satisfaction levels

about location of toilets and showers, and sanitizers were higher in pediatric wards than adult ones. Higher satisfaction levels in pediatric wards could be due to better location of toilets and better provision of sanitization, as improved infection control measures are present in these wards. Hutton's study also showed that teenagers feel embarrassed to walk in the corridors to go to toilet as they constantly feel being watched and judged by others in the hospital. Most adolescents emphasized on the need to provide toilets next to the rooms to improve privacy.<sup>[2]</sup> Study of Ontario and Miller also indicated dissatisfaction among adolescents in relation to their ability to freely do daily living activities such as clothing, going to toilet, showering, and grooming.<sup>[6,10]</sup> In pediatric wards, commonly noise pollution is high. Despite our expectation of higher satisfaction about noise in adult wards versus pediatric wards, results showed that the satisfaction was higher in pediatric wards. Study of Viner showed that adolescents are more satisfied with noise

levels in adolescent wards compared to the levels in pediatric wards. There is no adolescent ward in Iran, so this could not be analyzed in the present study. Higher satisfaction has also been seen in those with fewer admissions to hospital<sup>[11]</sup> and with older age group,<sup>[12]</sup> but these factors were not found to be statistically significant in the present study.

Although it was hypothesized that medical insurance would lead to higher satisfaction, no statistical relationship was found. This could be because the questionnaire was filled in before patients' discharge or the fact that adolescents are not responsible for hospital cost.

In many studies, adolescents believed that the existence of adolescent wards is necessary. Of the 120 adolescents enrolled in Smith's study, 96% believed that pediatric and adult wards are not suitable for adolescents and 99.5% wished to be among other adolescents during hospitalization. Ontario's study showed that a specialized ward designed for adolescents can better fulfill their developmental needs.<sup>[6,13,14]</sup>

Adolescents who participated in Kaplan *et al.*' study wanted to be among other adolescents during hospitalization too.<sup>[15]</sup> Similarly in the present study, most of the adolescents desired to be cared in adolescents ward. They listed privacy, appropriate physical environment, and being among peers as their main reasons for establishment of adolescent wards.

To conclude, adolescents require specialized wards, and if not available, facilities should be provided in pediatric wards, where they have reported better satisfaction with the ward's environment.

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