

**Assessment of Antenatal Health Care Services and Degree of Clients' Satisfaction in Qena city****Aya M.M. Elsaman<sup>a\*</sup>, Ahmed M. M. Hany<sup>b</sup>, Ahmed Hashem Abdellah<sup>c</sup>**<sup>a</sup> Department of Public Health and Community Medicine, Faculty of Medicine, South Valley University, Qena, Egypt.<sup>b</sup> Department of Public Health and Community Medicine, Faculty of Medicine, Assiut University, Assiut, Egypt.<sup>c</sup> Department of Obstetrics and Gynecology, Faculty of Medicine, South Valley University, Qena, Egypt.**Abstract****Background:** Antenatal care from a qualified clinician is essential for monitoring the pregnancy and minimizing the risks to the mother and child throughout pregnancy and delivery.**Objectives:** To determine the level of satisfaction among women attending the antenatal care clinics in Qena city also to assess ANC services in pregnant women to identify the level of ANC.**Patients and methods:** The degree of client satisfaction to ANC and factors affecting satisfaction were estimated in this cross-sectional study of 420 women. There were two groups: satisfied women and not-satisfied women. A structured questionnaire was used.**Results:** The study revealed that, out of the total clients overall satisfied with ANC were 285 (67.9%) more than half of them were rural residents, aged  $\geq 29$  years old, housewives and almost half of them had a medium social class. The significant risk factor related to degree of satisfaction to ANC were Health education about dangerous signs of labour, and Number of visits to ANC center, Ambulance availability, Doctors explain result, Performance of nursing, Number of doctors and the least factor Residence. By logistic regression analysis Health education about dangerous signs of labour was the most contributing factor associated with degree of satisfaction to ANC (p-value 0.008).**Conclusion:** The study revealed that, out of the total clients overall satisfied with ANC were 285 (67.9%) but also it revealed weaknesses in several aspects of ANC services, indicating that increased resources and health education are needed to improve the quality of ANC services in the governorate.**Keywords:** Satisfaction; Antenatal care; Women; Qena.**DOI:** 10.21608/svuijm.2022.149406.1344**\*Correspondence:** [aya\\_mohamed@med.svu.edu.eg](mailto:aya_mohamed@med.svu.edu.eg)**Received:** 11 July, 2022.**Revised:** 27 July, 2022.**Accepted:** 28 July, 2022**Cite this article as:** Aya MM Elsaman, Ahmed M. M. Hany, Ahmed Hashem Abd El Allah (2023). Assessment of Antenatal Health Care Services and Degree of Clients' Satisfaction in Qena city. *SVU-International Journal of Medical Sciences*. Vol.6, Issue 1, pp: 45-55 .

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## Introduction

'Antenatal care' (ANC) is an integration of surveilling for any difficulties in maternal and fetal, preventive services and treatments, advice education programs, and assistance for childbearing age women. ANC has been completely unappreciated until recently. There is limited information on individual components of ANC, but minimal assessment of impacts of ANC and delivery care on mothers and their infants at the time the study was conducted, whether in developed or developing nations (Elmohimen et al., 2006).

Almost as much as (529,000) women die per year as a consequence of risk factors associated to gestation, abortion, and delivery, according to the World Health Organization (WHO) (Mgawadere, 2009)

ANC services have become more readily accessible during the last few decades. ANC coverage, refers to the percentage of women in reproductive age who had at minimum one ANC session with a skilled practitioner, was around 85 percent globally and around 77 percent in the developing world between 2010 and 2015. (UNICEF, 2017).

It is critical to understand mother perceptions of ANC and satisfaction with its services, as perceived quality is a significant determinant of utilization of ANC services (Andaleeb, 2001). Mothers' satisfaction levels were examined using multiple characteristics such as the cleanliness of the examination space, the time it took to see a healthcare worker, the quality of services they received, and the availability of adequate information. (Fseha, 2019).

