

To Study The Knowledge, Attitude And Practices Regarding Menstrual Hygiene And Restrictions Imposed Upon Them During Menstruation in The Adolescent Girls Studying in A Government And A Private School in Sahibzada Ajit Singh Nagar (Mohali City) In Punjab – A Comparison Pilot Study.

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Abstract

Background: Females have always been in a position to take a lead role in the health of a family. They play multiple roles like as a daughter, a sister, a wife, a mother and a grandmother in their lives. As a mother, being a pivot in the family, she is considered to be the best teacher of the offspring. Such an important person in the society needs to be stress free and has a right to enjoy a good status of health. In the life of a female, the transition from childhood to adulthood occurs during the period of adolescence which extends between 10-19 years of age. Besides many others, onset of menarche is an important milestone in a woman's life and it denotes the beginning of the reproductive era of woman. Though a normal physiological process, feeling of anxiety and eagerness to know about this natural phenomenon develops among girls. But, there has always been a lack of knowledge or information on menstrual preparedness and management among the pubertal girls and the traditional Indian society talks on such topics as taboo and as a result, the main issues often remain undiscussed.

Aims and Objectives: To assess the knowledge, beliefs and practices regarding menstrual hygiene among school going adolescent girls and to know about the restrictions imposed upon them during menstruation.

Material and Methods: A cross sectional pilot study was conducted on 68 adolescent girls studying in 2 senior Secondary Schools; one managed by the state government and the other by some private management. The subjects selected for the study were female students of 9th and 10th standards in both the schools and the information was collected on a pre-designed, pretested and structured questionnaire which included the topics related to the awareness about menstruation, the sources of information regarding menstruation, the nature of practices during menstruation and the restrictions imposed by the parents during menstruation besides the menarche and menstrual hygiene related issues. The demographic information including family details like socio economic status and mother's education, toilet facility at home and in the school, and water supply in the toilet etc. was also collected.

Results: While 36 (52.94 %) girls were aware about menstruation before menarche. 38.10% considered it as a curse of God or a disease or were not aware even. The source of information for those who knew about menstruation was the mother or elder sister in 74.60 % girls. The teachers /friends were the source of information in case of 19.04 % girls only. Disposable sanitary pads were used by 58.82% girls. 52.17% girls complained of symptoms suggestive of RTIs due to use of cloth and 17.50 % due to napkins/pads. 70% girls had to follow many restrictions like staying away from participation in religious functions or prayers, not being allowed to eat certain foods like sour foods, banana, radish and plum etc or staying away from routine household activities.

Conclusions: Lack of awareness regarding menstrual hygiene among the adolescent school girls is adversely affecting their health. Difference in a private and government school is primarily due to better socio economic status of the families, mothers' literacy and a better teacher student relationship and interaction among them. Hence, awareness through the modification in curriculum and more friendly relationship between the students and the teachers may contribute significantly to the improvement in the status of menstrual hygiene and overall health of the adolescent school girls.

Keywords: Adolescent girls, Menarche, Menstrual hygiene, RTIs/STIs.

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I. Introduction

Females have always been in a position to take a lead role in the health of a family. They play multiple roles like as a daughter, a sister, a wife, a mother and a grandmother in their lives. As a mother, being a pivot in the family, she is considered to be the best teacher of the offspring. Such an important person in the society always needs to be stress free and to have a right to enjoy a good status of health.

In the life of a female, the transition from childhood to adulthood occurs during period of adolescence which according to WHO extends from 10- 19 years of age (1). It starts with the onset of menarche, a milestone in a woman's life and denotes the beginning of her reproductive capacity of woman (2, 3). During this phase, she observes a spurt of growth and development due to which significant changes occur in her body. Development of secondary sexual characters and initiation of menstruation are the major events which lead to her total transformation in. Although it is all physiological, yet feeling of anxiety and eagerness to know about this natural phenomenon develops amongst the girls (4). But, unfortunately, in Indian context, correct knowledge or information on menstrual preparedness and management is seldom shared with the pubertal girls. Instead, they are usually talked about taboos which are misguiding in nature and actual issues are not discussed openly (5, 2). The lack of discussion ultimately leads to poor menstrual health resulting into increased burden of RTIs/STIs.

