ORIENTATION/ REVIEW PROGRAM FOR INTRODUCTION AND MANAGEMENT OF C-SECTION MONITORING AT PUBLIC AND PRIVATE FACILITIES USING ROBSON CLASSIFICATION IN NEPAL

December 2023

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स्वास्थ्य तथा जनसंख्या मन्त्रालय

स्वास्थ्य सेवा विभाग

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Overview

1. Purpose
2. Background
3. Benefits of using Robson's classification
4. Practical Steps for classification
5. Implementation and Reporting Process
6. Practice in groups: examples and real cases

Purpose

- **To address the rising rates of CS and to develop a system for assessment/monitoring and feedback**
- To classify all delivery cases in Robson group
- Clear instructions on use of Robson classification and report according to WHO implementation guideline
- Standard approach to implement Robson classification in a health facility

Background

- WHO's recommended range for C-Section rates at the population level is **5 to 15%**

- **Rates higher than 15% are not justified** and can cause significant and sometimes permanent complications, disability or death

- Globally, C-section rates have been increasing, though evidence shows **no benefits in terms of reducing maternal or newborn mortality with higher C-section rates**

Michael Robson, 2001

‘Caesarean section rates should no longer be thought of as being too high or too low but rather whether they are appropriate or not, after taking into consideration all the relevant information.’

Robson Classification system

Global standard for assessing, monitoring and comparing caesarean section rates within healthcare facilities over time, and between facilities (WHO)

Standardized , reliable, consistent and action-oriented

WHO: recommends the use of the Robson Classification

- Identify and analyze the groups of women which **contribute most and least to overall CS rates**
- Compare group wise CS rates with recommended standard rates and **consider changes in practice if needed**
- Assess the effectiveness of strategies/interventions to **optimize the use of CS**
- Assess the **quality of care, documentation and quality of the data** collected and raise awareness about the importance of this data, interpretation and use

Robson Classification

(TGCS-Ten Groups Classification System)

- **Michael Robson (2001)** proposed a standard classification system of **10 mutually exclusive categories** for C-Section
- For **"All women" who deliver** at a facility and **not only for the women who deliver by CS**
- Categories are **totally inclusive and mutually exclusive**
- Based on **six basic core obstetric variables** every woman can be classified into **one and only one of the 10 groups and no woman will be left out of the classification**

Six Core Obstetric variables

1. Parity
- Nullipara
- Multipara

2. Previous CS
- Yes (one or more)
- No

3. Onset of labor
- Spontaneous
- Induced
- No labor(pre-labor/elective CS)

4. Number of fetuses
- Singleton
- Multiple

5. Gestational age
- Preterm (less than 37 weeks)
- Term (37 weeks or more)

6. Fetal lie and presentation
- Cephalic presentation
- Breech presentation
- Transverse lie

Definitions of 6 core variables should be strictly followed

1. Parity

Number of previous deliveries upon admission for delivery.

Birth of infant weighing ≥ 1000 g or ≥ 28 weeks, alive or dead, with or without malformations, by any route.

The number of previous abortions/ miscarriages does not count

- **Nullipara** **No previous delivery.** This is not necessarily equivalent to Primigravida.

For example, a woman in her 4th pregnancy with 3 prior miscarriages (G4 P0 A3) will be a nulliparous woman

- **Multipara** At least one previous delivery of infant weighing ≥ 1000 g or ≥ 28 weeks**, alive or dead, with or without malformations, by any route

2. Previous CS

- Number of previous CS upon admission for delivery.
- Other types of uterine scars (e.g. myomectomy, hysterotomy) should not be considered and not included as a prior CS when classifying women.

- **None: All previous deliveries were vaginal.**
- **One or more: At least one previous delivery by CS but may have one or more vaginal deliveries in addition.**

3. Onset of labor

How labor started in the current pregnancy, regardless of how delivery was planned originally.

- **Spontaneous labor:** all women in labor on admission

  also includes

- Women who went into labor spontaneously and later received oxytocin or had an amniotomy for augmentation
- Women with a scheduled/elective (pre labor) CS who arrive in spontaneous labor

- **Induced** the woman not in labor on admission and then induced.

- **Pre-labor/Elective CS**
- Woman not in labor when admitted and then delivered by CS
- Cases of induction or spontaneous labor who were delivered by CS (Emergency CS) **do not belong here** .

4. Number of fetuses

- Upon admission for delivery Including Intrauterine fetal death (IUFD) diagnosed after 28 weeks or 1000 g

Singleton

- One fetus
- Twin pregnancies with one fetal demise (IUFD) prior to 28 weeks or 1000 g

Multiple

- More than one fetus.
- Multiple pregnancies where one or more fetuses died **after 28 weeks or 1000 g**

5. Gestational age

- Upon admission for current pregnancy based on best estimate (according to LMP or earliest ultrasound) or neonatal examination
- **Term:** 37 weeks or more.
- **Preterm:** Less than 37 weeks.