The achievement of the Millennium Development Goals (MDG) was aided by effective ANC. These are the aims specified for women: to own successful pregnancies and maternal outcomes, and thus to keep today's newborns as a reserve for the next generation. These objectives were stressed in the United Nations' Sustainable Development Goals (SDGs), which were supported by global leaders (Al Nasir and Abdul-Jabbar, 2020). All women have the right to get recommended ANC services from a qualified attendant during their pregnancy (Mafubelu and Islam, 2007). The present study aimed to determine the level of

satisfaction among women attending the antenatal care clinics in Qena city and to assess ANC services in pregnant women to identify the level of ANC. Also to evaluate antenatal care; mother's perception (opinion) about ANC in out-patient antenatal clinic in Qena city. Additionally, to identify the relationship between level of antenatal care services with demographic data and maternal health history characteristics.

## Patients and Methods

A cross-sectional study was conducted in clinic of primary health care units at Qena city to determine degree of satisfaction to ANC services among women attend these clinics. The participants were selected by simple random sample. Data were collected on a practice base from women attending clinic of primary health care units. Sample size was estimated to determine degree of satisfaction to ANC services among women. The following formula was used

$$n = \frac{Z^2 p(1 - p)}{d^2}$$

where **n** is the sample size, **Z** is standard normal variant (at 5% type 1 error (P<0.05) it is 1.96, **P** (expected proportion in population based on previous studies) = 10%, **d** (absolute error or precision) = 0.05, the level of confidence usually aimed for is 95%. The estimated sample size was 255, we raised it up to 420 participants.

### Inclusion criteria

All married women in age group (15-49 years) attend to primary health care units in Qena city. accept to participate in the study

### Exclusion criteria

Unmarried women, Female outside reproductive age (< 15 years and menopause female) not accept to participate in the study.

### Data collection

Data were collected during November 2021 to February 2022. The interviews were targeting women attending clinic of primary health care units at Qena city. A structured questionnaire was used as a tool for data collection. The questionnaire was adapted from different

literatures of similar Studies in English to increase the comparability of the finding. It is filled by interviewing the women about the following:

- 1) Socio economic and demographic characteristics: include age, residence, women's occupation, and women's education.
- 2) Obstetric history: parity, gestational age, number of miscarriages and previous pregnancies.
- 3) assessment the satisfaction about quality of antenatal care as accessibility, waiting time, referral, cleanness, privacy, performance of physician and the staff.

The current study had been approved by the ethics committee of Faculty of Medicine, SVU, Qena, Egypt. The ethical approval code: SVU-MED-COM009-1-21-9-241.

### Statistical analysis

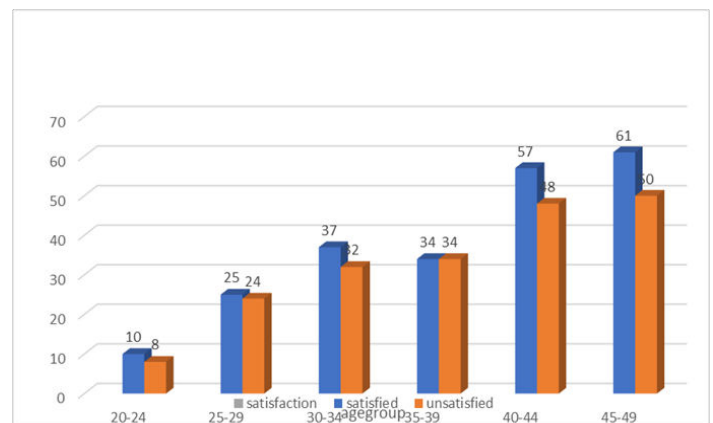
All the statistical analyses were done using the IBM SPSS (Statistical Package for the Social Science; IBM Corp, Armonk, NY, USA) release 26 for Microsoft Windows for data analysis). Qualitative variables were recorded as frequencies and percentages and were compared by chi-square test. Quantitative measures were presented as means  $\pm$  standard deviation (SD) and were compared by mannwhitney U test. Regression analysis and correlation between different variables were performed as indicated. P value  $<$  0.05 will be significant.

### Results

A total of 420 pregnant women in reproductive age (15-49) were included in the study, The study revealed that out of the total clients, overall satisfied with ANC were 285 (67.9%) (**Figure2**). (**Table 2**).The details of demographic and socioeconomic characteristics of the women were presented in (**Table 1**).