Amongst many other factors which influence the health of a female, some important ones are her nutritional status, frequency of episodes of infections like Acute Respiratory Infections (ARIs); Reproductive Tract Infections / Sexually Transmitted Infections (RTIs/STIs), status of her personal/ sexual hygiene especially during her menstrual periods, quality of care she receives during pregnancy, during and after the child birth etc. High incidence of RTIs/STIs in developing countries like India is significantly contributed by poor menstrual hygiene which is basically due to lack of awareness during adolescence. At present, millions of women are suffering from RTIs and complications there from and often the infection is transmitted to the progeny of the pregnant mother (6).

Further, hygiene-related practices of women during menstruation are of considerable importance. It has a health impact in terms of increased vulnerability to reproductive tract infections (RTIs) (7). The interplay of socio-economic status, menstrual hygiene practices and RTIs are noticeable (8, 6).

The period of childhood is well covered for improving nutritional status and for preventing the kids from serious infections through many programs/ projects like Immunization Program, ICDS Project etc. But, adolescent period, unfortunately, is a neglected component of life. Programs like ARSH and Teen Clinics under this program are in a struggling phase struggling for producing the desired results, but have not proved to be fruitful so far. Females have been more adversely affected due to this neglected period and the factors playing a significant role for the stress, recurring episodes of RTIs/STIs, depression etc. Lack of knowledge of menstrual management, lack of sex education and malpractices undertaken by the adolescent girls during the menstrual cycles besides the social customs/beliefs and myths are significantly contributing towards their poor health.

Menstrual Hygiene Management in India has been recognized as a poorly addressed issue of public health. This leads to suppression of feelings which causes severe mental stress and results into seeking health advice from quacks and persons who do not have adequate knowledge on the subject. Such health seeking behavior by the adolescent girls is undesirable (3) and further aggravates the situation. The increased awareness and knowledge about menstruation from the early days is most likely to inculcate healthy practices and help in lowering the sufferings of millions of women (6).

Thus, all the responsible factors are required to be addressed urgently and required corrective measures to be taken at the earliest. Henceforth, the present study was planned and conducted. The schools being the best platform for gathering the required information and sensitizing adolescent girls, the present study was designed to be conducted the schools and to find out the status in government and privately managed schools, one each from both the categories was decided to be taken for the study. Finding out the difference of student - teacher interactions, socio economic status of the families to which these girls belong and the level of quality of education in government and private schools has further helped a lot in making valid conclusions and recommendations.

II. Aims And Objectives

- i) To assess and compare the knowledge, beliefs and practices of menstrual hygiene among adolescent girls studying in a Government and a Private school.
- ii) To assess the restrictions imposed upon the adolescent school girls during menstruation.

III. Materials And Methods

The present cross sectional pilot study was conducted at two schools, Government Model Senior Secondary School and St. Xaviers School in the urban area of Sahibzada Ajit Singh Nagar in Punjab during the academic year 2012-13. Both the schools were co educational schools and located in different settings of the

city and the students also belonged to different settings. A purposeful convenience sampling was done to select the girls who were studying in 9th and 10th standard and were in the age group of 13-15 years. The adolescent girls who were absent on the day of study, another visit was made during the next week. The absentees on the day of 2nd visit also and those who were reluctant to impart the required information after detailed discussion on the purpose of the study, were not included in the study. The Principals, Class Teachers and the participants of both the schools were thoroughly explained the purpose of the study.

A total of 68 adolescent girls (33 from Private Institute named St. Xaviers School and 35 from Government Institute - Government Model Senior Secondary School) were studied. After obtaining the verbal informed consent from the participants, the information was collected on a pre-designed, pretested and structured questionnaire which included topics related to the awareness about menstruation, the sources of information regarding menstruation, the hygienic practices during menstruation and the restricted activities observed during menstruation. The demographic information including family details, mother's education, family income, toilet facility at home and school, and water supply in the toilet etc. was enquired and documented. The questionnaire had a detailed component on menstrual hygiene. The personal hygiene component was also given due consideration in the questionnaire and it included bathing during menstruation and washing the genital area besides the type of material used for washing etc. The data, thus collected were compiled, analyzed, statistically tested and suitable recommendations were made.