6. Fetal lie and presentation

The final fetal lie/presentation at the time of delivery

Cephalic:

- Fetal head is the presenting part.
- Vertex, face or brow, or compound head with hand presentations
- Women admitted with a breech fetus who undergo external version and then deliver a cephalic fetus

Breech:

- Fetal buttocks or one foot or two feet are the presenting part
- All types of breech (frank, complete and footling).
- Women with a dead fetus in transverse lie who undergo internal podalic version

Transverse or Oblique lie:

- Fetal long axis is perpendicular or oblique in relation to the mother´s long axis.
- The fetal shoulder or arm are presenting

3.3 Common subdivisions for the 10 groups

Table 3. The Robson Classification with subdivisions

Group	Obstetric population
1	Nulliparous women with a single cephalic pregnancy, ≥37 weeks gestation in spontaneous labour
2	Nulliparous women with a single cephalic pregnancy, ≥37 weeks gestation who had labour induced or were delivered by CS before labour
2a	Labour induced
2b	Pre-labour CS
3	Multiparous women without a previous CS, with a single cephalic pregnancy, ≥37 weeks gestation in spontaneous labour
4	Multiparous women without a previous CS, with a single cephalic pregnancy, ≥37 weeks gestation who had labour induced or were delivered by CS before labour
4a	Labour induced
4b	Pre-labour CS
5	All multiparous women with at least one previous CS, with a single cephalic pregnancy, ≥37 weeks gestation
5.1	With one previous CS
5.2	With two or more previous CSs
6	All nulliparous women with a single breech pregnancy
7	All multiparous women with a single breech pregnancy including women with previous CS(s)
8	All women with multiple pregnancies including women with previous CS(s)
9	All women with a single pregnancy with a transverse or oblique lie, including women with previous CS(s)
10	All women with a single cephalic pregnancy < 37 weeks gestation, including women with previous CS(s)

3.1 The 10 groups of the Robson Classification

GROUP **1**

Nulliparous women with a single cephalic pregnancy, ≥37 weeks gestation in spontaneous labour

GROUP **2**

Nulliparous women with a single cephalic pregnancy, >37 weeks gestation who either had labour induced or were delivered by caesarean section before labour

GROUP **3**

Multiparous women without a previous uterine scar, with a single cephalic pregnancy, ≥37 weeks gestation in spontaneous labour

GROUP **4**

Multiparous women without a previous uterine scar, with a single cephalic pregnancy, ≥37 weeks gestation who either had labour induced or were delivered by caesarean section before labour

GROUP **5**

All multiparous women with at least one previous uterine scar, with a single cephalic pregnancy, ≥37 weeks gestation

GROUP **6**

All nulliparous women with a single breech pregnancy

GROUP **7**

All multiparous women with a single breech pregnancy, including women with previous uterine scars

GROUP **8**

All women with multiple pregnancies, including women with previous uterine scars

GROUP **9**

All women with a single pregnancy with a transverse or oblique lie, including women with previous uterine scars

GROUP **10**

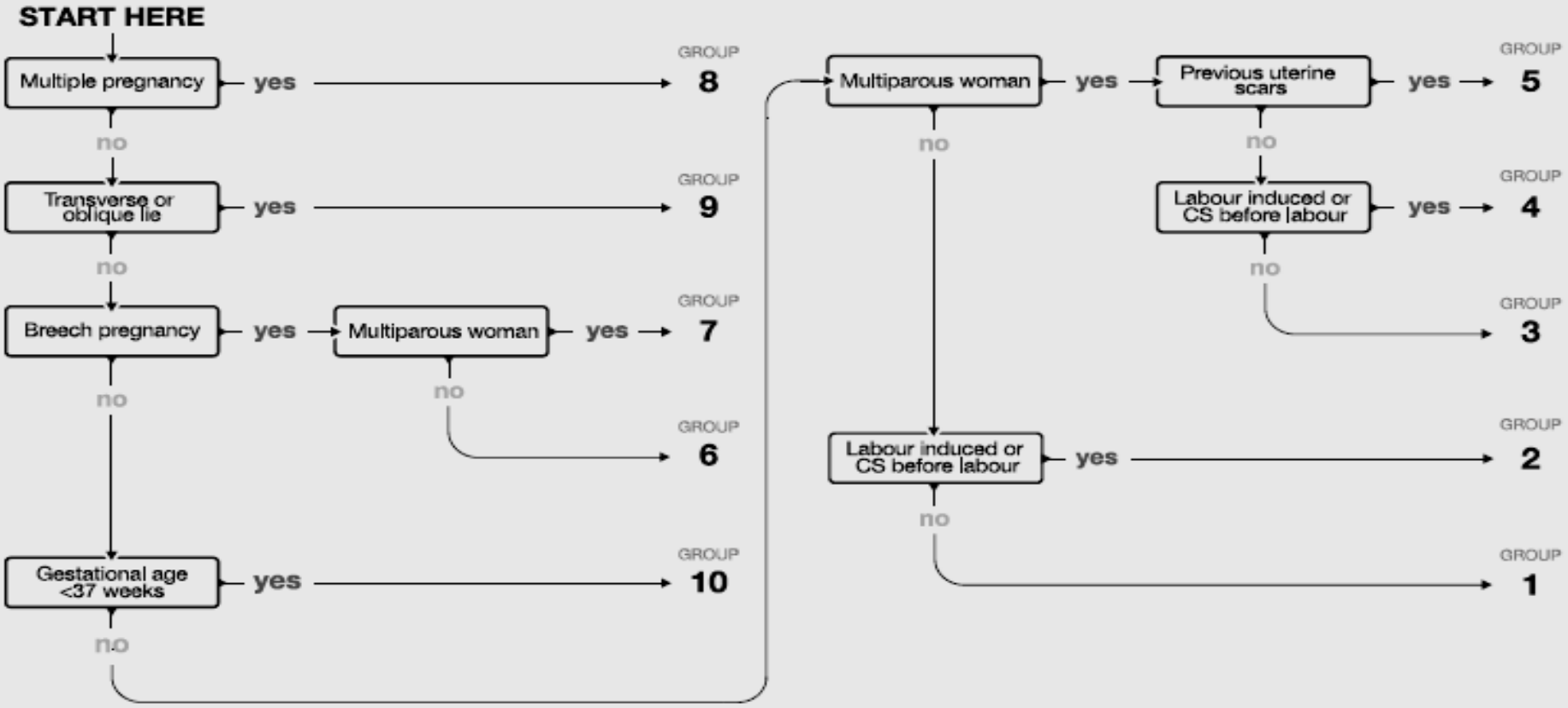
All women with a single cephalic pregnancy <37weeks gestation, including women with previous scars