Regarding socio-demographic characteristics, more than half of the women participated in the current study were rural residents, aged  $\geq$  29 years old, housewives and

almost half of them had a medium social class. About (18%) of them had got education below secondary education. and (**Figure 1**) show that among the studied women in the age group 20-24 years 4.5% of them were satisfied to ANC services, in the age group 25-29 years 11.2% of them were satisfied in the age group 30-34 years 16.5% of them were satisfied, in the age group 35-39 years 15.2% of them were satisfied, in the age group 40-44 years 25.4% of them were satisfied, and in the age group 45-49 years 27.2% of them were satisfied. there was no participated woman in the age group 15-19. (**Table 2**). also show that 56.3% of pregnant women who came from rural areas were satisfied to ANC services compared to 43.8% in urban areas. Concerning women's occupation, 64.8% of the housewife in the studied women were satisfied to ANC services while 34% of the employee were satisfied to ANC services. Concerning socioeconomic level, 10.5% of women with low socioeconomic level were satisfied to ANC services compared 43.3% of women with high socioeconomic level were satisfied to ANC services (**Figure3**).



**Fig.1. Relationship between satisfaction and age groups**

**Figure (4)** shows the degree of satisfaction about location of ANC center.

Relationship between satisfaction to ANC and demographic characteristics is shown in (**Table 2**) there is statistically significant relation between degree of satisfaction to ANC and

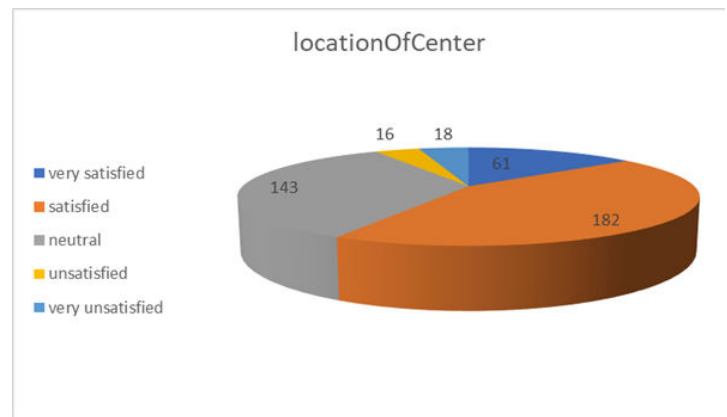
residence(p-value 0.045), women education (P-value 0.033) and number of visit to ANC centers (p-value 0.034) (**Table3**).

Relationship between satisfaction to ANC and different component of ANC services is shown in (**Table5**). there is statistically significant relation between degree of satisfaction to ANC and Performance of nursing (p-value 0.001),Cleanness of the center (p-value 0.01),Number of doctors (p-value 0.02),Does doctor Explain problem? (p-value 0.036) ,Health education about signs of danger labour(p-value 0.026) and Ambulance availability (p-value 0.028)

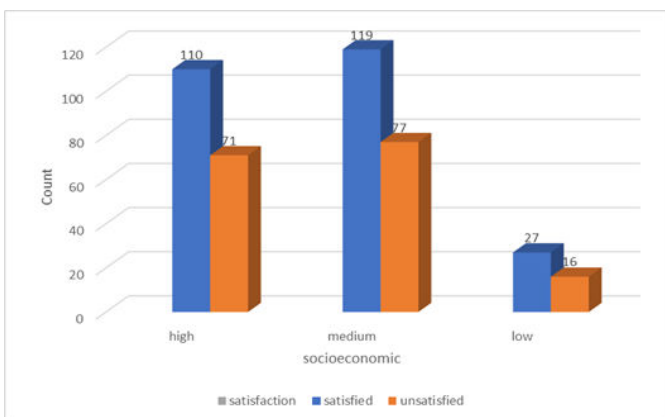
By logistic regression analysis for factors affecting women satisfaction to ANC there were seven factors associated with the satisfaction of women to ANC services introduced in ANC centers in Qena city , the most contributing factors for women satisfaction were Health education about dangerous signs of labour(P= 0.008) , and Number of visits to ANC center ( P-value 0.009), Ambulance availability (p-value 0.028), Doctors explanation of result ( p-value 0.039), Performance of nursing( p-value 0.040) , Number of doctors ( p-value 0.044) and the least factor Residence (p-value0.047)(**Table6**).