IV. Observations And Results

Table 1 Demographic Profile Of Adolescent School Girls

Demographic Characteristics	Private school n=33	Government school n=35	Total n=68	Statistical Values
a) Age in years				
13	09 (27.27)	13 (37.14)	22 (32.35)	Mean age =14.20 years p = 0.1538 not significant
14	14 (42.42)	18 (51.42)	32 (47.05)	
15	10 (30.31)	04 (11.44)	14 (20.58)	
b) Socio economic status of the family				
Class I	06 (18.18)	00 (00.00)	06 (08.82)	p = .00000759 highly significant
Class II	16 (48.48)	04 (11.43)	20 (29.41)	
Class III	09 (27.27)	10 (28.57)	19 (27.94)	
Class IV	02 (06.07)	17 (48.57)	19 (27.94)	
Class V	00 (00.00)	04 (11.43)	04 (05.88)	
c) Education of the mother				
Illiterate	01 (03.03)	09 (25.72)	10 (14.70)	p = .000626 highly significant
Primary (5 th)	03 (09.09)	06 (17.15)	09 (13.23)	
Middle (8 th)	02 (06.06)	08 (22.85)	10 (14.70)	
Matric (10 th)	03 (09.09)	07 (20.00)	10 (14.70)	
Senior Secondary (12 th)	18 (54.55)	04 (11.43)	22 (32.35)	
Graduate	03 (09.09)	01 (02.85)	04 (05.88)	
Post-Graduate	02 (06.06)	00 (00.00)	02 (02.94)	
Diploma	01 (03.03)	00 (00.00)	01 (01.47)	

(Values in parentheses are percentages)

Table I reveals that the mean age of the study subjects was 14.20 years, while their age ranged between 13-15 years. Majority, 21 (60%) from government school belonged to families of lower socio economic class in comparison with 2 (06%) in private school and 14 (40%) belonged to middle class in comparison with 15 (45.45%) in private school. No child from upper class was found studying in government school in comparison with 6 in private school. The difference in socio economic status of families of the students studying in these schools was observed as highly significant. Educational status of the mothers of the students studying in private school was better than government school. While 5 mothers were graduate or post graduate 1 was a diploma holder in case of girls studying in private school, just 1 was graduate in case of girls studying in government school. 9 (25.72%) mothers of the girls studying in government school were illiterate against just 1 (02.85%) in private school. This difference in both the schools was also highly significant.

Table 2

Age Of Menarche, Knowledge And Beliefs Of Adolescent School Girls About Menstruation

Variable	Number (68)	Percentage
a) Age of menarche (years)		
10-13	24	57.35
13-15	39	35.29
Not yet attained	05	07.35
b) Awareness about menstruation before menarche		
Yes	36	52.94
No	32	47.06
c) Beliefs regarding Menstruation		
Physiological process	39	61.90
Curse of God	04	06.36
Disease	01	01.59
Did not know	17	26.98
No reply	02	03.17
d) Source of information before menarche		
Mother/Sister	47	74.60
School teacher	05	07.95
Friends	07	11.11
Media	01	01.58
No reply	03	04.77

Table 2 states that 63 out of 68 girls studied had attained menarche and the majority, 39 (57.35 %) had attained the menarche between 13-15 years of age.

While 36 (52.94 %) girls were aware about menstruation before menarche, the remaining 32 (47.06 %) were not. Out of 63 girls who had attained menarche, 39 (61.90 %) considered it a physiological process while the others 24 (38.10%) considered it as a curse of God or a disease or were not even aware of it. The source of information about menstruation was the mother or elder sister in 47 (74.60 %) girls while teachers /friends were the source of information in case of 12 (19.04 %) girls.