Practical Steps for Classification

1. Entry point of pregnant woman in maternity unit: ER, OPD or ward
2. Detail history, physical examination including obstetric and pelvic examination
3. Determination of 6 core variables→ Designate the pregnant woman into one of 10 Robson groups
4. Note down Robson group number for each woman, on the patient record sheet and delivery room book/OT register, group can be marked in appropriate column or a new column
5. Record all details in the report table
6. Report to concerned authority/ODK platform (Provincial Health Directorate/FWD) on a monthly basis

Summary of steps/Alternative method

Figure 2: Flow chart for the classification of women in the Robson Classification



Source: Adapted from Nassar LF, Sancho HD. Instrucción de Robson . v.0.1-1 2015/06/08. Caja Costarricense de Seguro Social)

Classification into groups based on the 6 variables

Table 4: Summary of specifications for variables in each Robson group

Group	Parity	Previous CS	Number of fetuses	Fetal presentation or lie	Gestational age(weeks)	Onset of labour
1	0	No	1	Cephalic	≥ 37	Spontaneous
2	0	No	1	Cephalic	≥ 37	Induced or CS before labour
3	≥ 1	No	1	Cephalic	≥ 37	Spontaneous
4	≥ 1	No	1	Cephalic	≥ 37	Induced or CS before labour
5	≥ 1	Yes	1	Cephalic	≥ 37	Any
6	0	No	1	Breech	Any	Any
7	≥ 1	Any	1	Breech	Any	Any
8	Any	Any	≥ 2	Any	Any	Any
9	Any	Any	1	Transverse or Oblique	Any	Any
10	Any	Any	1	Cephalic	< 37	Any

Implementation and reporting

Designate 1-2 focal person

- In charge of **data collection**
- Produce the **Robson Report Tables** at monthly intervals (help by statistician/record keeping)
- Ensure that all newly admitted patients have all the **core obstetric variables** collected in their record, to allow their **classification into one of the 10 Robson groups**.

The Robson Classification Report Table

Setting name: *Hospital ABC* | period: *Date from....to.....*

Column1	Column2	Column3	Column4	Column5	Column6	Column7
Group	Number of CS in group	Number of Women in group	Group Size1(%)	Group CS rate2 (%)	Absolute group contribution to overall CS rate3(%)	Relative contribution of group to overall CS rate4(%)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
Total*	Total numberCS	Total number women delivered	100%	Overall CS rate	Overall CS rate	100%

Start by filling in Columns 2 and 3

1. Group size (%) = n of women in the group / total N women delivered in the hospital x 100

2. Group CS rate (%) = n of CS in the group / total N of women in the group x 100

3. Absolute contribution (%) = n of CS in the group / total N of women delivered in the hospital x 100

4. Relative contribution (%) = n of CS in the group / total N of CS in the hospital x 100

Unclassifiable: Number of cases and % [Number unclassifiable cases / (Total Number women delivered classified + unclassified) X 100]

Total includes the classified cases only

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- FIGO Working Group on Challenges in Care of Mothers and Infants during Labourand Delivery. *Best practice advice on the 10-Group Classification System for cesarean deliveries.* International Journal of Gynaecologyand Obstetrics. 2016;135(2):232-3.
- Robson classification implementation manual-WHO, 2017


Thank You

Practice Session

Practice case 1

- CS performed for fetal distress on a nullipara who arrived in labour(os 8 cm dilated) with a singleton, cephalic pregnancy at term.
- Which group will you classify this case ?

Answer

- This woman should be classified as Group 1. The classification does not take into account the current delivery. Therefore, this woman is a nullipara and not a multipara with a previous CS.

Practice case 2

- A woman with 5 previous term deliveries who delivers a cephalic stillborn infant at 32 weeks, weighing 1200 g

Answer

- This woman would belong in Group 10 i.e. preterm<37 weeks

Practice case 3

- A woman in her fourth pregnancy, with 3 previous miscarriages (at 8, 12 and 14 weeks), who is admitted at 38 weeks in spontaneous labor with a single cephalic fetus?
- Does she belong to Group 1 or 3?

