



Pharmacy Information System (PhIS) and Clinic Pharmacy System (CPS)

Full Based User Manual Order Management - Medication Order

Version	: 9th EDITION
Document ID	: FB_U. MANUAL_MEDICATION ORDER_MOBILE



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1. Introduction

1.1 Overview of PhIS

Pharmacy Information System or better known as PhIS, is a complete and comprehensive system that integrates pharmacy related services geared towards pharmacy excellence. PhIS implementation would transform most of current manual process to electronic system would benefit facility end user in the health care sector.

There are 12 modules to assist services delivery by the health care sector which comprises of:

1. Order Management
2. Inpatient Pharmacy
3. Outpatient Pharmacy
4. Medication Counselling
5. Ward Pharmacy
6. Pharmacy Inventory IV
7. Manufacturing of Cytotoxic Drug Reconstitution, Parenteral Nutrition, Admixture & Eye Drop , Radiopharmaceuticals and Extemporaneous
8. Adverse Drug Reaction & Drug Allergic (ADR & DAC)
9. Clinical Pharmacokinetics Services (TDM)
10. Drug Information & Consumer Education (DICE)
11. Medication Therapy Adherence Clinic (MTAC)
12. Data Mining (PhARM)

1.2 Purpose and Objectives

This user manual outlines the Order Management module and its key features and functionalities. The primary objective is to help guide user through the process of completing PhIS application process.

User will understand the following activities in details:

- Medication Order
- Manage Order
- Order Authorisation
- Order Endorsement

1.3 Organized Sections

These are the sections within this document:

- Section 1 : Introduction
- Section 2 : Application Standard Features
- Section 3 : Medication Order
- Section 4 : Acronyms
- Section 5 : Links to Clinical Modules



