

Pharmacist-led thyroid point-of-care testing

Project brief

Pharmacist-led point-of-care testing (POCT) enhances clinical services in primary care by facilitating timely patient management and referrals. Hypothyroidism, a prevalent yet frequently underdiagnosed or undertreated condition, necessitates regular monitoring to achieve optimal care. Integrating thyroid POCT into pharmacy practice presents an opportunity to enhance early detection and long-term disease management, underscoring the value of developing a novel pharmacist-led service.

The aim of the study was to develop and evaluate a pharmacist-led thyroid POCT framework within a community pharmacy setting.

Methodology

The study comprised three phases (Figure 1):

- Validating a thyroid POCT device by comparing it to a laboratory-based method.
- Developing a framework for pharmacist-led thyroid POCT.
- Feasibility testing of the framework in a community pharmacy. *Inclusion criteria:* Taking levothyroxine or medication which may alter Thyroid Stimulating Hormone (TSH) levels. *Exclusion criteria:* Had thyroid function testing within the preceding six months, experiencing an acute illness, pregnant or breastfeeding at time of recruitment.

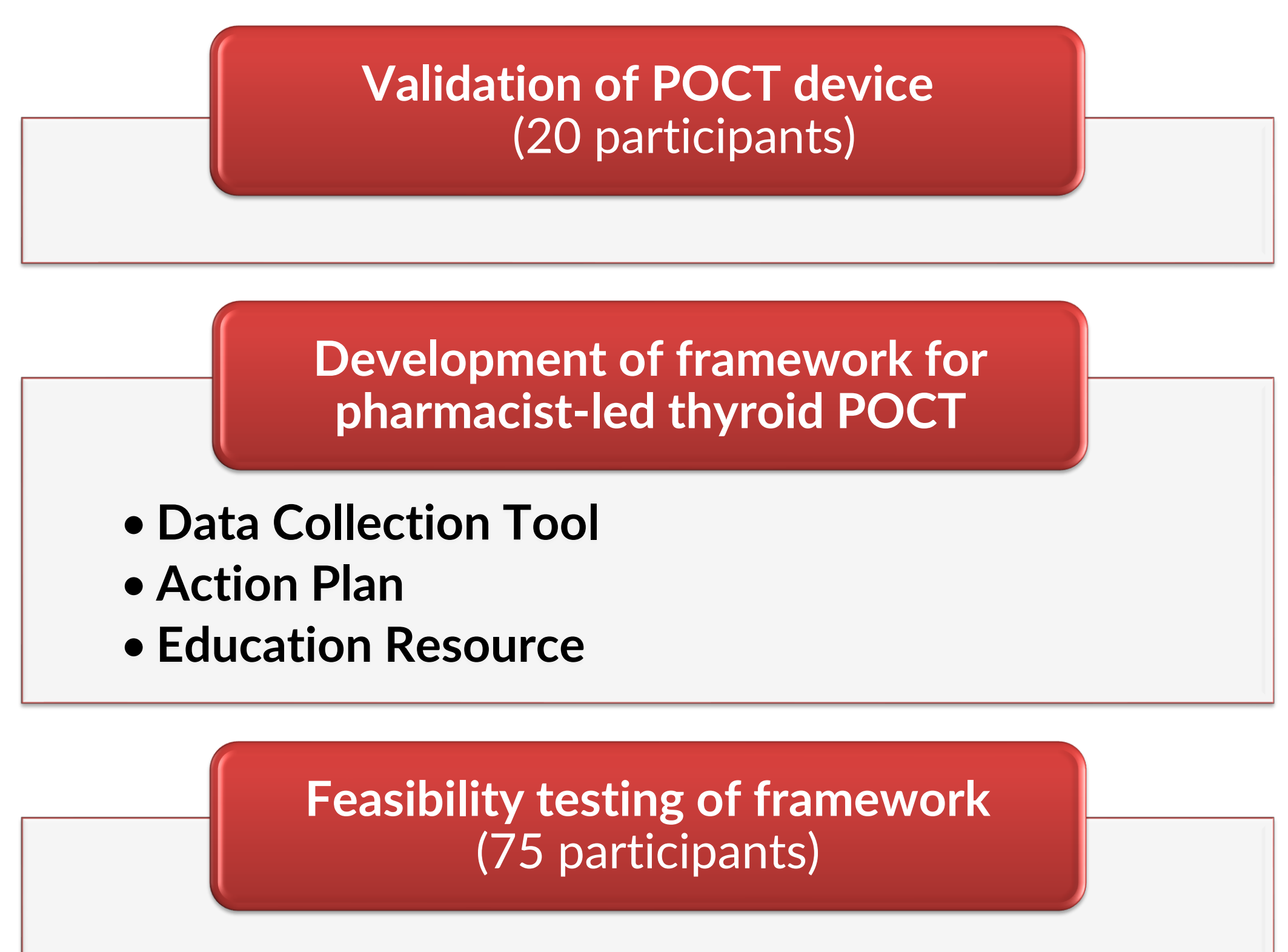


Figure 1: Flowchart of study design

Table 1: POCT vs. laboratory results (N=20)