Answer

- She belongs in Group 1 because she is a nullipara (i.e. she never delivered an infant weighing at ≥ 1000 g or ≥ 28 weeks gestation).

Practice case 4

- Nullipara with a history of previous myomectomy 2 years ago is admitted for a pre-labor/Elective CS at 38 weeks, with a singleton cephalic fetus.
- Should she be classified in Group 2 or in Group 5?

Answer

- This woman belongs to Group 2 (Group 2b).
- Only women with uterine scars due to one (or more) CS should be classified in Group 5.

Practice case 5

- How do you classify a woman admitted for induction of labor at 41 weeks who had one previous vaginal delivery?

Answer

- All women with one or more previous births are classified as “Multiparous women”. Therefore, this woman belongs in Group 4.

Practice case 6

- A nullipara with a singleton, cephalic pregnancy at 40 weeks with ruptured membranes 4 hours ago and regular contractions for the last hour. Cervix 2 cm dilated, 80% effaced with moderate contractions every three minutes. Four hours after admission, she is still 2 cm dilated and oxytocin is given to augment (accelerate) labor. Should I classify her in Group 1 or Group 2?

Answer

- This woman belongs in Group 1, since she is a nullipara with spontaneous onset of labor.
- The use of oxytocin in this case is for labor augmentation (acceleration) and not for induction.
- Therefore she does not belong to Group 2 which is exclusively for women who were not in spontaneous labor and are induced.

Practice case 7

- 41 year old obese multipara (3 previous vaginal deliveries) at 40 weeks with a single, cephalic fetus, in spontaneous labor with 4 cm cervical dilation.
- She has gestational diabetes, the fetus is macrosomic and she was planned for CS. Should she be in Group 3 or Group 4b?

Answer

- She belongs in Group 3 because onset of labor was spontaneous and the classification always considers how labor started in the current pregnancy, regardless of how delivery was planned

Practice case 8

- A woman who has a twin pregnancy and the first baby is in a transverse lie, should I classify this case in Group 8 or Group 9?

Answer

- She belongs in Group 8, since it includes “All women with multiple pregnancies”.
- Group 9 is for only for women with a singleton pregnancy with a fetus in transverse or oblique lie.

Practice case 9

- A nullipara was diagnosed with a triplet pregnancy at 14 weeks. At 28 weeks, there was only one live fetus on ultrasound examination and the other two dead fetuses had estimated weights of < 1000 g.
- She presents at 39 weeks in spontaneous labor, the live fetus is in cephalic presentation.
- How should I classify this woman: in Group 8 or in Group 1?

Answer

- This case belongs to Group 1. The classification does not apply to pregnancies/fetuses with estimated fetal weight less than 1000 g or gestational age less than 28 weeks.

Practice case 10

- 42 year old multipara (2 previous CS) was diagnosed by ultrasound with a twin pregnancy at 10 weeks. At 31 weeks, she is admitted because of severe preeclampsia and fetal growth restriction, with both fetuses alive. On the second day, one of the fetuses dies. She is immediately taken to the OT for a pre-labor CS.
- The presenting fetus is breech and dead. The surviving fetus is cephalic. How should I classify this woman: in Group 5.2, Group 7 or Group 8?

Answer

- This case belongs to Group 8. The fetal demise occurred after 28 weeks (or after > 1000 g of fetal weight), therefore this pregnancy is still considered a multiple.
- She does not belong to Group 5 because only women at term with a single, cephalic fetus should be included in this group. She does not belong in Group 7 because it is only for singleton breeches.

Group work:

Practice of Robson classification in Case scenarios

- Time for preparation 35 mins
- Presentation from each group @ 2:15 pm

ODK Process

ODK Collect

How to install and use ODK for Robson data entry

NESOG
Nepal Society Of Obstetricians and Gynaecologists

NHSSP Nepal Health Sector Support Programme

UKaid from the British people

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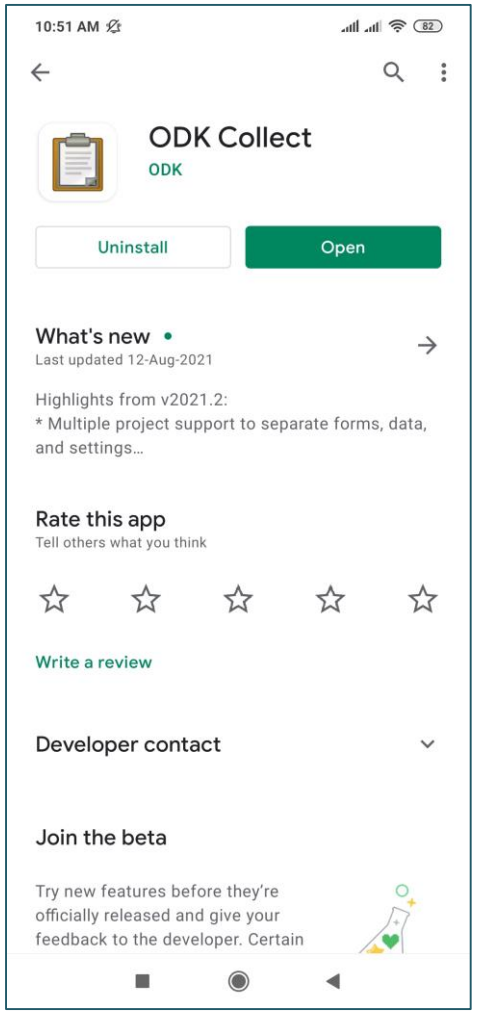
Installing ODK Collect

