



Sero-prevalence of Syphilis amongst Voluntary Non-Remunerated Blood Donors in Selected Nigerian South Western States

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Introduction

- Sexually transmitted infections are re-emerging in the developing countries.
- They constitute a major public health problem in sub-Saharan Africa.
- Syphilis is a sexually transmitted infection that may be transmitted via blood transfusion, as well.
- With every one unit of blood transfusion, there is 1% chance of transfusion related complications including transfusion transmitted infections (Swapan *et al.*, 2012)

Introduction (contd)

- Syphilis is caused by the bacterium *Treponema pallidum* (Rebecca and Sheila, 2006).
- The risk of transmission becomes more prominent in transfusion of blood and blood components at temperatures above 20°C.
- Recent syphilis infections have been shown to be associated with younger age, past syphilis treatment, past syphilis history and HIV seropositivity.

Objectives

- The study was carried out to determine seroprevalence of syphilis among voluntary, non-remunerated donors in Southwestern Nigeria.
- Two screening kits: a rapid test kit and Enzyme immunoassay (EIA) techniques were used concurrently, to evaluate performance of rapid kit with EIA as gold standard.

Materials and methods

- The study was carried out at the National Blood Transfusion Services office, Ado–Ekiti, Ekiti State, from June through August, 2014.
- Eighty two consecutive voluntary blood donors from low-risk groups were recruited from both Ekiti and Ondo states in southwest Nigeria.
- Demographic data of consenting donors were obtained through a structured questionnaire.
- Blood samples collected through venepuncture were screened for syphilis using Immuno-Chromatographic Technique and Enzyme Linked Immuno-Sorbent Assay (ELISA).

Results

- Most of the donors recruited, volunteered to donate based on public awareness created through print and electronic media.
- It was observed that most of the donors (65.9%) fall within age group 20-24 years, while 39 was the highest age recorded among the participants.
- Also, out of 82 voluntary blood donors screened, 55 donors (67%) were males while 27 (33%) were females.
- Two (2.44%) of the participants, who tested positive for antibody against *Treponema pallidum* were female donors.
- The 2 positive subjects were accurately detected by both rapid immunochromatographic technique and ELISA.

Result table

Age range	Frequency (n) (%)	Syphilis (n) (%)
<20	6 (7.3)	-
20-24	54 (65.9)	2
25-29	20 (24.4)	-
30-34	1 (1.2)	-
35-39	1 (1.2)	-
Total	82 (100.0)	2 (2.44%)

Conclusion

- The result showed that, out of 82 samples tested, 2 were positive for syphilis antibodies, giving an overall syphilis prevalence rate of 2.44%.
- Previous studies have reported that prevalence of an infection among the donors reflects the disease burden in the society (Shukla and Bhuyan, 2007).
- It could be concluded that syphilis has a low prevalence among voluntary blood donors in Ondo and Ekiti state.
- Voluntary, non-remunerated blood donors from low risk group remain a safe source of blood and blood products.
- Screening of blood and organ donors for syphilis should be sustained to prevent iatrogenic transmission.

References

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