



Research Paper

A Study of Awareness of HIV/AIDs and Knowledge of Prevention and Transmission in Arunachal Pradesh: Overview and Trends

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Abstract

The present is an attempt to primarily focuses on the trends and levels of awareness and comprehensive knowledge of HIV/AIDS among men and women in Arunachal Pradesh. Taking the various reports of National Family Health Survey Data of various round, the present study shows that the awareness of HIV/AIDS and knowledge of prevention and transmission differs based on gender, religion, caste, education level, location and age group. The study reveals that the knowledge of HIV/AIDS among both men and women in Arunachal Pradesh is increasing from NFHS-3 to NFHS-5. Although men have more knowledge of HIV/AIDS than women, both genders show improvement over time. The comprehensive knowledge of HIV/AIDS remains low, especially among women, despite overall increases in awareness and recognition of preventive measure like use of condom.

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I. Background of the Study:

Human Immunodeficiency Virus (HIV) is an infection that attacks the body's immune system. Acquired Immunodeficiency Syndrome (AIDS) is the most advanced stage of the disease. HIV can be transmitted through four major routes - unprotected vaginal or anal sexual intercourse, transfusion of contaminated blood; and the sharing of contaminated needles, syringes, surgical equipment, or other sharp instruments. It may also be transmitted from a mother to her infant during pregnancy, childbirth, and breastfeeding.

HIV remains a major global public health issue, having claimed around 40.4 million lives so far with ongoing transmission in all countries globally; with some countries reporting increasing trends in new infections. There were an estimated 39.0 million people living with HIV at the end of 2022, two thirds of whom (25.6 million) are in the WHO African Region [1]. As per the UN AIDS Data 2023, around 1.3 million people became newly infected with HIV in 2022; 630000 people died from AIDS-related illnesses in 2022. Around 39 million people are living with HIV. Out of these, 37.5 million were adults (15 years or older), 1.5 million were children (0–14 years) and 53% of all people living with HIV were women and girls [2].

In India, as per the government's HIV Estimation 2021 report, the number of People Living with HIV (PLHIV) in India is 24.01 lakh. Around 45 percent (10.83 lakh) of total estimated PLHIV are women, and 2 percent/ about 51,000 -- are children below the age of 12 years [3]. The HIV epidemic in India is highly heterogeneous. It is concentrated in specific regions of the country and in High-Risk Groups (HRGs) such as People Who Inject Drugs (PWID), Female Sex Workers (FSW), Men Who Have Sex with Men (MSM) and transgender people [4].

Some of the main factors for a high case of HIV infections in the country are low levels of literacy primarily in rural areas, lack of awareness as well as extensive labour migration. Female Sex workers, transgender groups and injection drug users are vulnerable to HIV infections [5]. To curb the HIV Epidemics, the government of India has introduced the National Aids Control Programme (NACP) which was implemented by the National AIDS Control Organization (NACO) under the Ministry of Health and Family Welfare. It is one of the most successful public health programmes in India. Started in 1992, with the objective of understanding the HIV disease burden and epidemiological trends, the programme has now evolved into a major public health prevention and

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treatment programme. Despite several measures to control the spread of the HIV, people living with HIV disease is still large in India and there is still a lot to do to curb the spread of this dreaded virus.

Nationally, HIV incidence was estimated at 0.04 (0.02–0.09) per 1,000 uninfected population in the calendar year 2020. It declined from 0.57 per 1,000 uninfected population in 1997 through 0.09–0.10 in 2009–10 to 0.04 in 2020, corresponding to a 56% decline in the last ten years. The state wise estimated incidence per 1,000 uninfected population continued to be the highest in the three northeastern States of Mizoram (0.94), Nagaland (0.68) and Manipur (0.33) in 2020. Arunachal Pradesh also witnessed the incidence of (0.05) which was above the national average [6]. The first HIV positive cases in Arunachal Pradesh were detected in the year 1998 with only 2 positive cases. The figure increased to 167 in 2010 and 244 in 2014. Since then, the number of HIV positive cases in Arunachal Pradesh has seen an increasing trend [7]. As per the record available with the health department, as on 28 February, 2023, the total number of people living with HIV in the state stands at 978 [8]. The ever-rising cases of HIV/AIDs positive cases in a small state like Arunachal Pradesh demands immediate attention from the government to curb and control the spread of it. To combat the rising cases of HIV/AIDS, it is crucial to understand the awareness level, comprehensive knowledge and knowledge of prevention and transmission of the virus.