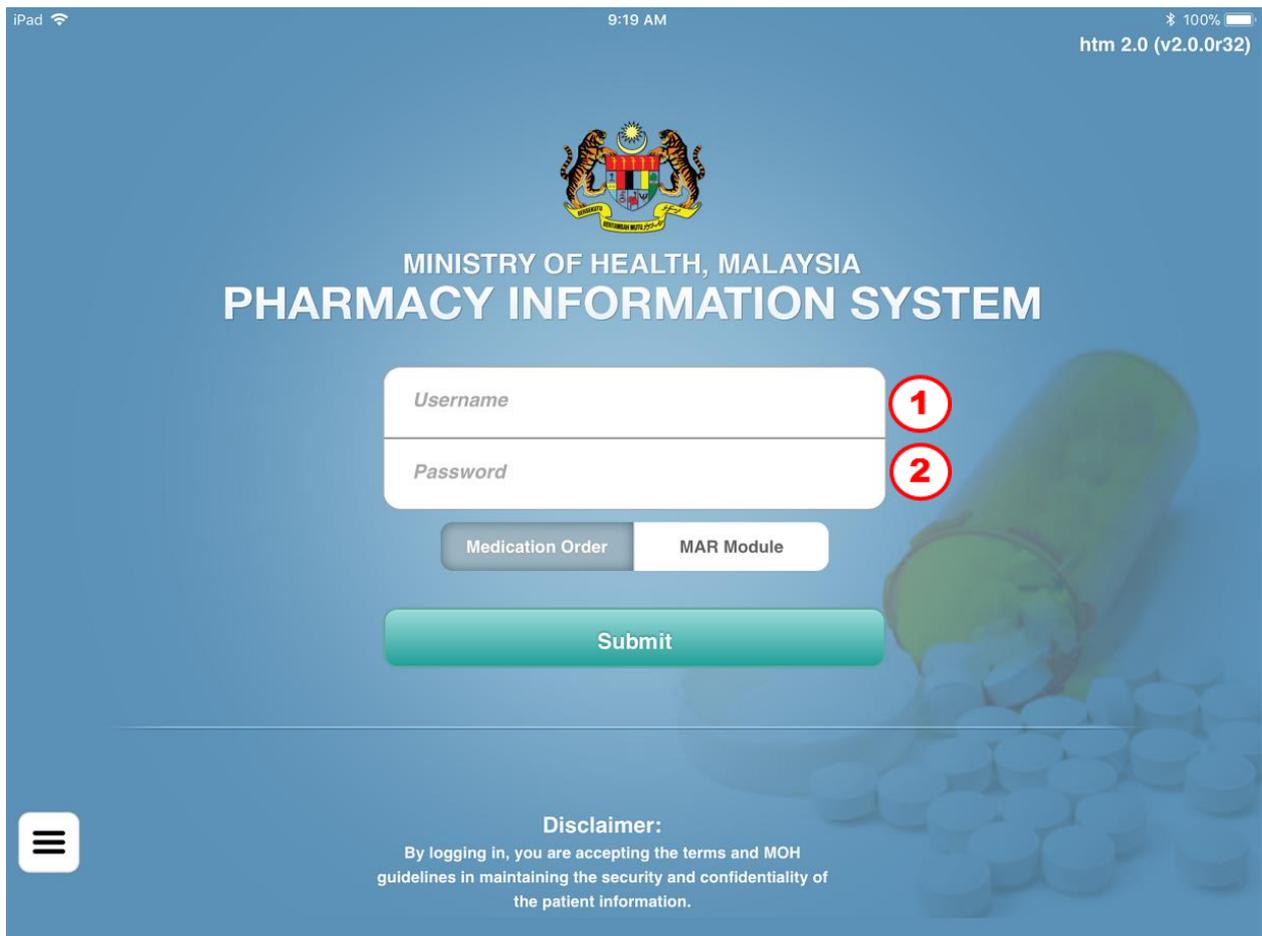
2. Application Standard Features

2.1 PhIS Legend

Module Legend					
	Update Records		Stop Drug		close record
	Draft Records		Add to favorite		Edit records
	Renew order		Confirm Order		View Order

2.2 Login to PhIS Mobile

To login into the system, perform the steps below:



iPad 9:19 AM 100% htm 2.0 (v2.0.0r32)

MINISTRY OF HEALTH, MALAYSIA
PHARMACY INFORMATION SYSTEM

Username 1

Password 2

Medication Order MAR Module

Submit

Disclaimer:
By logging in, you are accepting the terms and MOH guidelines in maintaining the security and confidentiality of the patient information.

Figure 2.2-1 PhIS Login Page

STEP 1

Key-in username in the **Username** field

STEP 2

Key-in password in the **Password** field

Note

If user entered wrong username or password, alert message will be displayed as shown in Figure 2.2-2.

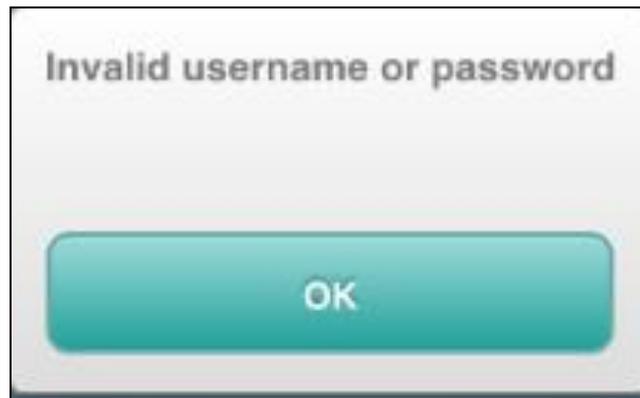


Figure 2.2-2 User does not exist

Note

User will be tied to the **Location** based on the access right. User will need to refer to the facility's System Administrator for any update needed.