**Fig.2. Percent of women satisfaction to ANC services**



**Fig.4. Degree of satisfaction about location of ANC center**



**Fig.3. Relationship between degree of satisfaction and socioeconomic level.**

**Table 1. Demographic characteristics of the studied pregnant women (n=420)**

Characteristics	No. (Frequency)	%Percent
<b>age group(N=420)</b>		
(15- 19 year)	0	0 %
(20- 24 year)	18	4.3%
(25- 29 year)	49	11.7%
(30- 34 year)	69	16.4%
(35- 39 year)	68	16.2%
(40-44 year)	105	25%
(45-49 year)	111	26.4%
<b>Age of women in the study</b>		
<b>Mean (SD)</b>		<b>38.052(7.41)</b>
<b>Residence (N=300)</b>		
Rural	229	54.5%
Urban	191	45.5%
<b>Family size (N=300)</b>		
≤6	316	75.2%
>6	104	24.8%
<b>Mother's education(N=300)</b>		
Illiterate	24	5.7%
Read and write	10	2.4%
Primary education	6	1.4%
Preparatory education	35	8.3%
Secondary education	121	28.8%
Institute/ University	224	53.3%
<b>Husband's education(N=300)</b>		
Illiterate	10	2.4%
Read and write	13	3.1%
Preparatory education	5	1.2%
Secondary education	113	26.9%
Institute/ University	279	66.4%
<b>Mother's occupation(N=300)</b>		
Housewife	275	65.5 %
Employee	139	33.1%
Other	6	1.4%
<b>Num of visits</b>		
≤4	203	48.3%
>4	217	51.7%
<b>socioeconomic level</b>		
low	43	10.2%
Middle	196	46.7%
High	181	43.1%

**Table 2. Relationship between satisfaction to ANC services and demographic characteristics of the studied women**

Demographic characteristic		Satisfied		Unsatisfied		P value
	Total	Number	%	Number	%	
Age	<b>224</b>	<b>169</b>				
		<b>Mean ±SD</b> 38.1±7.47	<b>Mean ±SD</b> 37.9±7.35			<b>0.565</b>
<b>Age group</b>						
15-19	0	0	0%	0	0%	<b>0.378</b>
20-24	18	10	4.5%	8	4.1%	
25-29	49	25	11.2%	24	12.2%	
30-34	69	37	16.5%	32	16.3%	
35-39	68	34	15.2%	34	17.3%	
40-44	105	57	25.4%	48	24.5%	
45-49	111	61	27.2%	50	25.5%	
<b>Residence</b>						
Urban	191	112	43.8%	79	48.2%	<b>0.045*</b>
Rural	229	144	56.3%	85	51.8	
<b>Women's education</b>						
Illiterate	24	14	5.5%	10	6.1%	<b>0.033*</b>
Read and write	10	8	3.1%	2	1.2%	
Primary school	6	4	1.6%	2	1.2%	
Prep. school	35	19	7.4%	16	9.8%	
Second. school	121	77	30.1	44	26.8	
High education	224	134	52.3	90	54.9	
<b>Women's occupation</b>						
Housewife	275	166	64.8%	109	66.5%	<b>0.756</b>
Employee	139	87	34%	52	31.7%	
Other	6	3	1.2%	3	1.8%	
<b>Socioeconomic level</b>						
High	181	110	43%	71	43.3%	<b>0.861</b>
Middle	196	119	46.5%	77	47%	
	43	27	10.5%	16	9.8%	

\*Chi square test is significant p-value &lt;0.005

**Table 3. Relationship between satisfaction and family size, number of visits to ANC center, number of pregnancies and number of miscarriages**

Demographic characteristics	Satisfied		Un satisfied		p-value
	Median±Range		Median±Range		
Family size	5	8	5.5	7	<b>0.404</b>
No. of pregnancies	4	10	4	9	<b>0.228</b>
No. of miscarriages	0	4	0	4	<b>0.816</b>
No. of visits to ANC center	4	9	5	10	<b>0.034*</b>

\*Mann Whitney U test is significant p-value <0.005

**Table 4. Percentage of satisfaction to ANC**

	Satisfied	Unsatisfied	Total
<b>Frequency</b>	285	135	<b>420</b>
<b>Percent</b>	67.9%	32.1%	<b>100%</b>

