

Don't ask too much (at the beginning): the problem of dropouts in mHealth

Martínez-Borba, V.¹; Osma, J.²; Suso-Ribera, C.¹; Mettler, T.³

¹Universitat Jaume I (Castellón, Spain), ²Universidad de Zaragoza (Spain), ³University of Lausanne (Switzerland)

Background and aim

Mental well-being during the perinatal period is important, not only for the mother, but also for the baby (O'Hara & McCabe 2013). Mobile applications (apps) offer the possibility of regular assessment, which can be important for rapid detection and intervention.

MamáFeliz (HappyMum) is a mobile app that might serve the aforementioned purpose, as it evaluates the mental status of women during pregnancy (twice) and after delivery (thrice). Although this regular assessment might have important advantages, longitudinal studies have reported high attrition rates (Young, Powers & Bell, 2006).

The **aim** of this longitudinal study is to analyze the dropout rates of the HappyMum application.

Method

PARTICIPANTS

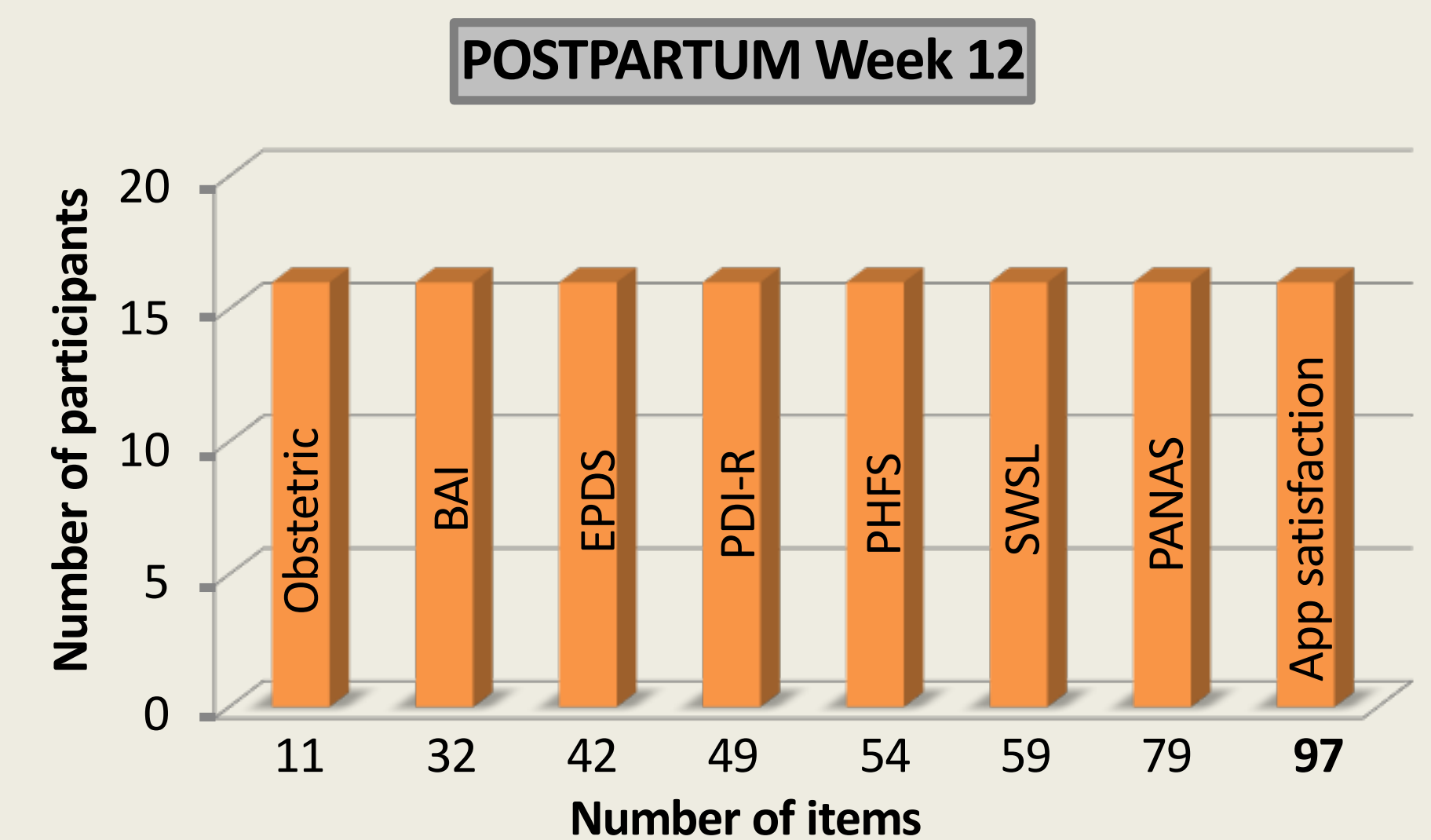
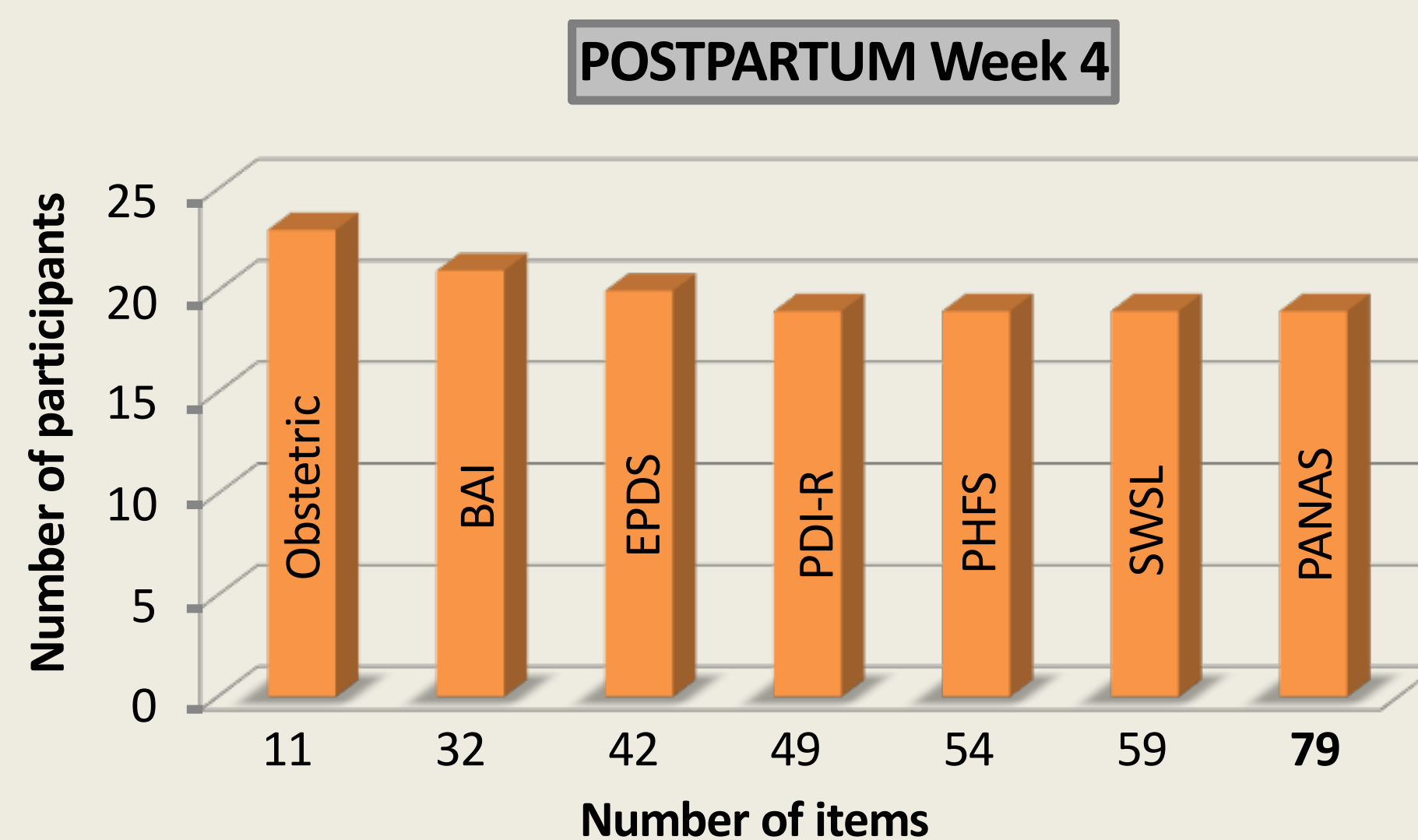
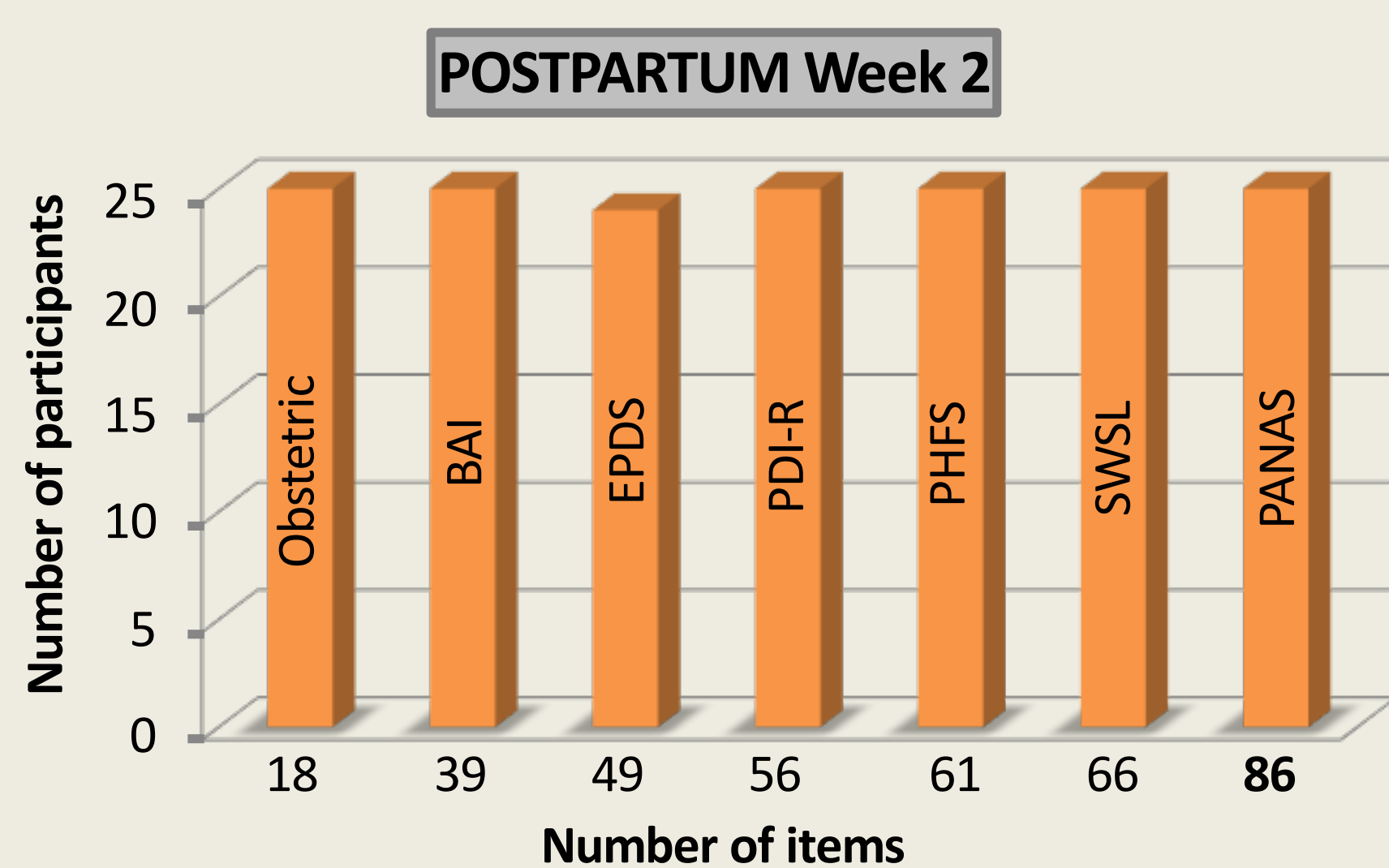
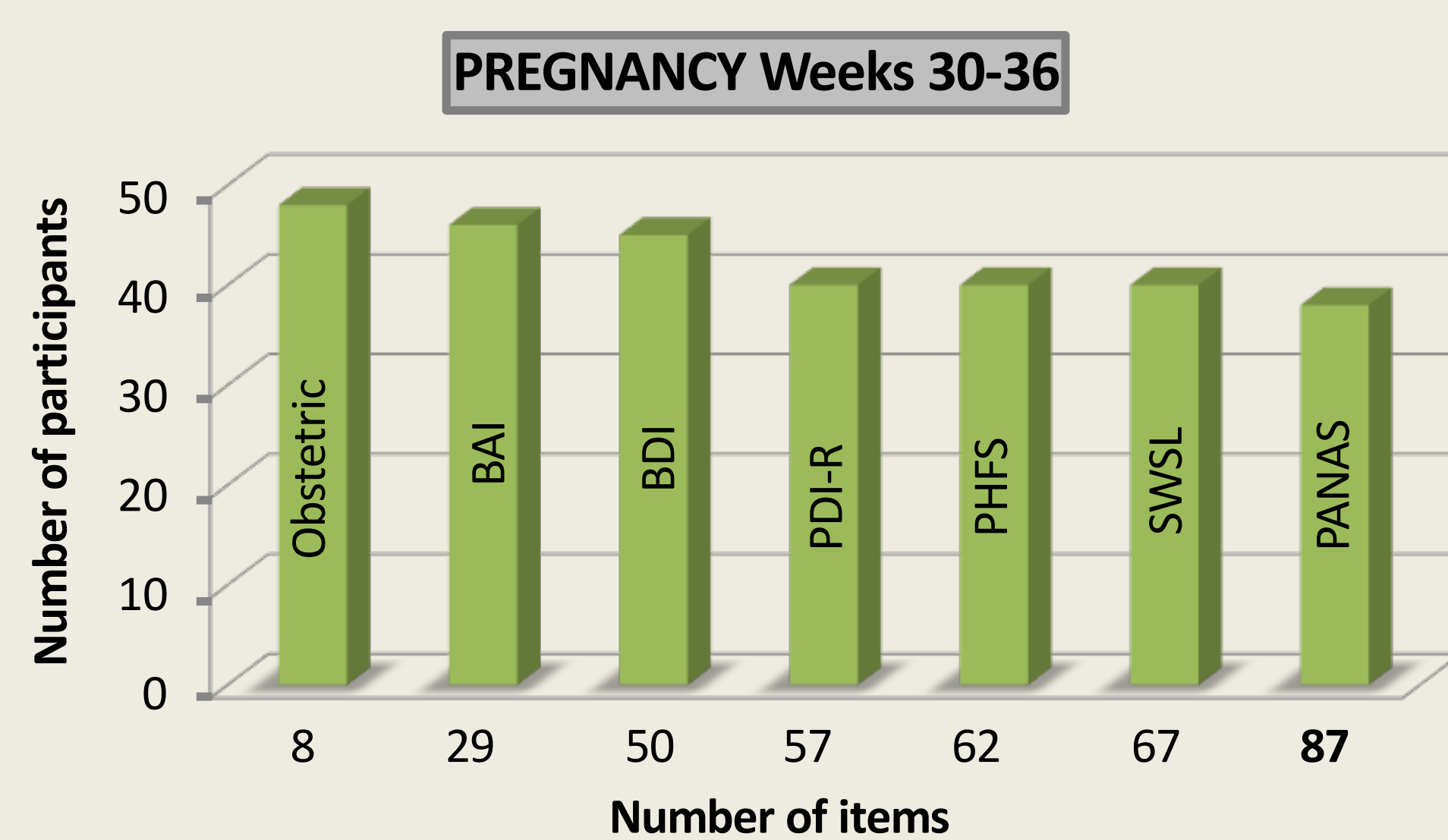
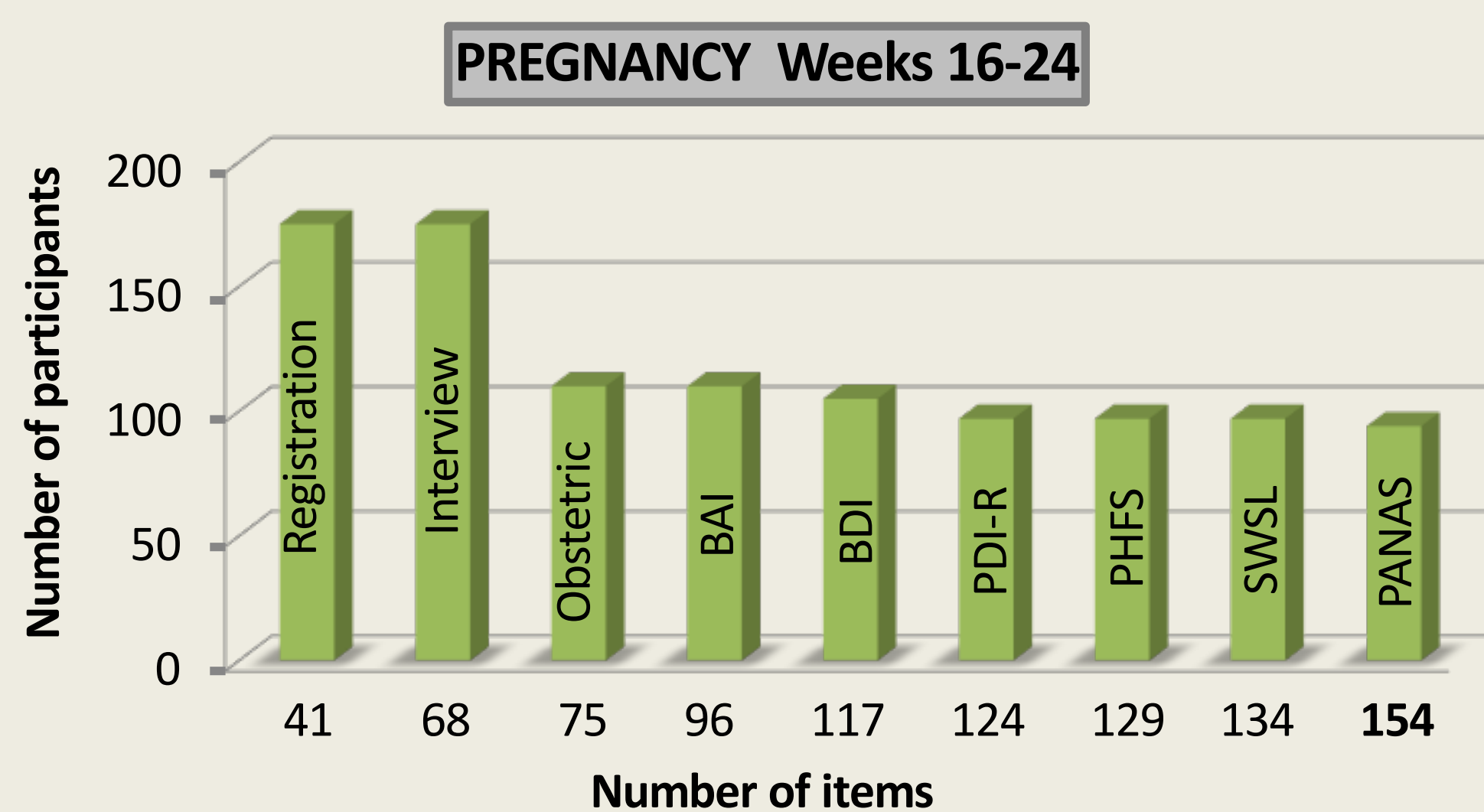
175 prenatal women registered into the program