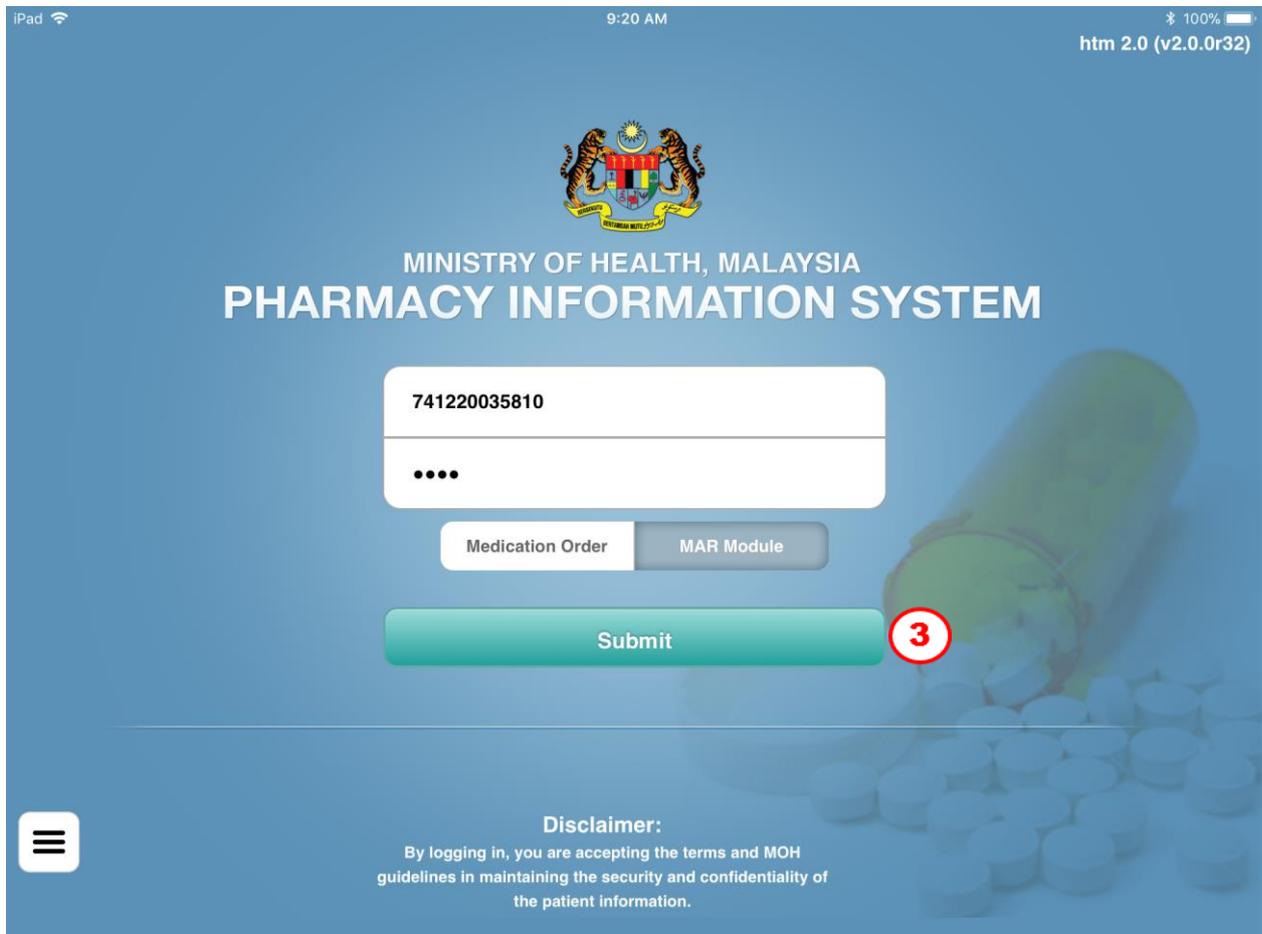


Figure 2.2-3 Wrong password entered

STEP 3

Tap on the  button to log-in to the application

2.3 PhIS Mobile Application Home Page Overview

User will be navigated to the PhIS home page upon successful login.



Figure 2.3-1 PhIS Home Page

- a) **Outpatient**
All the clinic outpatient patient
- b) **Inpatient**
All warded inpatient
- c) **Emergency**
Patient under Emergency and Trauma visit
- d) **Day Care**
All day care visit patient
- e) **My Task List**
Active task(s) that require action/ follow-up will be displayed.
e.g.: Pending for Authorisation and Endorsement
- f) **Logout**
Log out from the system

3.0 Order Management

Overview

The Order Management module handles all the information to specify the ordered items as per local drug formulary, MOH and non-MOH including registered and non-registered drugs. This function is to enable data mining. All medication orders must be prescribed by authorized personnel only and in compliance with guidelines on prescribing in the drug formulary (drug category, discipline / specialty) as defined by MOH.