Table 3 Menstrual Hygiene Practices Observed By Adolescent School Girls

Practices	Private school	Government school n=35	Total	Statistical Values
a) Use of material	n=33	n=35	n=68	
Home-made pads	09 (27.27)	14 (40.00)	23 (33.82)	p = 0.3063 not significant
Sanitary napkins	21 (63.63)	19 (54.29)	40 (58.82)	
Other material	00 (00.00)	00 (00.00)	00 (00.00)	
Not applicable (Menarche yet to attain)	03 (09.10)	02 (05.71)	05 (07.36)	
b) Type of cloth used	n=09	n=14	n=23	
Washed and cleaned	03 (33.34)	08(57.14)	11 (47.83)	p = 0.4250 not significant
Any cotton cloth	05(55.56)	04 (28.58)	09 (39.13)	
New cloth	01 (11.10)	02(14.28)	03 (13.04)	
c) Cleaning of external genitalia	n=30	n=33	n=63	
Yes	29 (96.67)	28 (84.85)	57 (90.48)	p = 0.1104 not significant
No	01 (03.33)	05 (15.15)	06 (09.52)	
d) Material used for cleaning of external genitalia	n=29	n=28	n=57	
Water	14(46.67)	16 (57.14)	30 (52.64)	p = 0.2446 not significant
Soap & water	11 (36.67)	12 (42.86)	23 (40.35)	
Detol/savlon	03 (10.00)	00 (00.00)	03 (05.26)	
Others	01 (06.66)	00 (00.00)	01 (01.75)	
Wrapping				
e) Method of disposal	n=09	n=14	n=23	
1. Cloth				p = 0.0849 not significant
Washing & reuse	08 (88.89)	06 (42.86)	14 (65.22)	
Wrapping & dumping	01 (11.11)	07 (50.00)	08 (34.78)	
Dumping without wrapping	00 (00.00)	01 (07.14)	n=40 37 (92.50)	
2. Napkins (pads)	n=21	n=19	n=40	p = 0.2068 not significant
Wrapping & dumping	20 (95.23)	17 (89.47)	01 (02.50)	
Flushing out	01 (04.77)	00 (00.00)	02 (05.00)	
Dumping without wrapping	00 (00.00)	02 (10.53)		
e) Toilet facility at home & school	Yes 33 (100)	Yes 35 (100)	68 (100)	
f) Adequate water supply in school	n=33	n=35	n=68	p = 0.0082

toilets	Yes No	32 (96.97) 01 (03.03)	26 (74.28) 09 (25.72)	58 (85.30) 10 (14.70)	highly significant
g) Frequency of bath during menstruation		n=30	n=33	n=63	p = 0.0137 not significant
Once a day		23 (76.67)	14 (42.42)	37 (58.73)	
More than once a day		04 (13.33)	15 (45.46)	19 (30.16)	
On alternate day		03 (10.00)	04 (12.12)	07 (11.11)	

*(Values in parentheses are percentages)

According to table 3, 23(33.82%) girls (9 from the private school and 14 from the Government school) were using home-made pads and 40 (58.82% (21 from the private school and 19 from the Government school) were using disposable sanitary pads. Of those 9 girls in private school who used cloth, 3 (33.34%) used washed and a clean cloth and 5 (55.56%) used any available cloth while in government school, out of 14 such girls, 8 (57.14%) girls and 4 (28.58%) respectively practiced similarly. Regarding the disposal of the material used, in private school, 8 out of 9, (88.89%) using cloth, reused it after washing while 1 (11.11) dumped it after wrapping. However, in government school, 6 girls out of 14 (42.86%) washed and reused and 7 (50%) wrapped and dumped it. Those who used sanitary pads / napkins, in private school, 20 out of 21 (95.23%) dumped them after wrapping against 17 out of 19 (89.47%) in government school.

For cleanliness during menstruation, 3.3% girls in private school and 15.15% in government school did not wash their external genitalia and for washing purposes, 46.67 % in private school and 57.14 % in government school used water only. Soap and water was used by 36.67 % in private school and 42.86 % in government school. Dettol/ Savlon were used only by 10 % of them and that too in private school only. Toilet facility was available at home as well as in both the schools, however, availability of adequate water supply in the toilets was informed by 96.97 % subjects in private and 74.28% subjects in government school. Regarding bathing habits of the girls during menstruation, 76.67 % took bath daily and 13.33 % on alternate days in private school in comparison with 42.42 % and 45.46 % in government school respectively.