Mean age = 28.96; SD = 6.34



Weeks 16 -24 pregnancy	Weeks 30 – 36 pregnancy	Week 2 postpartum	Week 4 postpartum	Week 12 postpartum
Registration + Initial Interview				
Obstetric (ad hoc)		Obstetric (ad hoc)		
Anxiety (BAI; Beck & Steer, 2011)		Anxiety (BAI; Beck & Steer, 2011)		
Depression (BDI; Sanz, Perdigón & Vázquez, 2003)		Depression (EPDS; García-Esteve, Ascaso, Ojuel & Navarro, 2003)		
Stressful events (PDI-R; Rodríguez-Muñoz, Vallejo, Olivares, Izquierdo, Soto & Le, 2017)		Stressful events (PDI-R; Rodríguez-Muñoz, Vallejo, Olivares, Izquierdo, Soto & Le, 2017)		
Family characteristics (PHFS; Villarreal, Blozis & Widaman, 2005)		Family characteristics (PHFS; Villarreal, Blozis & Widaman, 2005)		
Life satisfaction (SWLS; Cabañero, Richart, Cabrero, Orts, Reig & Tosal, 2004)		Life satisfaction (SWLS; Cabañero, Richart, Cabrero, Orts, Reig & Tosal, 2004)		
Positive and negative affect (PANAS; Sandín, Chorot, Lostao, Joiner, Santed & Valiente, 1999)		Positive and negative affect (PANAS; Sandín, Chorot, Lostao, Joiner, Santed & Valiente, 1999)		
				App satisfaction (ad hoc)

Results



Attrition occurred across assessments (participation dropped from 175 women in the first evaluation to 16 women in the last measurement), but also during an assessment. For instance, 175 women completed the first two measures during the first evaluation (i.e., registration and interview, 68 items), but only 46.29% of them ($n=81$) responded to the remaining questionnaires in this assessment, which had 154 items in total. The following assessments were shorter (between 79 and 97 items). Accordingly, attrition rates during these evaluations were also lower (between 20.73% and 0.00% discontinuation).

Conclusions



Dropouts in the present longitudinal study were very high, arguably due to the repeated measurement but also likely as a result of long assessments, especially the first one. A large number of women who started completing the first assessment discontinued after completing two of the measures.

- The results suggest that long assessments with a wide range of measures might be counterproductive when using web-based tools.
- It is also possible that the app did not motivate the participants.

In addition to a reduction of items (reducing the number of measures and using reduced versions of existing questionnaires), future improvements to the app should also include gamification and ecological momentary interventions to motivate participation.

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