POCT result	Laboratory result	Number of participants
Negative	Negative	17
Positive	Positive	2
Positive	Negative	1

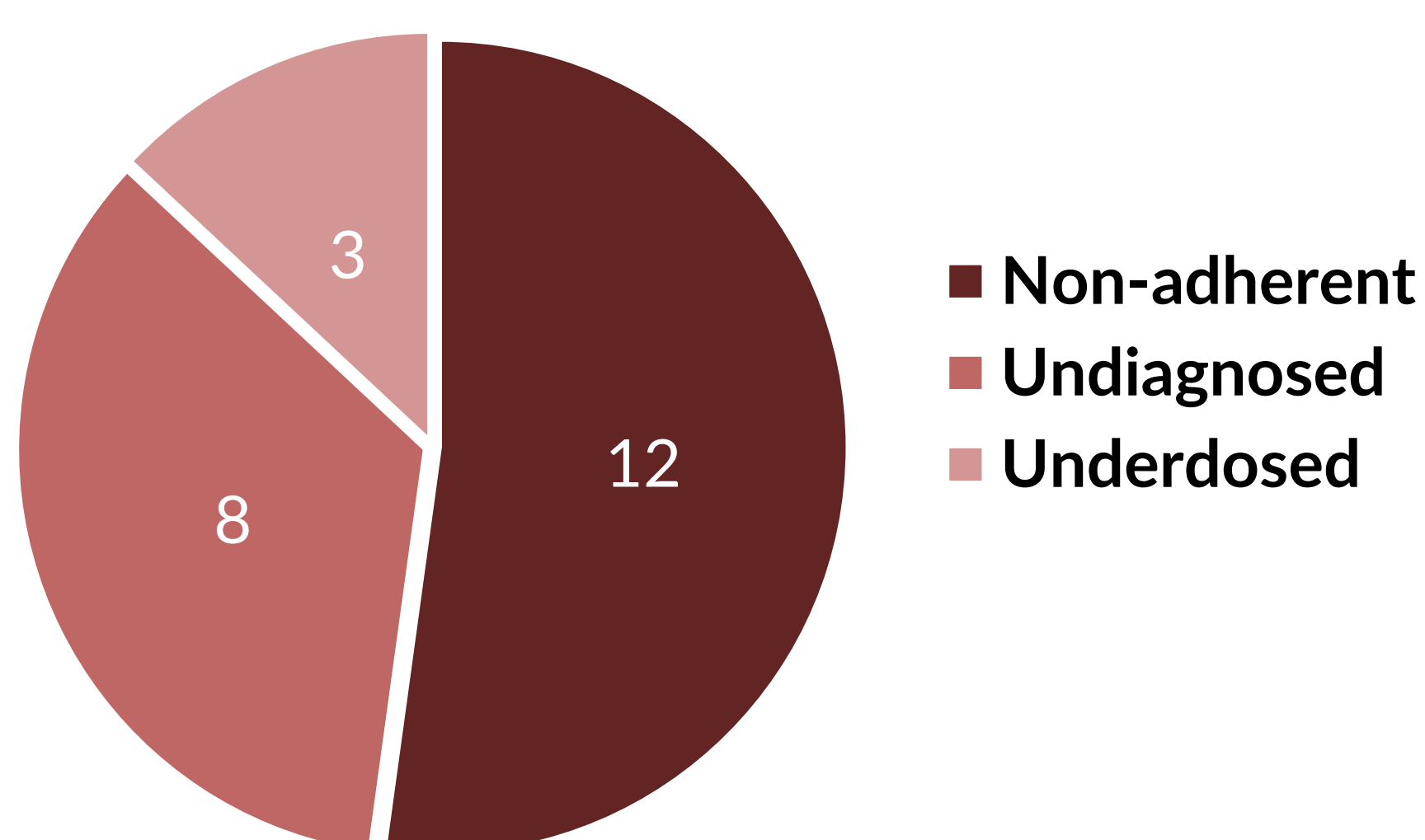


Figure 2: Participants with positive TSH result ($\geq 5 \mu\text{IU/mL}$) (n=23)

Results & Conclusions

The qualitative AcroBiotech Inc. TSH Rapid Test Cassette, with a sensitivity of $5\mu\text{IU/ml}$ and a testing time of 10 minutes, was selected following appraisal of available POCT devices.

Concordance between the POCT device and laboratory-based method was 95% ($\kappa=0.773$) (Table 1).

The developed framework consists of a data collection tool which examines risk factors associated with hypothyroidism and medication management, action plan to provide personalised patient advice, and a patient information leaflet on hypothyroidism.

From the 75 participants assessed, 57 required pharmacist intervention and 23 were identified to have hypothyroidism (Figure 2).

This study identifies a clinically reliable POCT device and presents a validated pharmacist-led thyroid POCT framework, facilitating early detection of hypothyroidism, addressing education gaps and offering appropriate referral within a collaborative care model.