Table 4 Problems Faced By Adolescent School Girls During Menstruation

Problems during Menstruation	Private School	Government School	Total	Statistical Values
a) Menstrual problems	n=30	n=33	n=63	p = 0.0047 highly significant
Heavy Bleeding	02 (06.67)	02 (06.07)	04 (06.35)	
Abdominal pain	01 (03.32)	05 (15.15)	06 (09.52)	
Back pain	05 (16.67)	03 (09.09)	08 (12.70)	
Irregular menses	03 (10.00)	00 (00.00)	03 (04.76)	
Excessive bleeding for more than 5 days	00 (00.00)	04 (12.12)	04 (06.35)	
Painful menstruation	11 (36.67)	13 (39.39)	24 (38.09)	
No problem	08 (26.67)	06 (18.18)	14 (22.23)	
b) Consultation in problem	n=22	n=27	n=49	p = 0.2835 not significant
Doctor/Trained Health Staff	07 (31.81)	04 (14.82)	11 (22.45)	
Chemist	01 (04.55)	00 (00.00)	01 (02.05)	
Mother/Sister	08 (36.36)	12 (44.44)	20 (40.81)	
Friend	04 (18.18)	06 (22.22)	10 (20.40)	
Internet	01 (04.55)	00 (00.00)	01 (02.05)	
Did not consult any body	01 (04.55)	05 (18.52)	06 (12.24)	
c) Problems associated with use of material				p = 0.6495 not significant
i) Cloth	n=09	n=14	n=23	
Itching	04 (44.45)	07 (50.00)	11 (47.83)	
Vaginal Discharge with itching	00 (00.00)	01 (07.14)	01 (04.34)	
None	05 (55.55)	06 (42.86)	11 (47.83)	
ii) Napkins/Pads	n=21	n=19	n=40	
Itching	04 (19.04)	01 (05.26)	05 (12.50)	
Vaginal Discharge with itching	00 (00.00)	02 (10.52)	02 (05.00)	
None	17 (80.96)	16 (84.22)	33 (82.50)	
d) Consultation in these problem	n=08	n=04	n=12	p = 0.7173 not significant
Doctor/Trained Health Staff	03 (37.50)	02 (50.00)	05 (41.67)	
Chemist	01 (12.50)	00 (00.00)	01 (08.33)	
Mother/Sister	02 (25.00)	02 (50.00)	04 (33.34)	
Friend	01 (12.50)	00 (00.00)	01 (08.33)	

Internet	01 (12.50)	00 (00.00)	01 (08.33)	
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*(Values in parentheses are percentages)

Table 4 reveals that only 14 (22.23%) adolescent girls, 8 in private and 6 in government school had no problem during menstruation while the remaining 49 (77.73%) suffered from heavy bleeding, abdominal pain, backache, irregular menstruation, prolonged bleeding etc. It was predominantly the painful menstruation from which 11(36.67%) in private school and 13 (39.39%) in government school the study subjects suffered. Mother/elder sister in both the schools remained the main source where these girls discussed their menstrual problems while doctor or some other trained health personal followed by friends were also better consulted for these problems. Itching alone or associated with vaginal discharge had been the main symptoms suggestive of RTIs the girls suffered from due to the material used during menstruation. While 52.17% girls suffered from these symptoms due to use of cloth; due to napkins/pads, it was 17.50 % thereby indicating the safety and protection provided by the latter. For the treatment of these infections, majority (41.67%) consulted Doctor or trained health staff followed by mother or elder sister who was consulted by 33.34% girls.

Table V Adolescent School Girls Facing Restrictions During Menstruation

Restrictions imposed during Menstruation	Private School	Government School	Total	Statistical Values
a) Restrictions imposed	n=30	n=33	n=63	
Yes	21 (70.00)	24 (72.72)	45 (71.42)	p = 0.8108 not significant
No	09 (30.00)	09 (27.28)	18 (28.58)	
b) Type of Restrictions	n=21	n=24	n=45	
Not to attend religious occasions	12 (57.15)	17 (70.83)	29 (64.45)	p = 0.6121 not significant
Not to eat certain foods such like sour foods, banana, radish, plum	04 (19.05)	02 (08.33)	06 (13.33)	
Not to perform household work	03 (14.28)	04 (16.67)	07 (15.55)	
Not to play	02 (09.52)	01 (04.17)	03 (06.67)	

*(Values in parentheses are percentages)

The restrictions always had a negative impact on the personality of the girls in terms of either their health or self image / identity. A majority of girls (70%) in the present study reported to follow some kind of restrictions when they had their periods. Further, it was found that these restrictions were more common among the girls studying in the Government School as compared to the Private School, which might be due to the education level of the mothers who were either illiterate or less educated. The restrictions imposed on these girls were of the nature that most of them (64.45%) were not allowed participation in any religious function or prayers, 13.33% girls were not allowed to eat certain foods like sour foods, banana, radish and plum. 15.55% were not allowed routine house hold activities and 6.67% were not allowed to play even.