**Table 5. Relationship between satisfaction to ANC services and different component of ANC**

Component of ANC services	Total	Satisfied	Not satisfied	p-value
		N (%)	N (%)	
<b>Cleanness of the center</b>				
Clean	321	205(72.7%)	116 (84.1%)	<b>0.01*</b>
Unclean	99	77 (27.3%)	22 (15.9%)	
<b>Number of doctors</b>				
Adequate	255	177(62.8%)	78 (56.5%)	<b>0.02*</b>
Inadequate	165	105(37.2%)	60 (43.5%)	
<b>Does doctor Answer question?</b>				
Yes	397	266(94.3%)	131(94.9%)	<b>0.79</b>
No	23	16 (5.7%)	7 (5.1%)	
<b>Does doctor Explain problem?</b>				
Yes	379	257(91.1%)	122(88.4%)	<b>0.036*</b>
No	41	25 (8.9%)	16 (11.6%)	
<b>Performance of nursing</b>				
Good	315	216(76.6%)	99 (71.7%)	<b>0.001*</b>
Bad	105	66 (23.4%)	39 (28.3%)	
<b>Health education about signs of danger labour</b>				
Available	330	226(80.1%)	104(75.4%)	<b>0.026*</b>
Not available	90	56 (19.9%)	34 (24.6%)	
<b>Ambulance availability</b>				
Yes	244	164(58.2%)	80 (58%)	<b>0.028*</b>
No	176	118(41.8%)	58 (42%)	
<b>Drugs availability</b>				
Yes	283	186(66%)	97 (70.3%)	<b>0.374</b>
No	137	96 (34%)	41 (29.7%)	

\*Chi square test significant if p value <0.05

**Table 6. Multivariable logistic regression analysis for factors affects satisfaction of women to ANC services.**

VariableS	Odds ratio	95% CI		P Value
	OR	Lower	Upper	
Health education about dangerous signs of labour	2.419	1.912	3.244	0.008
Number of visits to ANC center	1.086	1.010	1.167	0.009
Ambulance availability	1.925	1.867	2.724	0.028
Doctors explain result	2.346	1.692	3.617	0.039
Performance of nursing	1.887	1.635	2.046	0.040
Number of doctors	2.298	1.867	2.965	0.044
Residence	1.984	1.517	2.423	0.047

## Discussion

Antenatal care (ANC) is a pregnant woman's main point of access to a wide range of promotion of health and preventative interventions that benefit both the mother and the baby (Kuhntand, 2017). level of ANC is a major indicator of pregnancy outcome Together with safe and clean delivery, critical perinatal care, and fertility control, the level of ANC is a major indicator of pregnancy outcome, which could help to reduce maternal deaths (Dagmawitet al.,2020).(WHO and UNICEF, 1990 to 2013)

The quality of the supplied service and the degree to which specific maternal requirements are met have been connected to mother satisfaction with Antenatal Care (ANC) Services.(Lakew et al.,2018).

This study showed that 67.9% of women were satisfied with the ANC services they received, which is very close to the results of a previous Egyptian study, which found that women satisfaction with ANC services is 53.6 percent in Egypt.(Soliman,2015). and it's almost equal to a finding(68%)was reported by a study conducted in Oman (Ghobashi and Khandekar, 2008). In a

study conducted in Egypt's Sharkia Governorate, a lower finding was reported. 37.36% (Hussein and Said.,2020).and higher finding was reported in study conducted in Nigeria (90%) (Onyeajam et al., 2018).

Client satisfaction with ANC services varies by country, according to numerous research.(Luybenand Fleming,2005).

The disparity could be related to the subject matter's subjective nature. The easiest way to gauge customers' satisfaction is to use established scales and tools. (Hussen and Worku,2022).

Among the studied women in the age group 20-24 years 4.5% of them were satisfied to ANC services, in the age group 25-29 years 11.2% of them were satisfied in the age group 30-34 years 16.5% of them were satisfied, in the age group 35-39 years 15.2%of them were satisfied, in the age group 40-44 years 25.4% of them were satisfied, and in the age group 45-49 years 27.2% of them were satisfied. there was no participated woman in the age group 15-19. This disparity in satisfaction among age categories can be explained by the fact that



older women are probably less than adolescent mothers to receive any antenatal care (85% vs. 91-93%, respectively), and only about three-quarters of older moms received regular treatment (EDHS, 2014).