User Group

This module is intended for specialist, Medical Officer (MO), and Housemen

Functional Diagram

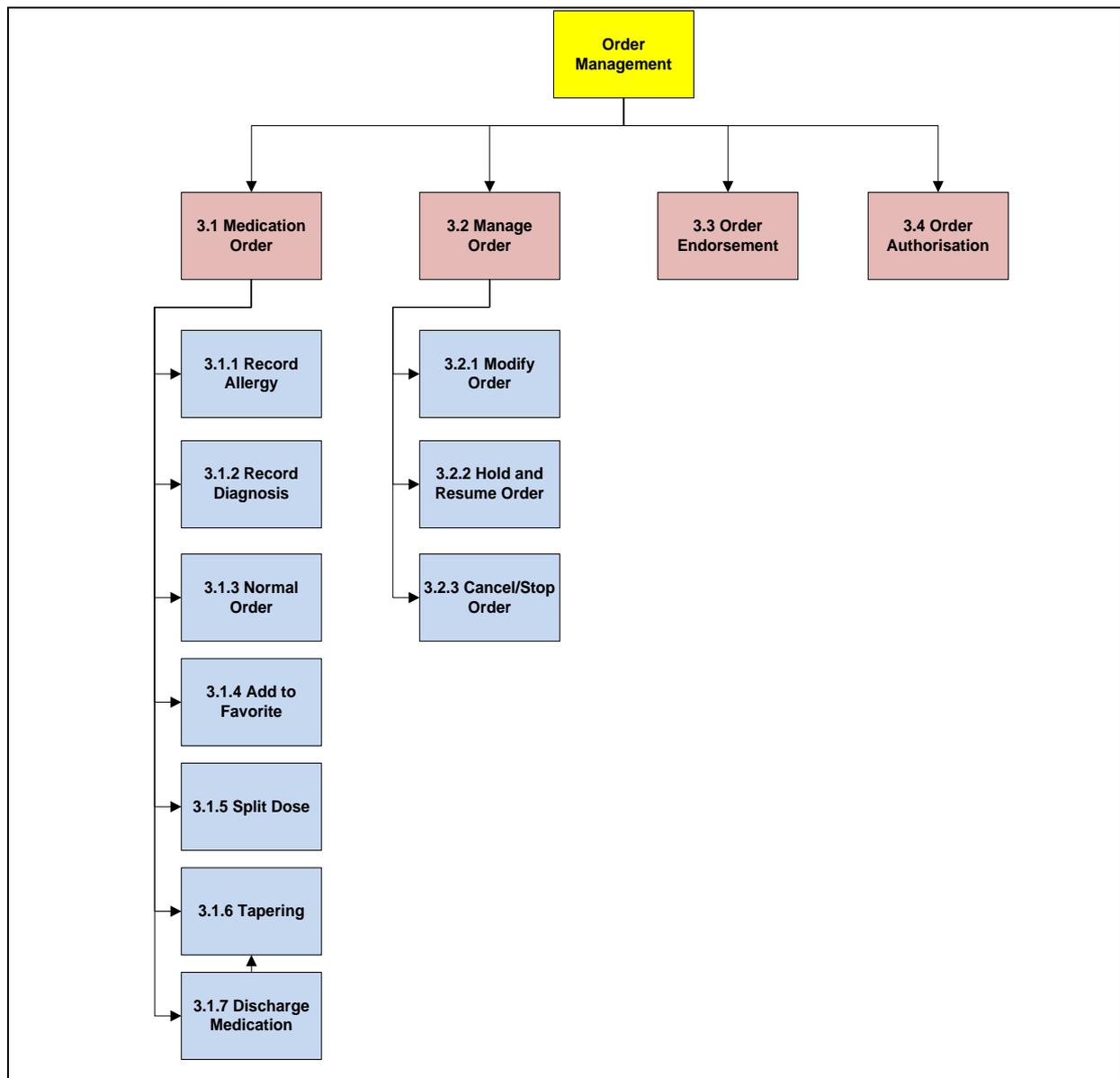


Figure 3.0-1



Functional Description

Medication Order comprises of five (4) main functions:

- **Normal Order**
To prescribe normal order
- **Manage Order**
To monitor patient's prescription by modifying order, cancel/stop order and tapering up/down.
- **Order Endorsement**
The prescriber to endorse the intervention made by a Pharmacist
- **Order Authorization**
To approve list A/ A*/ A/KK drug that requires authorization

3.1 Medication Order

Medication order is used for prescribing medicine for Inpatient and Outpatient, Emergency and Day Care departments applicable to selected facility setup.

