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THE UNIJECT DEVICE – A PROPHYLACTIC PICK FOR A BETTER REMEDY

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Abstract:

The Uniject injection system is an auto disable injection device that was designed to meet persistent logistics, safety and cost effectiveness. Several studies indicate that Uniject device is safer, poses less risk of needle stick, and is more efficient because it is already prefilled with the right amount of medicine or vaccine. Uniject injection delivery system was successfully used and administered to 75million doses of vaccines and other medicines worldwide. The present review highlights the structure, functions, applications and also advantages of the uniject device.

Key words: *Uniject, tetanus toxoid, Hepatitis B vaccine.*

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INTRODUCTION:

The Uniject is a single-use needle, designed with a pre-filled drug delivery container that cannot be refilled. This type of needle is effective in preventing "needle sharing" because it can only be used once and provides a sterile injection each time. It is also user-friendly in that medical personnel can be trained to use the Uniject in under two hours (PATH, n.d.). It is compact, convenient, easy to store and increases dosage precision [1].

Uniject is a plastic disposable injection device, pre-filled with a single dose of vaccine or medication, which is enclosed in a sealed blister and a permanent needle, is attached. The cap was then removed the needle inserted into the subject, and the dose was delivered by squeezing the blister until it collapsed. The device is designed such that it cannot be reused but collected and incinerated [2].

Advantages:

The following are the findings of UNIJECT device [3]

- Easier than a standard syringe
- Less painful and intimidating than a standard syringe
- Training time is short
- Safe for self injection
- Generates less waste
- Saves time

Easier than a standard syringe:

Health providers find Uniject easier to use than a standard syringe, reporting that it is safer, poses less risk of needle stick, and contains the correct dose.

Less painful and intimidating than a standard syringe:

Health providers and clients prefer Uniject to a standard syringe as it caused less discomfort.

Training time is short:

Health workers can learn to use Uniject in a short time through peer-led or self-guided trainings and materials.

Safe for self-injection:

Health providers say women can safely and correctly give themselves injections with the device.

Generates less waste:

Uniject generates less waste than a traditional needle and syringe.

Saves time:

Use of Uniject requires less time and fewer physical motions by health providers.

Applications:

- Many surveys in developing countries have revealed that upto 30% of injections used for immunization are not sterile. Disposable syringes are reused and reusable syringes are often improperly sterilized, resulting in a significant risk of transmission of blood borne pathogens [4].
- Mainly applied to avoid wastage associate with multi dose vials.
- Mainly for the injections to Hepatitis B, Hepatitis C and HIV. Cyclofem®, hepatitis B and tetanus toxoid vaccines, as well as the drug oxytocin, which is used to prevent postpartum hemorrhage.
- For women in case of injectable contraceptives.