This study also found that 56.3 percent of pregnant women from rural regions were satisfied with ANC services, compared to 43.8 percent of pregnant women from urban areas, which contradicts prior study that found that urban people were more satisfied in ANC services. (Hussein and Said, 2020). EDHS 2014 shows that urban mothers were slightly more likely than rural mothers to obtain antenatal care, particularly regular care. Antenatal care coverage was significantly lower in Upper Egypt and the Frontier Governorates than in Urban and Lower Egypt. This difference can be explained as the majority of studied sample were rural residents.

In this study, a positive relationship was found between education level and client satisfaction (i.e., as educational status increases, so does client satisfaction). The level of satisfaction among those with a secondary education or higher was greater than 70%, which was directly related to another study performed in Southwest Ethiopia. (Asifere et al., 2018). However, it contradicts other studies that found that pregnant women with low levels of education were more satisfied with ANC services than those with higher levels of education. (Chemir et al., 2014).

In this study women satisfied with ANC services was significantly associated with Health education about dangerous signs of labour (P-value 0.008) many previous studies revealed that the possibility of seeking ANC was significantly related to women's understanding of the risks related to adverse obstetric outcomes. Women who have previously experienced fetus's loss or infant death are much more likely to obtain ANC (Bhattiaand Cleland, 1995; Gleit et al., 2003; Ciceklioglu et al. 2005; McCaw-Binns et al., 1995; Paredes et al., 2005). A study conducted in India by (Matthews et al. (2001) revealed that complications from gestation had a positive

impact on early and appropriate attendance for ANC Similarly, pregnant women without prior obstetric complications were more likely to arrive late in India. (Matthews et al., 2001). These findings can be explained by a lack of doctor training in proper patient communication, which is a critical point in improving the quality of care and client satisfaction, as confirmed by a study conducted in Iran, which discovered that one of the key reasons for client satisfaction with ANC was the knowledge provided to the clients through health education sessions. (Jafari et al., 2010).

Women satisfied with ANC services was significantly associated with Number of visits to ANC center (P-value 0.009) This was directly linked to the results of a study conducted in Oman, (Kamil and Khorshid, 2013). and other study conducted in in Sharkia Governorate, Egypt (Hussein and Said, 2020). As shown in a study performed in Hawassa, Southern Ethiopia, the number of antenatal visits is one of the factors related to pregnant women's satisfaction levels. (Lire et al., 2021). This significant positive relationship could be attributed to increased client awareness of its importance as a result of repeated visits, increased client needs, and appropriate answer to this need by health care workers.

In this study Women satisfied with ANC services was also significantly associated with Ambulance availability (P-value 0.028) And 58.1% of client reveal that ambulance is available in ANC centers A study conducted in Nigeria revealed that the absence of prompt referral was a cause for dissatisfaction with ANC services (Balogun, 2007).

The current study found that most of the clients were satisfied by the physician's performance and Women satisfied with ANC services was also significantly associated with specially to doctor explanation of results (P-value 0.039) and also significantly associated not only with performance of physician but also with number of doctors (P-value 0.044). Communication by practitioners with women

during ANC visits is important for their satisfaction with care, and perceived neglect in care, such as delays in dealing with client, failure to involve the client in care, and errors in finding, has a negative impact on satisfaction with services.(Dzomeku, 2011).In terms of satisfaction with the performance of nurses and other staff members, women who were satisfied with ANC services were also significantly associated with nurse performance. This was consistent with the findings of an Oman study, which found that the behaviour of the health workers and the attention to the clients seem to be the most satisfying aspects of the ANC services.(Ghobashi and Khandekar, 2008 ).In this study, health personnel attitude was a significant determinant of patients' perception and satisfaction with antenatal care; this was a similar pattern in some studies and a contrast with others (Ilyasuet al., 2010; Adekunle et al., 2008; Olumide and Ajayi, 1999).

### Conclusion

The study revealed that prevalence of women who are satisfied with ANC service was 67.9% there were seven factors associated with the satisfaction of women to ANC services introduced in ANC centers in Qena city the most contributing factors for women satisfaction were Health education about dangerous signs of labour then Number of visits to ANC center, Ambulance availability, doctors explanation of result performance of nursing, number of doctors and the least factor residence. However, it also revealed defects in many aspects of ANC services, suggesting that more resources and health education are required to raise the efficiency of ANC services in the governorate.

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