

PRACTICE OF TETANUS TOXOID IMMUNIZATION IN PREGNANT WOMEN IN AN URBAN AREA

by

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SUMMARY

All the women who delivered in 1984 were interviewed by home visits and a proforma was filled and then analysed. The vaccination coverage with tetanus toxoid during pregnancy was studied in relation to education status of the women, occupation of the husband, monthly income of the family, caste and number of children in the family. Among 99 pregnant women who were studied 75 (75.75%) of them got two doses of tetanus toxoid during pregnancy. The vaccination coverage was found to be directly related to educational status and monthly income of the family. There was no fixed pattern of vaccination coverage in relation to occupation. Scheduled caste women were less privileged to get themselves immunized as compared to upper caste women, probably due to low socio-economic status and illiteracy. Mothers having large families were also least protected by tetanus toxoid.

Introduction

In India, the expanded programme on immunization was started in January, 1978. Keeping in view the objective of "Health for all by the year 2000", the Working Group on Health has recommended 87% coverage of pregnant women with tetanus toxoid by 1990 and 100% by 2000 A.D. (D.G.H.S., 1982). Two dose schedule of tetanus toxoid vaccination was accepted from 1981-82 instead of the earlier three dose schedule on the recommendations made by the Working Committee on the

Integrated Immunization Programme in September, 1977.

In the industrialised countries, neonatal tetanus has been particularly eliminated (Tomaszunus, 1979). But in the developing countries, the immunization programme proved less effective than they could have been considering the known high efficacy of the vaccines used. In a study in Punjab villages, it was reported that 30 deaths resulted from tetanus neonatorum among 103 neonatal deaths (Gordon *et al*, 1961). Thus a periodic evaluation of the programme is needed to determine whether planning and management are achieving their desired ends.

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Material and Methods

This retrospective study was undertaken in Dogar Basti area in January 1985 which is served by Urban Health Centre, attached to S.P.M. department of Guru Gobind Singh Medical College, Earidkot. The number of pregnant women delivered in the calendar year 1984 was determined/listed from the Birth register of the area and an attempt was made to assess the vaccination coverage of pregnant women with tetanus toxoid by interviewing them. The study of the cases was done according to a proforma, evolved and pretested for this purpose. The women herself was interviewed by home visit and in case the records were available, these were also taken into account.

Observations and Discussion

In all, vaccination coverage assessment of 99 pregnant women with tetanus toxoid delivered in the calendar year 1984 was made. The distribution of 99 pregnant women according to immunization with tetanus toxoid, educational status of the women, occupation of the husband, monthly income of the family, caste and number of children in the family is shown in Table I, II, III, IV, V and VI respectively.

The percentage coverage of mothers with two doses of tetanus toxoid was

75.7%. This coverage is relatively higher than the target of 60% recommended by Working Group on Health to be achieved by the year 1985. The coverage with two doses of tetanus toxoid of mothers varied from 5.1 to 88.7% from 15 areas in different parts of the country and only in 5 areas the vaccination coverage was more than 50% (D.G.H.S., 1982).

The percentage coverage with first and second doses of tetanus toxoid was highest in women who were graduates (100%). It indicated that there was a direct relationship between educational status and vaccination coverage. The results are statistically significant (p less than .01). Similar observations were made by Singh *et al* (1976) during a study of immunization status in rural and urban areas of Punjab.

The coverage with first and second dose was maximum among the women whose husbands were in Government service (100%) followed by businessmen. The difference is not statistically significant. These observations revealed that there was no fixed pattern of vaccination coverage in relation to occupation.

Majority of the pregnant women (38.8%) belonged to the families whose monthly income was Rs. 300-600. No women with family income less than Rs. 300/- was encountered in the study.