II. Objectives:

1. To study the level of awareness and knowledge of HIV/AIDS among women and men in Arunachal Pradesh and the factors contributing it.
2. Evaluation of the trends of HIV/AIDS among women and men in Arunachal Pradesh.

III. Sources and Analysis of Data:

The data was collected from National Family Health Survey (NFHS_ reports. Three rounds of NFHS have been used to study the trends. The data was analysed using simple descriptive statistics. The two parameters have been taken to measures the knowledge of HIV/AIDS among both men and women. They are:

1. Awareness Level of HIV/AIDS.
2. Knowledge of Prevention and Transmission

IV. Analysis of Data:

What is the awareness level of HIV/AIDS among the men and women in Arunachal Pradesh. How many people have comprehensive knowledge of HIV/AIDS and have knowledge of prevention and transmission. The results are discussed in the following sections.

1. Awareness of HIV or AIDS and Knowledge of Prevention and Transmission:

As given in Table No.1. Men are more aware of HIV/AIDS than women. As per NFHS-5 report, 96.9 percent of men have heard of HIV/AIDS as compared to around 90 percent of women in Arunachal Pradesh. The trend from NFHS 3 to NFHS-5 shows that the awareness level of HIV/AIDS among both men and women are increasing. In NFHS-3 (2006-07), 69.2 percent women were aware of HIV/AIDS which has increased to around 90 percent in NFHS-5 (2019-2021). Regarding the knowledge about prevention and transmission of HIV/AIDS, the data shows that men have more knowledge than women. In all parameters, men have more knowledge than women. The trends show an increasing pattern. It is interesting to observed that the percentage of awareness level of HIV/AIDS among both men and women in all rounds of NFHS are high, however the percentage of both men and women with comprehensive knowledge of HIV/AIDS are low. This pattern shows that, people may just hear about the HIV/AIDS but they may not fully know how to prevent themselves from getting infected.

The percentage of women who have comprehensive knowledge of HIV/AIDS were found to be 12.7 percent in NFHS-3 in compared with 30.2 percent among men. The trends shows that there is no improvement in the knowledge of HIV/AIDS among women with only 12.3 percent in NFHS-5. In case of men, the comprehensive knowledge of HIV/AIDS marginally improved to 33.4 percent in NFHS-5 from 30.2 percent in NFHS-3. Further, the data shows that there is around 50 percent increase in the knowledge of women that using condom can reduce the chances of getting HIV/AIDS during 2019-2021 (NFHS-5) from 33.3 percent in NFHS-3. The similar trend is observed in case of men. It increased from 62.5 percent in NFHS-3 to 77.7 percent in NFHS-5. The comparison of both the three rounds of NFHS shows that it is increasing consistently. The increase in the knowledge of using condoms as a method to prevent HIV/AIDS among men and women could be due to the increase in the media exposure. In addition, people have become more open in discussing about the uses of condom in the last few decades.

Table 1: Knowledge of HIV/AIDS among Adults (Age 15-49years)

Knowledge of HIV/AIDS among Adults (age 15-49 years)	NFHS 3	NFHS 4	NFHS 5
Women who have heard of HIV/AIDS	69.2	78	89.9
Men who have heard of HIV/AIDS	75.5	86.7	96.9
Women who have comprehensive knowled of HIV/AIDS	12.7	12.9	12.3
Men who have comprehensive knowledge of HIVs/AIDS	30.2	27.4	33.4
Women who know that consistent condom use can reduce the chances of getting HIV AIDS	33.3	45.2	62.2
Men who know that consistent condom use can reduce the chances of getting HIV/AIDS	62.5	64.1	77.7

Source: NFHS Reports

2. Factors Contributing to the awareness of HIV/AIDS and knowledge of Prevention and Transmission:

There are various factors that contributes to the awareness HIV/AIDS and knowledge of prevention and transmission. In this section, attempt is made to study some of them.