1. Go to **PlayStore**
2. Search for '**ODK Collect**'
3. **Install** it.

wifi – The CONSULATE HALL

User name:

Password- Acehotels@123



Connecting to ODK Server

Edit **ODK settings**

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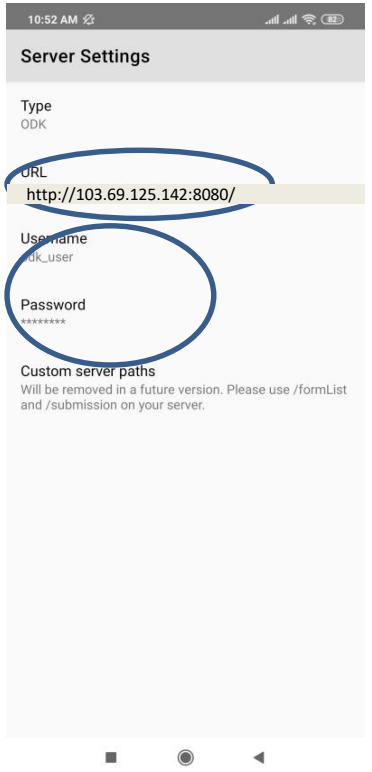

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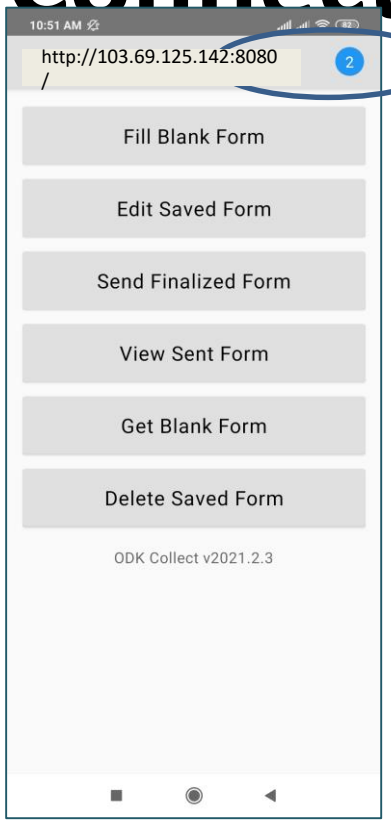

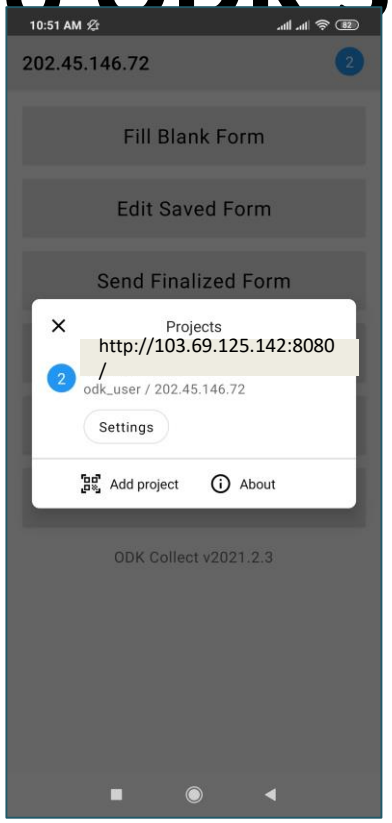

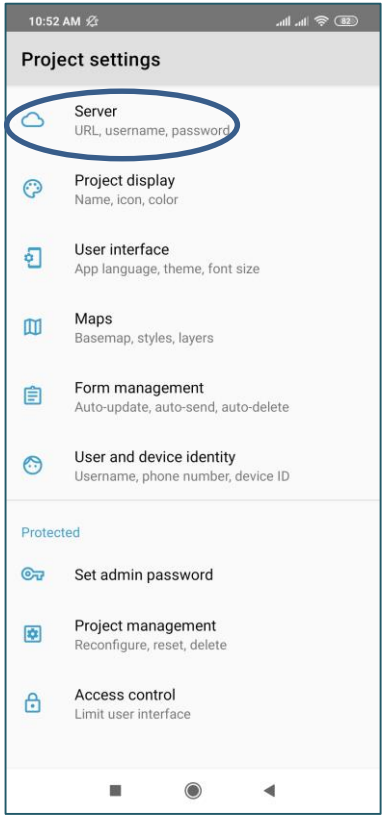

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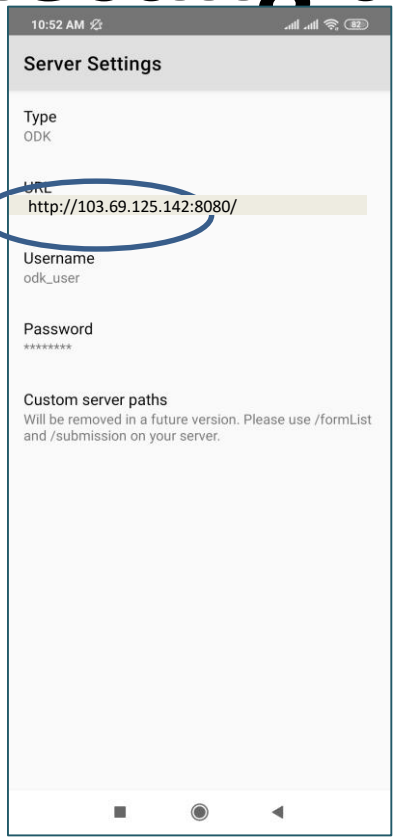