V. Discussion

In Indian society menstruation is considered as very personal and private and is seldom discussed or taught openly. This study shows the mean age of girls is 14.20 years and the age at which majority of girls had attained the menarche is between 13-15 years. Comparative results were shown by another study done in Guntur, Andhra Pradesh by Jogdand K et al (9) where in 72 % girls, menstruation started between 12 and 14 years of age. In present study, more girls from private school belong to higher socio economic class than those studying in government school and the difference is highly significant statistically. This fact has been reflected in the awareness also where private school girls have better knowledge regarding menstruation. The present study has shown more than 50% girls aware about menstruation before puberty. Nearly similar results were shown in the study by Ray S et al. (2). However, contrasting results were reported by study done by Dasgupta et al (4) where 32.5 % girls were aware about this process.

In the current study, majority of the girls believed menstruation to be a physiological process. Similar results were observed in the study conducted in Kolkata by Dasgupta A et al (4) where 86 % girls believed it to be a physiological process. But, contrasting results were seen in the study conducted in Rajasthan by Khanna et al (10) where 92 % did not believe it a natural process. Main source of information had been mother and elder sister in the current study which is in concordance of the results reported by Khanna et al (10). However, contrasting results were reported by the study done by Dasgupta et al (4) where mothers were key informants in just 37% of the girls. Another study in Egypt by El-Gilany et al where mass media has been reported as key source of information (11).

In the current study, majority of Mothers of girls studying in private school have studied up to secondary level or above in comparison with those studying in government school, where one fourth mothers were illiterate. It has been reflected as lack of awareness about menstruation in the girls studying in government school. A similar relationship between awareness about menstruation among the adolescent school girls and mothers' literacy was observed in the study done in Kolkata by Ray S et al. (2). More than 50% adolescent school girls used sanitary pads in the current study. Contrasting results, however, were reported by the studies conducted by Ray S et al and Dasgupta et al (2, 4) where just 32% and 11% girls respectively used the sanitary pads. This is probably due to different setting being rural in other studies and urban in our study where socio economic status and mothers' literacy had been better. In addition, supply of the sanitary pads by Punjab state to the school girls is also contributing towards the better results in current study.

In our study, majority of the girls were restricted not to attend the religious places during menstruation. Similar results were reported by the studies conducted by Ray S et al. and Dasgupta et al (2, 4) where 75% and 70 % respectively were restricted to attend religious places.. Certain foods were restricted during menstruation in 13% in our study while contrasting results reported by studies by Ray S et al. and Dasgupta et al (2,4) where 80% and 50 % subjects respectively were not allowed to take certain foods during menstruation. 15 % adolescent school girls in the present study were not allowed to perform house hold activities which are in concordance with the study by Dasgupta et al (4) where 16 % girls were not allowed.

VI. Recommendations

Incorporating menstrual hygiene in the curriculum of adolescents will help the young girls in managing this physiological but critical condition with confidence. The initiatives should focus not only on raising awareness, providing information about the local and national programs providing specific services at Suraksha Clinics/ RTI/STI Clinics etc; importance of personal and menstrual hygiene should also get due consideration. Besides efforts on provision of affordable and accessible products and facilities, emphasis should be laid on timely consultation with the competent health personnel in case of the appearance of the symptoms suggestive of RTIs.

VII. Conclusions

Lack of awareness regarding menstrual hygiene among the adolescent school girls is adversely affecting their health. Difference in a private and government school is primarily due to a better socio economic status of the families, better education status of the mothers of the girls, better teacher student relationship and interaction among them. Hence, awareness through the modification in curriculum and more friendly relationship between the students and the teachers will contribute significantly to the improvement in the status of menstrual hygiene and overall health of the adolescent school girls.

VIII. Limitations Of Study

This is a small pilot study conducted in a government school and a private school in urban setting with limited number of participants. Hence, the results cannot be generalized to the populations at large.

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