2.1 Awareness of HIV or AIDS and Knowledge of Prevention and Transmission: Rural and Urban Differences:

The knowledge of HIV/AIDS may be differ among the people based on their location. People in rural areas are less educated than those living in urban areas. Therefore, an attempt is made to study the differences of awareness, knowledge of prevention and transmission between people living in rural and urban areas. The result is given in Table 2.

Table No.2.1: Awareness of HIV or AIDS and Knowledge of Prevention and Transmission: Rural and Urban Differences

Parameters	NFHS-3		NFHS-4		NFHS-5	
	Urban	Rural	Urban	Rural	Urban	Rural
Women who have heard of HIV/AIDS	82.5	87.7	90.2	96.5	92.9	98
Men who have heard of HIV/AIDS	63.9	70.5	73.7	82.9	89.3	96.7
Women who have comprehensive knowledge of HIV/AIDS	21.7	9.1	16	24.8	11.1	12.5
Men who have comprehensive knowledge of HIVs/AIDS	41.5	25.6	37.7	23.5	30.3	34
Women who know that consistent condom use can reduce the chances of getting HIV AIDS	47.1	25.6	58.9	40.5	58.6	62.9
Men who know that consistent condom use can reduce the chances of getting HIV/AIDS	76.2	59.1	77.9	58.7	70.6	79.1

The comparative analysis of both rural and urban shows that women and men that belongs to urban areas are more aware of HIV/AIDS than that of rural areas in all round of NFHS-3 to NFHS-5. In NFHS-5, about all women and men both in rural and urban areas becomes aware about HIV/AIDS. In regard to the comprehensive knowledge, the knowledge is still poor in both urban and rural areas. However, men in Urban areas have more comprehensive knowledge than women. The data shows that only 9.1 percent of women in rural areas in compare to 25.6 percent of male had more comprehensive knowledge of HIV/AIDs in NFHS-3. The comprehensive knowledge among both men and women in both rural and urban areas are witnessing an increasing trend. In case of rural women, the percentage has increased from 9.1 percent in NFHS-3 to 12.5 percent in NFHS-5. Similarly, in case of rural men, the percentage has increased from 25.6 percent in NFHS-3 to 34 percent in NFHS-5. This shows that the comprehensive knowledge of HIV/AIDS are still poor and more awareness is needed to increase it. Further, in regard to the prevention of getting infected, men are more aware about the usage of condoms than women in both urban and rural areas. Similar trend is observed where the rural women and men has less knowledge about the usage of condom than urban women and men.

2.2 Awareness and Knowledge and Prevention of transmission of HIV/AIDS: Age-Wise Differences

One of the factors that contribute to the knowledge of HIV/AIDS and its preventive measures is the age-group of a person. The HIV/AIDS cases are mostly prevalent in the adolescent period. Hence, to combat the rising case, it is important to study their knowledge and awareness of HIV/AIDS. In this section, an attempt is made to study the differences in the knowledge and awareness among different age-groups. It is shown in the Table 2.2.a, 2.2.b and 2.3.c

Table 2.2.a: Awareness of HIV/AIDs: Age-Wise

Background Characteristics	Women who have heard of HIV/AIDs			Men who have heard of HIV/AIDs		
	NFHS 3	NFHS-4	NFHS-5	NFHS-3	NFHS-4	NFHS-5
Age						
15-24	76.1	84.8	90.8	76.3	88.5	62.8
15-19	72.8	82.9	89.5	71.7	86.9	62.7
20-24	80.5	87	91.9	80.1	90.5	62.9
25-29	70.9	81.4	92.5	85.7	89.5	68.9
30-39	66.2	76.5	89.9	75.6	85.1	61.5
40-49	51.1	66.9	87	63	84.4	57.6

Source: NFHS Reports

The age-group break up shows that the awareness of HIV/AIDs is highest among the adolescent and young age between 15-29 years. In case of women, it is highest among 20-24 years of age in NFHS-3 with 80.5 percent but in case of men, it is highest among 25-29 years of age group. In NFHS-4 the highest percentage was observed in the age-group of 15-19 years in case of women (84.8 percent) and in case of men, it was in the age group of 20-24 years(90.5 percent). In NFHS-5, the highest awareness level was observed in the age-group of 25-29years (92.5percent) among women and men (68.9 percent).