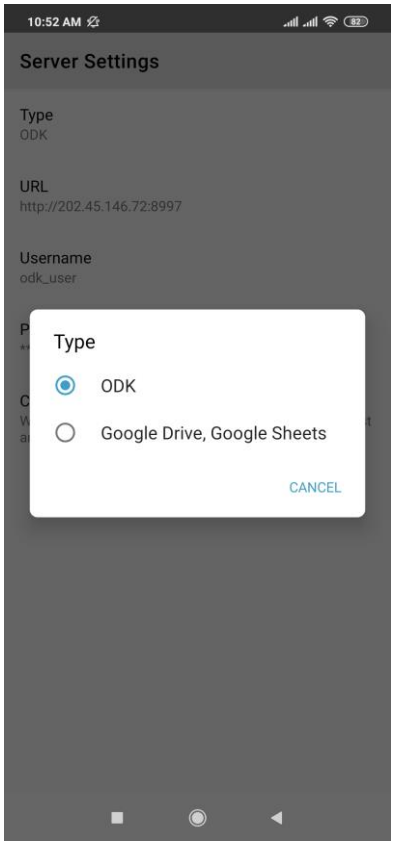

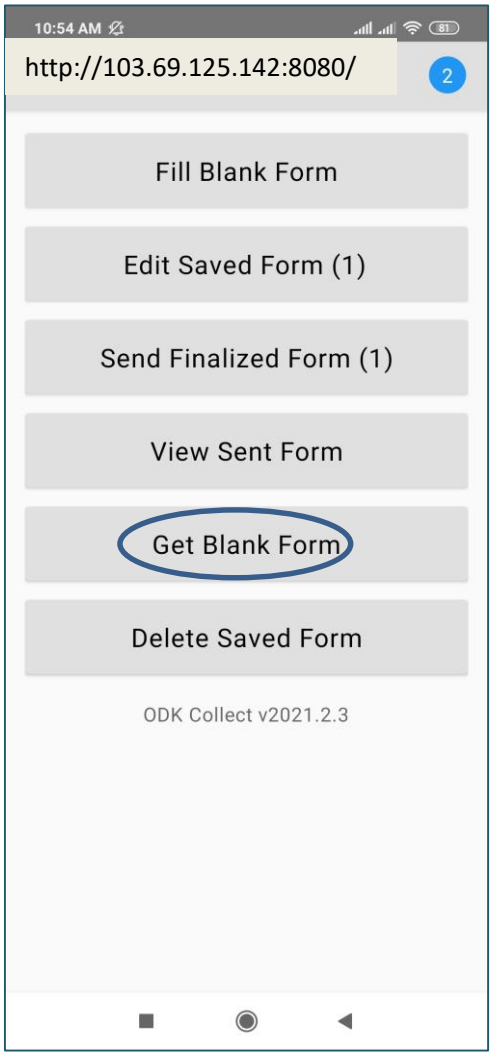
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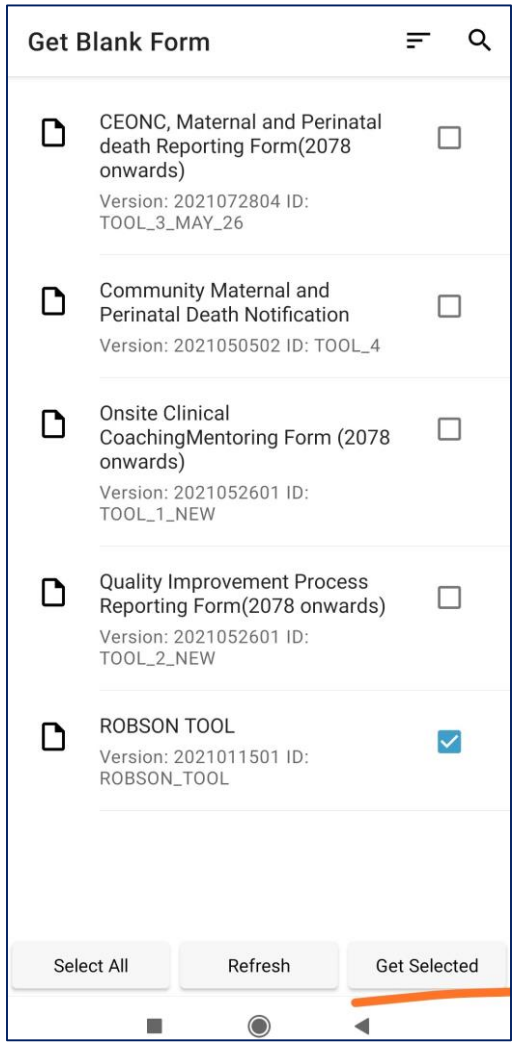
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