UCL SCHOOL OF PHARMACY

Great Ormond Street Hospital for Children NHS Foundation Trust

The use of Pillglide® in Children: A pilot study

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Background

As paediatric pharmacists, we are constantly faced with the challenges of supporting parents in managing children who are struggling to take their medicines. This is not helped by the reality that the majority of medicines (>70%) are available as either tablet or capsule which are unsuitable for children to swallow. And for the small proportion of medicines available as liquid there is the additional issue with their palatability.

Pillglide® came to our attention when it was made available in the UK in 2009 as a licensed medical device for adults with swallowing difficulties.

The aim of the study is to investigate if Pillglide® would benefit children aged 3 years and older to comply with their medicines (tablet, capsule or liquid preparations) compared to standard behavioural approach alone.

Methodology

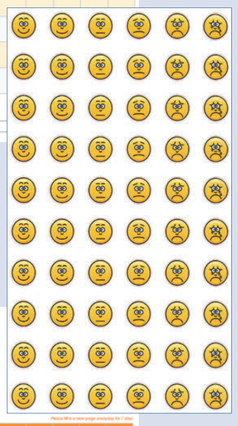
The study was approved by the hospital's Research & Development Committee and an Ethics Committee (REC Number 11/LO/0831).

Sample selection and Recruitment

Potential patients who fitted the inclusion criteria were recruited from wards and clinics if on long-term multiple medications (including those transitioning from liquid to solid medicines).
We were advised by a statistician to recruit 10 patients for this pilot study.

Data Collection Tools

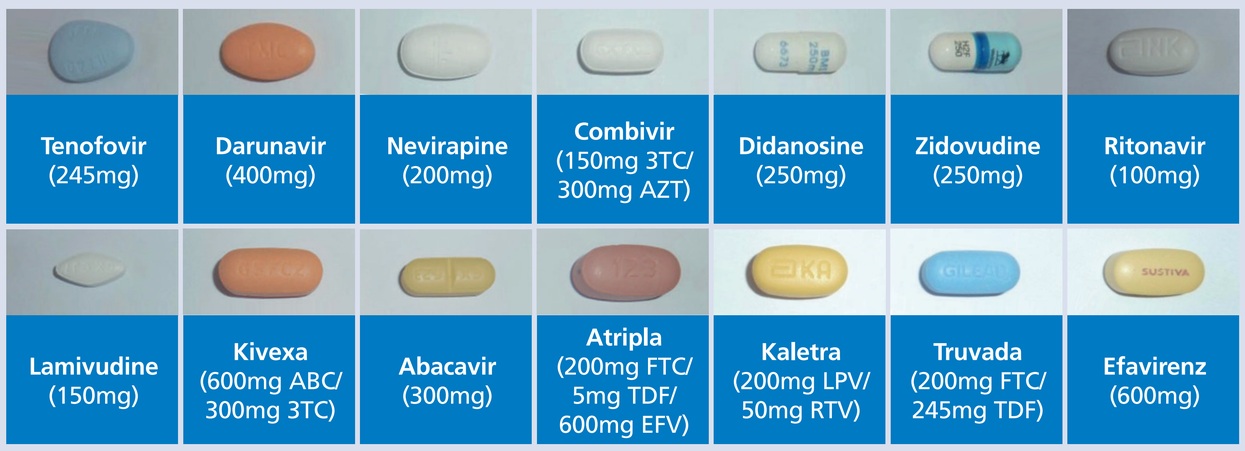
One of the investigators met with potential patients and parents to explain the study with age appropriate leaflets. The patients and parents were shown how to complete the age appropriate daily diaries (with the smiley stickers with 0 = high acceptability and 5 = low acceptability)for the first two weeks without the swallowing aid followed by the third week with Pillglide®.



Four flavours (Peach, Strawberry, Orange, Grape) were provided with self - addressed envelopes for returning completed diaries by children and/or parents.