Table 2.2.b Comprehensive Knowledge of HIV/AIDs: Age-Wise Differences

With respect to the comprehensive knowledge of HIV/AIDs, it is observed that younger age groups have more comprehensive knowledge than the older age groups. Among women, in NFHS-3, 20-24 years age group had the highest percentage of knowledge of HIV/AIDs but in NFHS-4, the highest percentage was in the age group of 25-29 years. In NFHS-5, the age group that have the highest percentage of comprehensive knowledge of HIV/AIDs among was in the age group of 25-29 years (12.9 percent). Among men, the age-group which has the highest comprehensive knowledge of HIV/AIDs is in the age group of 25-29 years in all rounds. The age group that has the lowest comprehensive knowledge of HIV/AIDs is in the age group of 40-49 years. This may be because, at older age, people are already married and settled in their life.

Table 2.2.b : Comprehensive Knowledge of HIV/AIDs: Age-Wise Differences

Age-Group	Women who have comprehensive knowledge of HIV/AIDs			Men who have comprehensive knowledge of HIVs/AIDs		
	NFHS 3	NFHS-4	NFHS-5	NFHS 3	NFHS4	NFHS5
15-24	15.8	16.7	15.5	27.8	25.3	35.4
15-19	14.2	12.6	14.2	27.7	20.3	32.1
20-24	17.9	21.4	16.7	28	31.6	39
25-29	13.5	24.4	12.9	33.8	35.9	40.3
30-39	10	16.1	10.4	28.2	27.5	31.5
40-49	7.1	8.2	9.8	34.5	24.5	28.2

Source: NFHS Report

Table 2.2.c: Knowledge of Prevention and Transmission: Age-Wise Differences

Age-Group	Women who know that consistent condom use can reduce the chances of getting HIV AIDs			Men who know that consistent condom use can reduce the chances of getting HIV/AIDs		
	NFHS 3	NFHS-4	NFHS-5	NFHS 3	NFHS4	NFHS5
15-24	39.8	50.6	62.8	59.7	62.7	77.3
15-19	37.7	45.1	62.7	57.7	54.8	73.1
20-24	42.5	56.8	62.9	62.6	72.8	81.8
25-29	34.4	49.8	68.9	70.4	71.2	82.2
30-39	28.3	46.7	61.5	64.7	66.2	78.3
40-49	21.1	31.5	57.6	56.9	58.5	74.4

Source: NFHS Reports

Regarding the knowledge about prevention through using condoms, it is observed in Table 3.c that the younger age groups have more knowledge about it than the older age group. Among men and women, men have more knowledge about it than women. In NFHS-3 and NFHS-4 among women, the age group that has the highest percentage of using condom as prevention method to get infected by HIV/AIDs was in the age-group of 20-24 years with 42.5 percent and 56.8 percent respectively. In NFHS-5, it was in the age group of 25-29 years (68.9 percent). Among men, the highest percentage was observed in the age group of 25-29 in NFHS-3 and NFHS-5 with 70.4 percent and 82.2 percent respectively.

2.3 Awareness of HIV or AIDS and Knowledge of Prevention and Transmission: Religion Wise Differences:

Another region that could contribute significantly in the increase of knowledge of HIV/AIDS is their religion. The religion wise differences in the awareness of HIV/AIDS and knowledge of Prevention and Transmission is given in Table 2.3. The religion wise break up shows that men and women belonging to other categories are more aware of HIV/AIDS. In terms of comprehensive understanding of knowledge of HIV/AIDS, "Other" category stood out in NFHS-3 and NFHS-5. In other parameters, knowledge about use of condom to prevent from HIV/AIDS, percentage of men and women belonging to "other" category was the highest. The trend reveals that the percentage of both women and men from all categories of religion who are aware of HIV/AIDS are increasing. This shows that people from all religious groups are increasingly aware of HIV/AIDS. In addition, their comprehensive knowledge of HIV/AIDS are increasing.