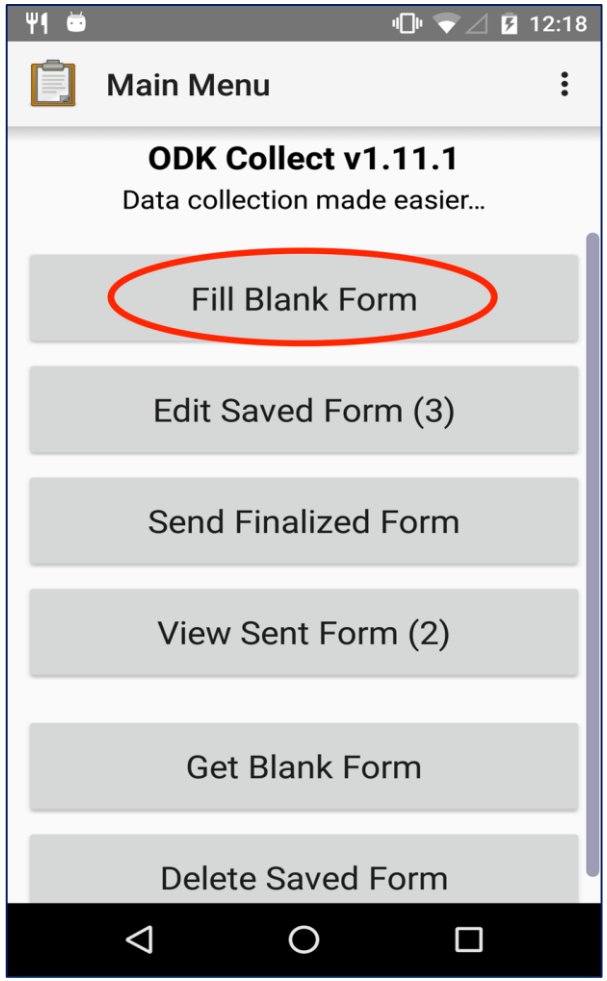
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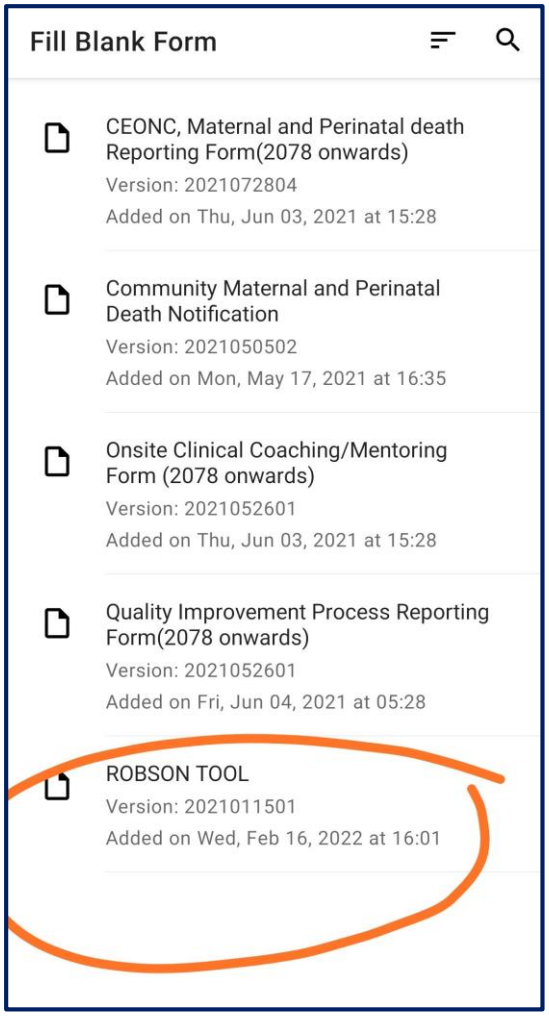
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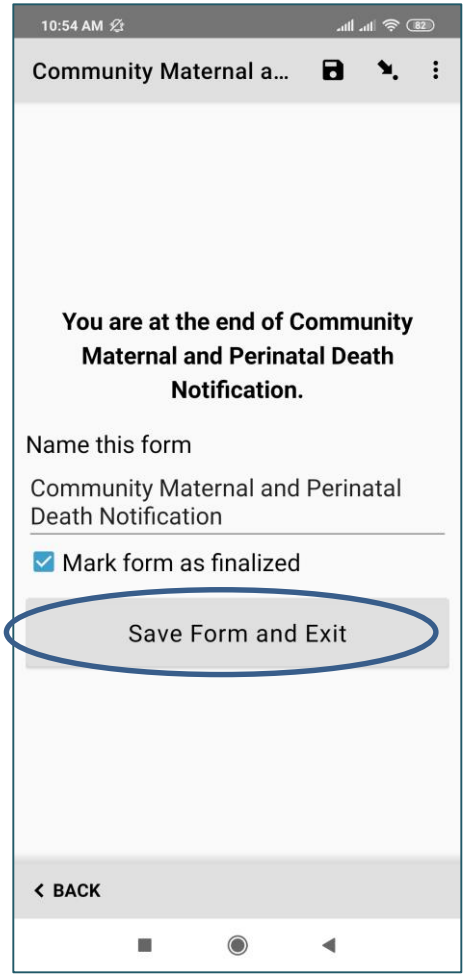
