

Short Communication

AWARENESS ABOUT VACCINE VIAL MONITOR AT PULSE POLIO BOOTHS

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INTRODUCTION

In country like India, maintenance of cold chain is of paramount importance. OPV may lose 4% to 13% of its potency per day at 25°C, 11% to 21% per day at 31°C, and 26% to 34% per day at 37°C.¹ Such high temperatures are typical in parts of north and north-central regions of India from April until June. Polio incidence spikes during these months and wanes toward end of the year.² Thus, the cold chain plays a central role in the polio eradication initiative in the rural areas, given the frequent power failures and high summer temperatures.^{3,4}

An important improvement made in Intensive Pulse Polio Immunization (IPPI) during 1998 was use of Vaccine Vial Monitor (VVM).⁵ This helps the booth staff to identify cold chain breakdown and heat exposure of vaccine vial over a period of time. The VVM does not directly measure vaccine potency but it gives information about the main factor that affects potency: heat exposure over a period of time.⁶ Thanks to the presence of the monitors, WHO was able to revise its policies to allow open vials of liquid vaccine to be used for more than a single day. That alone has saved immunization programs around the world millions of dollars. UNICEF and WHO have estimated that the use of monitors, even if

only on basic vaccines, could save the global health community \$5 million per year. VVM is available for all vaccines used in immunization programs in developing countries, and UNICEF requires them on all vaccines they purchase.^{7,8}

Dang district suffers from shortage of health manpower. Such institutions rely upon volunteers to run all types of activities for IPPI. It necessitates mandatory training for these volunteers in all aspects of pulse polio immunization. Also, all members at booth need to know everything in relation to VVM. This study was done to assess the awareness of polio booth staff about vaccine vial monitor.

MATERIAL AND METHODS

The study was conducted during National Immunization Day in January and February 2008, in 25 booths in Dang district during each polio round. All staff members were interviewed by pre-designed and pretested questionnaire. Questions were asked about VVM, its functions, how to read and interpret it. The staff members were grouped in four categories, namely (a) Auxiliary Nurse Midwife (ANM) / Female Health Worker (FHW) / Lady Health Visitor (LHV) / Pharmacists, (b) Nursing students, (c) Anganwadi workers, ASHA, and (d) Volunteers.

Table 1: Awareness Pattern Among Various Staff Categories About VVM in Dang District

Staff group	Heard about VVM (%)	Site/location of VVM on vial (%)	Correct description of VVM (%)	Correct function/How is VVM read (%)	When to discard OPV (%)
A (n = 23)	23 (100)	23 (100)	19 (82.6)	16 (69.6)	14 (60.9)
B (n = 16)	14 (87.5)	11 (68.8)	12 (75)	10 (62.5)	9 (56.3)
C (n = 42)	35 (83.3)	31 (73.8)	28 (66.7)	24 (57.1)	25 (59.5)
D (n = 28)	19 (67.9)	20 (71.4)	17 (60.7)	16 (57.1)	11 (39.3)
Total (n = 109)	91 (83.5)	85 (78)	76 (69.7)	66 (60.6)	59 (54.1)

P < 0.01

RESULTS

16.5 % of staff members interviewed had not heard of VVM. Similar findings were observed by Rajesh Chudasma⁹ that 51.6% staff members interviewed had not heard of VVM among polio booth staff in Valsad district of Gujarat and also by Puri, et al.¹⁰ in their study of awareness of oral polio VVM among polio booth staff in New Delhi. Awareness was very poor for VVM among those who have heard regarding its function, how to read VVM and when OPV should be discarded. Thakur, et al.¹¹ observed similar findings in their study. It is a common feature that a good number of booths were run exclusively by volunteers and Anganwadi workers (groups C & D) in Dang district. In absence of trained health workers, it becomes necessary for volunteers to look after vaccines. Hence, not having knowledge about VVM can badly affect the IPPI.

We conclude that there is a need for effective training of all booth members regarding type of vaccine used for that round and for VVM in rural areas of Dang district. Further studies are needed to assess the attitude and practice of the grass-root level workers.

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