2.4 Awareness of HIV/AIDS and Knowledge of Prevention and Transmission: Caste Wise Differences

The differences in Caste also contributes to the awareness of HIV/AIDS and Knowledge of Prevention and Transmission. The caste wise break up given in Table 2.4 shows that both men and women belonging to other categories have the highest percentage of awareness about HIV/AIDS. Comparison between men and women within the caste categories shows that men have higher percentage of awareness, comprehensive knowledge and prevention measures in all rounds of NFHS-3 to NFHS-5. Since Arunachal Pradesh is a tribal state, I would like to discuss about the Scheduled Tribe. In the ST category. In NFHS-3, 70.6 percent of women and 75.9 percent of men were aware of HIV/AIDS. The awareness level among the men and women in ST category has shown a significant increase in NFHS-4 and NFHS-5. In NFHS-4, the awareness level of HIV/AIDS among ST women and men were 77.8 percent and 84.5 percent respectively which has increased to 89.1 percent and 96.1 percent in NFHS-5 among women and men respectively. In other caste category, similar pattern is observed. The awareness level of HIV/AIDS has significantly increased. Regarding the comprehensive knowledge, in the ST category, among women the percentage has increased tremendously from 12.7 percent in NFHS-3 to 31.3 percent in NFHS-5. Among men, it has increased from 31.3 percent in NFHS-3 to 35.9 percent in NFHS-5. In the case of knowledge on preventive measures, 33 percent in NFHS-3 to 61.7 percent in NFHS-5 among women in ST category. In case of men, it increased from 63 percent in NFHS-3 to 79.2 percent in NFHS-4

Table 2.3: Religion wise Awareness and Knowledge and Prevention of transmission of HIV/AIDS:

Religion	NFHS 3				NFHS-4				NFHS-5			
	Hindu	Christian	Buddhist /Neo Buddhist	Other	Hindu	Christian	Buddhist /Neo Buddhist	Other	Hindu	Christian	Buddhist /Neo Buddhist	Other
Women who have heard of HIV/AIDS	73	41.6	58	77	81.3	75	74	84	89.4	89.6	90.2	91
Men who have heard of HIV/AIDS	76	67.7	63	86	94.2	83.6	84	85	97.6	95.3	98.7	98
Women who have comprehensive knowled of HIV/AIDS	15	6.9	9	14	14.8	14.7	15	22	10.1	12.5	7.4	19
Men who have comprehensive knowledge of HIVs/AIDS	29	23.7	24	37	26.9	29.7	24	25	24.4	38.8	31.3	36
Women who know that consistent condom use can reduce the chances of getting HIV AIDS	39	11.9	27	36	42.1	43.4	68	58	58.8	60.2	66.6	66
Men who know that consistent condom use can reduce the chances of getting HIV/AIDS	63	54.9	49	74	75.3	58.4	68	58	70.1	79.5	81.3	80

Source: NFHS Reports

Table 2.4 : Caste wise Awareness and Knowledge of Prevention and Transmission

Parameters	NFHS-3				NFHS-4				NFHS-5			
	S C	S T	O B C	O t her	S C	S T	O B C	O t her	S C	S T	O B C	O t her
Women who have heard of HIV/AIDS	65.3	70.6	64.4	68.8	79.5	77.8	76.9	79	80.1	89.1	92	98
Men who have heard of HIV/AIDS	83	75.9	79.2	71.8	83.5	84.5	98.6	95	96.5	99	99	98
Women who have comprehensive knowled of HIV/AIDS	11.7	12.7	16.1	12.5	14.5	17	7.8	14	24.4	31.3	48	37
Men who have comprehensive knowledge of HIVs/AIDS	24.4	31.3	48.2	37.4	22.5	30.1	31.1	17	15.2	35.9	32	28

Women who know that consistent condom use can reduce the chances of getting HIV AIDS	28 .8	33	45. 1	33. 2	38 .8	47 .3	36. 4	42	5. 5	61 .7	54	73
Men who know that consistent condom use can reduce the chances of getting HIV/AIDS	65 .1	63	77	57. 1	71 .5	61 .5	86. 3	67	58	79 .2	81	75

Source: NFHS Reports

2.4 Awareness of HIV/AIDS and Knowledge of Prevention and Transmission of: Number of Schooling Wise Differences:

It is expected that education plays an important role in the prevention of HIV/AIDS. An attempt is made to study the effect of education in the awareness of HIV/AIDS and knowledge of prevention and transmission.