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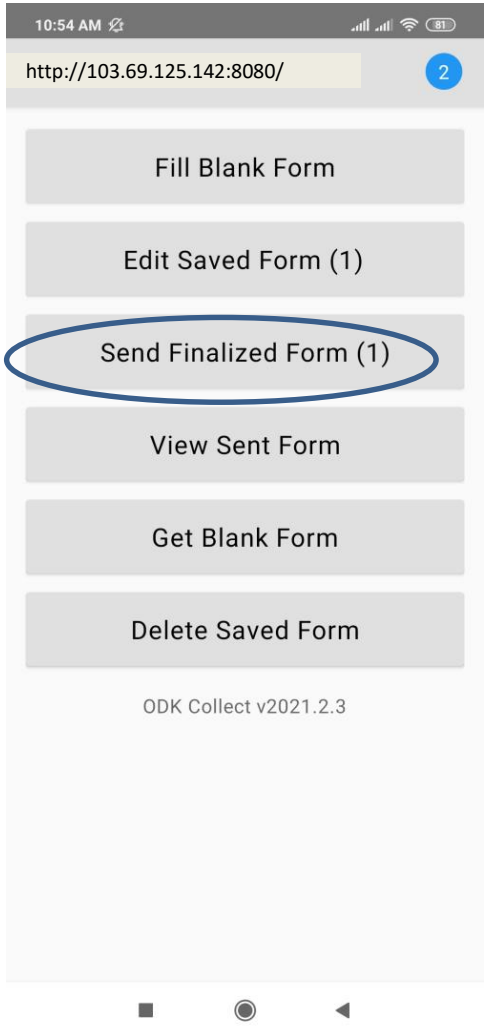
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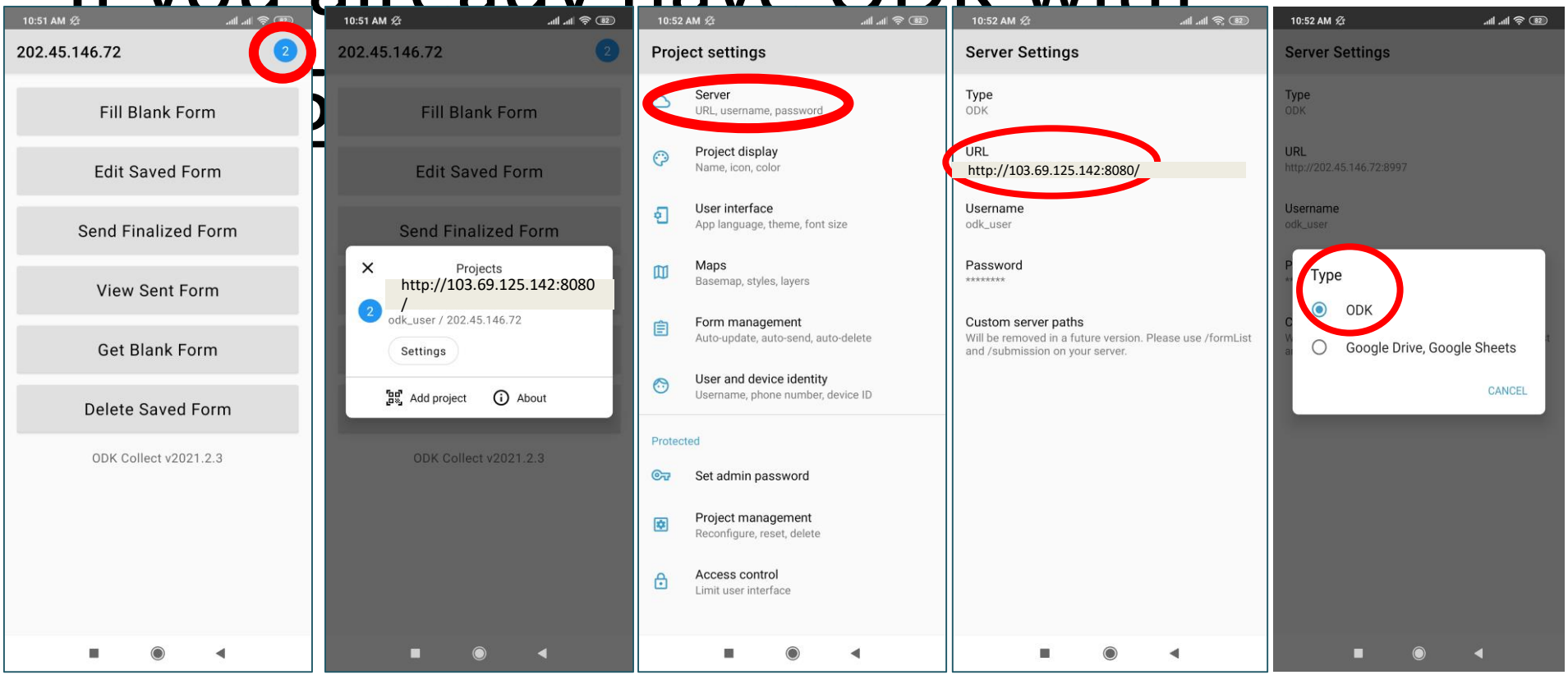

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