Results

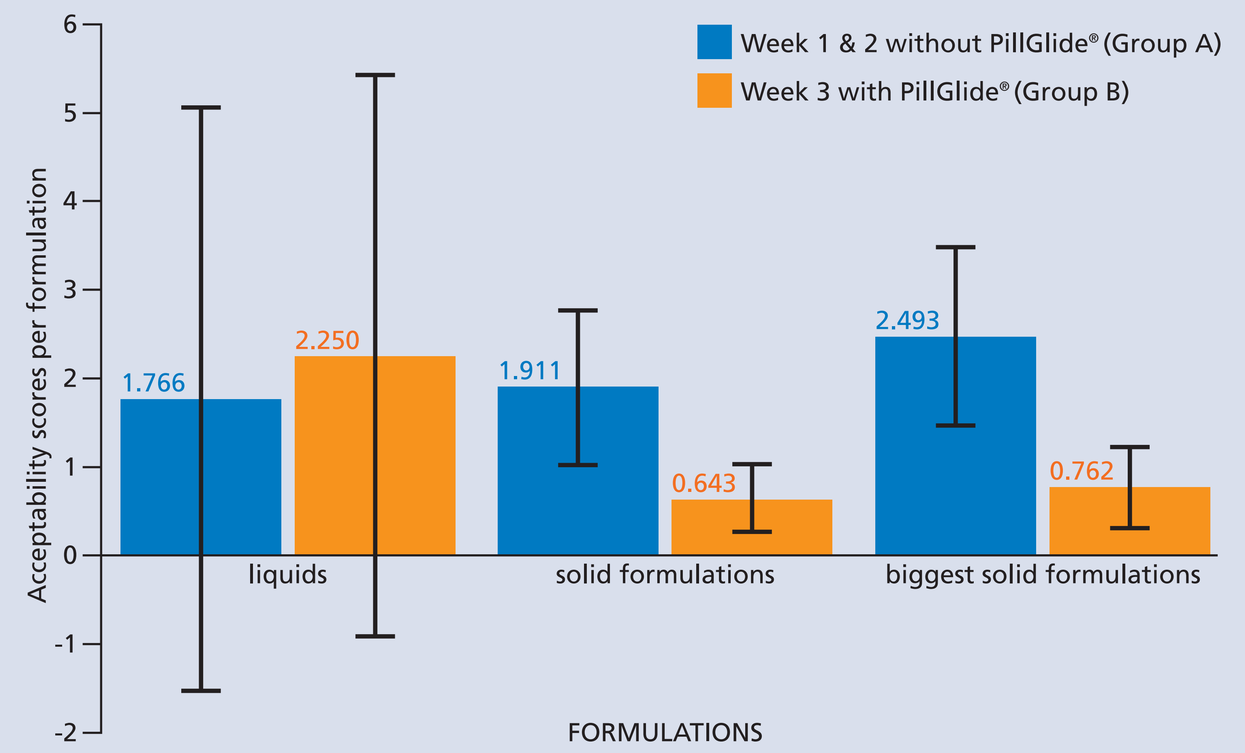
25 patients (aged 6 to 17 years) on 1 or more medications have been recruited into the study so far. 23 patients were on Highly Active Anti- Retroviral Therapy (HAART) and 2 with Bone Marrow Transplant background. 9 sets of completed diaries have been received (a response rate of 36%). Due to the poor response rate, the Ethics Committee approved the provision of incentive (eg. book vouchers) on receipt of completed diaries.



Tenofovir (245mg)	Darunavir (400mg)	Nevirapine (200mg)	Combivir (150mg 3TC/ 300mg AZT)	Didanosine (250mg)	Zidovudine (250mg)	Ritonavir (100mg)
Lamivudine (150mg)	**Kivexa (600mg ABC/ 300mg 3TC)**	**Abacavir (300mg)**	**Atripla (200mg FTC/ 5mg TDF/ 600mg EFV)**	**Kaletra (200mg LPV/ 50mg RTV)**	**Truvada (200mg FTC/ 245mg TDF)**	**Efavirenz (600mg)**

Abacavir 300mg comprimés	20mm x 7mm	Kaletra comprimés (LPV 200mg/RTV 50mg)	19mm x 10.5mm
Co-Trimoxazole 480mg comprimés	11mm	Lamivudine 150mg comprimés	14mm x 8mm
Darunavir 400mg comprimés	19mm x 12mm	Nevirapine 200mg comprimés	19mm x11mm
Didanosine 250mg EC gélules	19mm	Ritonavir 100mg comprimés	22mm x 11mm
Efavirenz 600mg comprimés	19mm x 10mm	Tenofovir 245mg comprimés	17mm x 12mm

Global acceptance scores (and 95%CI) observed with liquid formulations (n=4, 2 patients), solid formulations (n=18, 8 patients) and the biggest solid formulations (≥19mm, n=13, 7 patients) with and without Pillglide®



Pillglide® (with strawberry flavour being the most preferred) increased the acceptability of solid formulations (decreasing scores) but did not help with the taste of liquids or the after taste. The patients had written some positive comments in the diary.

Conclusion

Once 10 patients return all their completed diaries for solids and liquids, the final sample size will be calculated to ascertain the significance of the acceptability changed observed.

But if proven significantly helpful, Pillglide® should be made available to children as it is safe and easy to use.

References

1 Diamond S, Lavallee DC. Experience with a pill-swallowing enhancement aid. Clin Pediatr (Phila). 2010;49:391-3.

2 www.wongbakerfaces.org

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