Table 2.4.a Awareness Level of HIV/AIDS: Education Wise

	Women who have heard of HIV/AIDS			Men who have heard of HIV/AIDS		
	NFHS-3	NFHS-4	NFHS-5	NFHS-3	NFHS-4	NFHS-5
No Education	44.9	58.7	81.60	44	66.8	92.60
less than 5yrs	69.3	75.4	90.6	62.9	79.8	96.3
5-9	88.1	81.6	90.25	88.1	88.4	97.10
10 and more	98.4	93.65	95.00	98.7	93.15	97.95

Source: NFHS Report

It is observed in all rounds of NFHS-3 to NFHS-5, the percentage of both men and women who attended 10 years or more schooling is more aware of HIV/AIDS. The data shows that with the increase in the level of education; the awareness level of HIV/AIDS also increases. In NFHS-3, women with no education have 44.9 percent of awareness level which increases to 98.4 percent with 10 or more years of schooling. In case of men, it is 58.7 percent with no education but increased to 95 percent with 10 or more years of schooling. The same pattern is observed in NFHS-4 and NFHS-5. In NFHS-5, the awareness level of men and women without education have significantly increased from 44.9 percent in NFHS-3 in women category to 81.60 percent in NFHS-5. Among men, it has increased from 69.3 percent in NFHS-3 to 92.60 percent in NFHS-5.

Table 2.4.b Comprehensive Knowledge of HIV/AIDS: Education Wise

	Women who have comprehensive knowledge of HIV/AIDS			Men who have comprehensive knowledge of HIVs/AIDS		
	NFHS-3	NFHS-4	NFHS-5	NFHS 3	NFHS-4	NFHS-5
No Education	2.3	3.1	5.9	5.9	10.1	13.3
less than 5yrs	6.9	8.9	10	17.1	14.4	23
5-9	15.2	15.8	9.5	29.3	19.7	29.1
10 and more	41.5	29.5	19.05	62.1	40.55	40.1

The table 2.4.b shows that, an increase in the number of schoolings increase their comprehensive knowledge of HIV/AIDS. In case of comprehensive knowledge of HIV/AIDS, it has increased from 2.3 percent among women without education in NFHS-3 to 5.9 percent in NFHS-5. With regard to women with education level of 10 or more, it was 41.5 percent in NFHS-3 which increased to 62.1 percent in NFHS-5. The comprehensive knowledge of HIV/AIDS among men has also increased 5.9 percent in NFHS-3 to 13.3 percent in NFHS-4. The data shows that with increasing the level of education, the comprehensive knowledge of HIV/AIDS also increases.

Table 2.4.c Knowledge on Preventive Measures: Education Wise

	Women who know that consistent condom use can reduce the chances of getting HIV AIDS			Men who know that consistent condom use can reduce the chances of getting HIV/AIDS		
	NFHS-3	NFHS-4	NFHS-5	NFHS 3	NFHS-4	NFHS5
No Education	10.8	22.1	51.3	34.6	40.3	66.7
less than 5yrs	25.9	40.3	57.2	51.7	61	72
5-9	49.1	48.4	60.75	65.6	59.5	75.8
10 and more	69.9	65.8	71.85	90.2	75.4	81.2

Source: NFHS Report

According to Table 2.4.c it is observed that the knowledge on preventive measures of HIV/AIDs increases with increase in the level of schooling. In NFHS-3, 69.9 percent women who attended 10 or more years of schooling has knowledge of preventive measures compared to 10.8 percent of women with no education. Further, the data also reveals that the knowledge on preventive measures of HIV/AIDs have significantly increased from NFHS-3 to NFHS-4 in both men and women category. In NFHS-5, 71.85 percent of women who attended 10 or more years of schooling have knowledge on preventive measures compare to 81.2 percent of men. In all rounds, men have more knowledge on preventive measures than women.

V. Findings and Conclusion:

The study concludes that there is an overall increase in awareness and comprehensive knowledge from NFHS-3 to NFHS-5, indicating a positive trend. Education plays an important role in increasing awareness and comprehensive knowledge of HIV/AIDs. Although men have more knowledge of HIV/AIDs than women, both genders show improvement over time. The comprehensive knowledge of HIV/AIDs remains low, especially among women, despite overall increases in awareness and recognition of preventive measure like use of condom. Therefore, an effort should be given more on improving the comprehensive knowledge of HIV/AIDs and its preventive measures.

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