3.1.1 Record Allergy

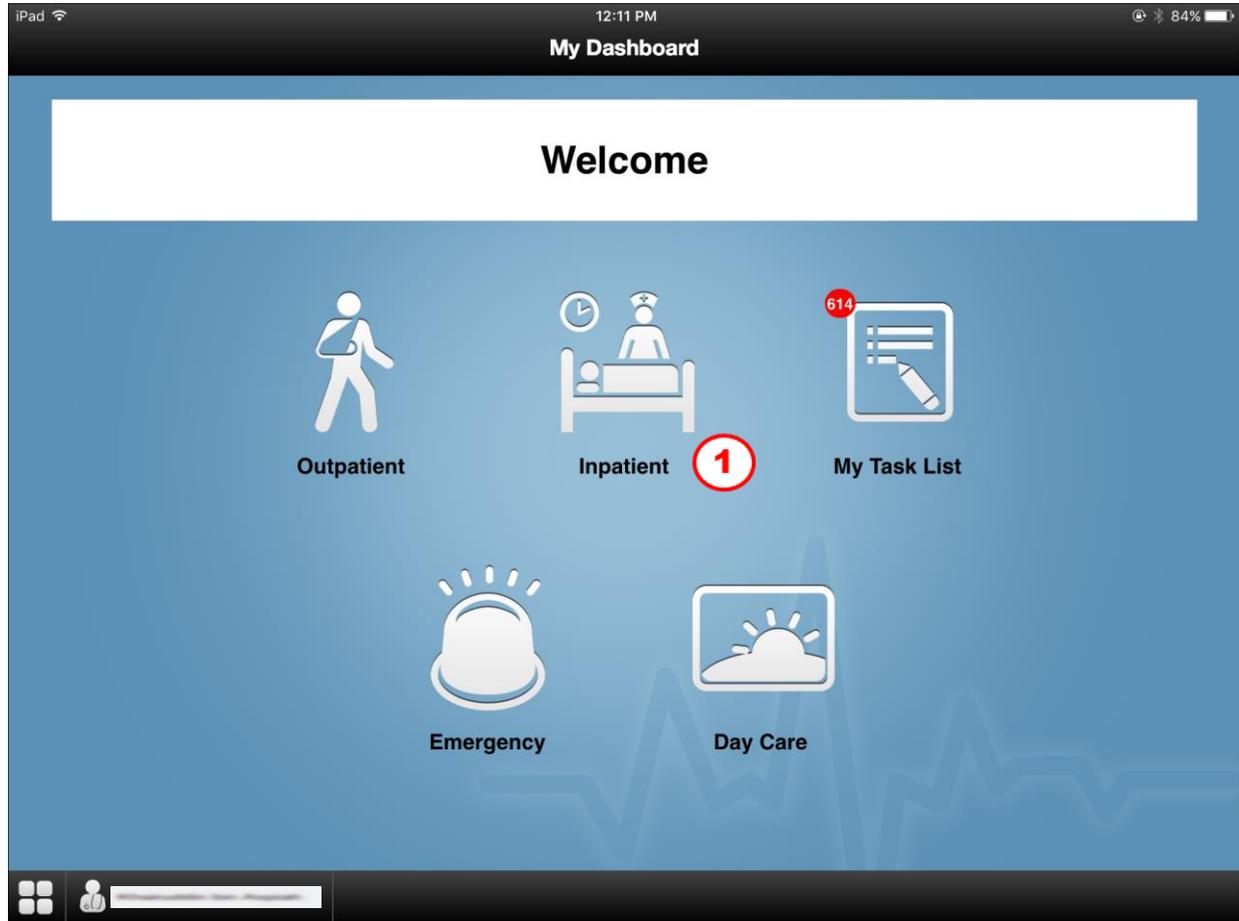


Figure 3.1.1-1 Order Screen Listing Page

STEP 1

Tap on the *Inpatient* symbol

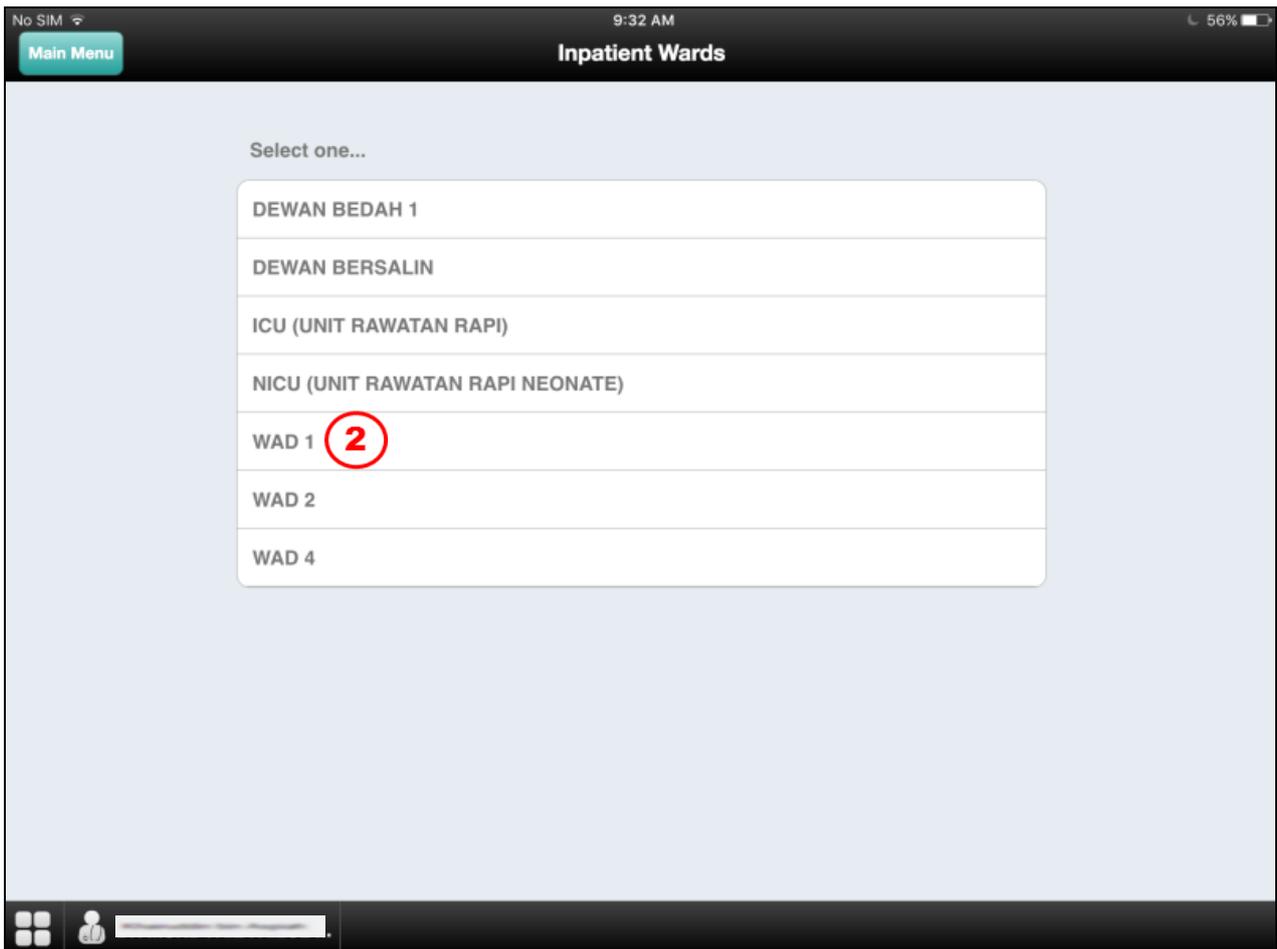


Figure 3.1.1-2 Location Screen Listing Page

STEP 2

Tap on the selected location e.g Dewan Bedah 1, WAD 1 to select patient