TABLE I
Distribution of 99 Pregnant Women According to Immunization With Tetanus Toxoid

Vaccination status	Immuni- zed	%age	Non- immu- nized	%age
Tetanus toxoid-1st dose	76	76.76	24	23.2
Tetanus toxoid-2nd dose (fully vaccinated)	75	75.75	23	24.2

TABLE II

Distribution of 99 Pregnant Women According to Their Educational Status

Vaccination status	Educational status						Chi ²	
	Illite- rate %	Primary %	Middle %	Matric %	Graduate %	Total %		
Total pregnant women contacted	44 (44.4)	15 (15.15)	17 (17.17)	18 (18.18)	5 (5.05)	99 (100)		
Tetanus toxoid-1st dose	34 (77.27)	8 (53.33)	11 (64.70)	18 (100)	5 (100)	76 (76.76)	12.98	Less than .01
Tetanus toxoid-2nd dose	33 (75)	8 (53.33)	11 (64.70)	18 (100)	5 (100)	75 (75.75)	12.20	Less than .01

TABLE III

Distribution of 99 Pregnant Women According to Occupation of the Husband

Vaccination status	Occupation						Total %	Chi ²	P
	Labour- ers %	Agri- cultural labour- ers %	Business man %	Emple- yee %	Farmer %	Other %			
Total pregnant women contacted	35 (35.35)	24 (24.24)	20 (20.20)	12 (12.12)	6 (6.06)	2 (2.02)	99 (100)		
Tetanus toxoid-1st dose	24 (68.35)	18 (75)	18 (90)	11 (100)	4 (66.66)	1 (50)	76 (76.76)	5.91	< .10
Tetanus toxoid-2nd dose	24 (68.35)	18 (75)	17 (85)	11 (100)	4 (66.66)	1 (50)	75 (75.75)	4.09	< .50

TABLE IV

Distribution of 99 Pregnant Women According to Total Monthly Income of the Family

Vaccination status	Total monthly income				Total %	Chi ²	P
	Less than Rs. 300	Rs. 300-600 %	Rs. 600-900 %	Rs. 900 and above %			
Total pregnant women contacted		38 (38.38)	35 (35.35)	26 (26.26)	99 (100)		
Tetanus toxoid-1st dose		26 (68.42)	27 (77.14)	23 (88.46)	76 (76.76)	3.47	< .10
Tetanus toxoid-2nd dose		26 (68.42)	27 (77.14)	22 (84.61)	75 (75.75)	2.29	< .10

TABLE V

Distribution of 99 Pregnant Women According to Caste

Vaccination status	Caste			Total %	Chi ²	P
	Upper %	Backward %	Scheduled %			
Total pregnant women contacted		26 (26.26)	40 (40.40)	100 (100)		
Tetanus toxoid-1st dose	28 (84.84)	19 (73.07)	29 (72.5)	76 (76.76)	1.79	< .10
Tetanus toxoid-2nd dose	28 (84.84)	19 (73.07)	28 (70)	75 (75.75)	2.30	< .10

TABLE VI

Vaccination status	No. of children						Total %	Chi ²	P
	1 %	2 %	3 %	4 %	5 %	6 and above %			
Total pregnant women contacted	35 (35.35)	24 (24.24)	19 (19.19)	13 (13.13)	4 (4.04)	4 (4.04)	99 (100)		
Tetanus toxoid-1st dose	30 (85.71)	19 (79.16)	14 (73.68)	9 (69.23)	2 (50)	2 (50)	76 (76.76)	5.35	< .10
Tetanus toxoid-2nd dose	30 (85.71)	18 (75)	14 (73.68)	9 (69.23)	2 (50)	2 (50)	75 (75.75)	5.16	< .10

However, the women were reluctant to declare actual income of the family and great efforts were made to know the actual income. The vaccination coverage with first dose of tetanus toxoid was maximum (88.46%) in the women whose family monthly income was Rs. 900/- and above and was minimum (68.42%) in women whose family income was Rs. 300-600/-. The fully vaccinated women were again maximum (84.61%) in the category having monthly income Rs. 900/- and above.

Gray (1966) and Chansoria (1975) also observed that vaccination coverage increased with increase in the pre-capita income.

Majority of the women contacted belonged to the scheduled castes, (40.40%) followed by upper castes (33.33%), and backward castes (26.26%). The coverage with first and second doses of tetanus toxoid was higher in upper castes as compared to backward and scheduled caste.

Majority of the women contacted had one child in the family. The vaccination coverage with first and second doses of tetanus toxoid decreased with the increase in the number of children in the family.

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