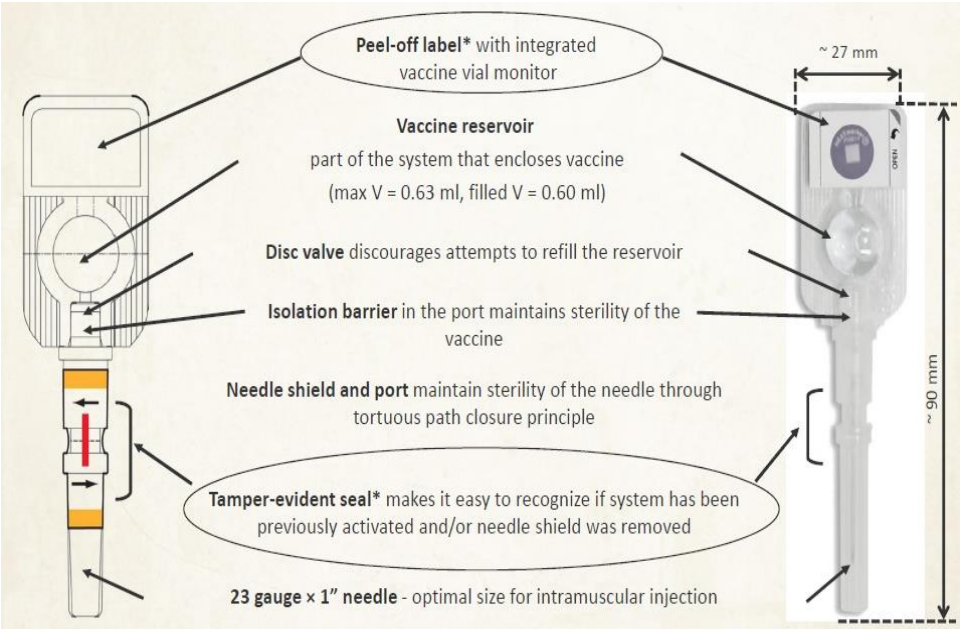

Fig 1: Uniject Delivery System Features

DISCUSSION:

Among the mothers who had received injections with the device, 94 percent said they had experienced no anxiety, and 97 percent said they would agree to receive future injections with the device. More than half of the women (56 percent) said they felt less pain when injected with Uniject compared to an injection with a standard syringe. Among 30 pregnant women in Bolivia who received injections of tetanus toxoid with Uniject, 50 percent said it was less painful than previous injections received via a conventional syringe, 10 percent reported the pain was comparable to a conventional syringe, and 7 percent said it was more painful. The remaining 33 percent were unable to compare. Eighty percent of the women said the appearance of Uniject did not cause them any anxiety, in part because of its small size [5].

Table 1: Summary of Uniject Device Studies and Introduction Activities [6]

Date	Drug or Biological	Country	Focus (Setting)	Lead Coordinator	PATH Role
1991-1992	Prostaglandin	Egypt	Acceptability (Hospital)	Karolinska Institute and Assiut University	None
1991	Prostaglandin	India	Acceptability (Hospital)	Unknown	None
1995	Tetanus toxoid	Bolivia	Acceptability, use by traditional birth attendants (Home); study funded by HT	PATH	Lead*; facilitated supply*
1995-1996	Tetanus toxoid and hepatitis B vaccine	Indonesia	Acceptability, immunogenicity of hepatitis B vaccine (Home); study funded by HT	PATH	Lead*; facilitated supply*
1995-1996	Cyclofem	Brazil	Acceptability (Clinic)	SEMICAMP	Advised; facilitated supply
1997	Cyclofem	Brazil	Self-administration (Clinic)	SEMICAMP	Advised; facilitated supply
1998-2000	Oxytocin	Angola	Acceptability, clinical effectiveness (Hospital)	WHO	Advised; facilitated supply*
1999-2000	Oxytocin	Indonesia	Acceptability, use by village midwives (Home)	PATH	Lead; facilitated supply*
1999-2000	Cyclofem	Mexico	Introduction, self-administration (Clinic/Home)	IMSS	Advised*
1999-2000	Hepatitis A vaccine	United States	Provider acceptability, clinical equivalence with syringe (Outpatient clinic)	Johns Hopkins University	None
2000-2003	Hepatitis B vaccine	Indonesia	Nationwide introduction of home-delivery birth dose (Clinic/Home)	Indonesian MOH and PATH Children's Vaccine Program (CVP)	Lead; facilitated supply*

Continue.....

2003	Hepatitis B vaccine	China	Demonstration project (Hospital/Home)	PATH	Lead; facilitated supply*
2003	Tetanus toxoid	Afghanistan, Burkina Faso, Ghana, Mali, Somalia, Southern Sudan	Introduction (Outreach campaign)13	UNICEF	Advised; facilitated supply*
2005	Oxytocin	Vietnam	Oxytocin delivered by midwives	Vietnam MOH and PATH	Study design; facilitated supply*

CONCLUSION:

From different surveys and collected data, health providers and patients support uniject for delivering injectable contraceptives, vaccines and other injectable medications. Uniject also shows potential cost savings in training and waste management. Also women can safely and correctly give themselves injections with the device.

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