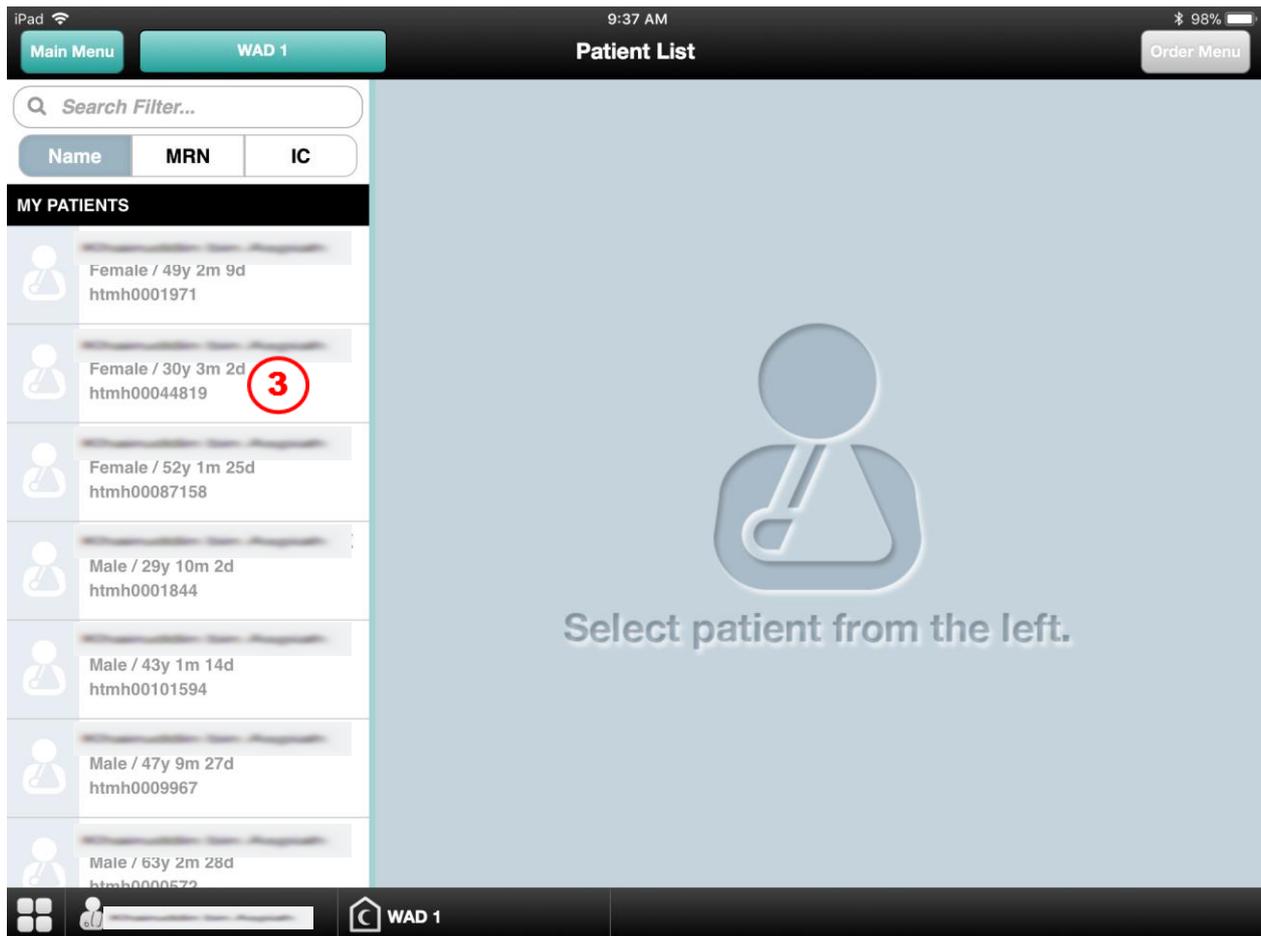


Figure 3.1.1-3 Patient Listing Page

- Various search criteria are provided as below:

No	Field	Description	Remark
A	Name	Patient Name	Allow to search by patient full name or partial
B	MRN	Patient Medical Record Number	Search option: <ul style="list-style-type: none"> • Type the MRN either full or partial: <i>Example: HPSF00001234 or "1234"</i>
C	IC	Patient visit location	Able to filter and search patient by visit location and prescriber's location.

Table 3.1.1-3

STEP 3

Tap on selected patient name

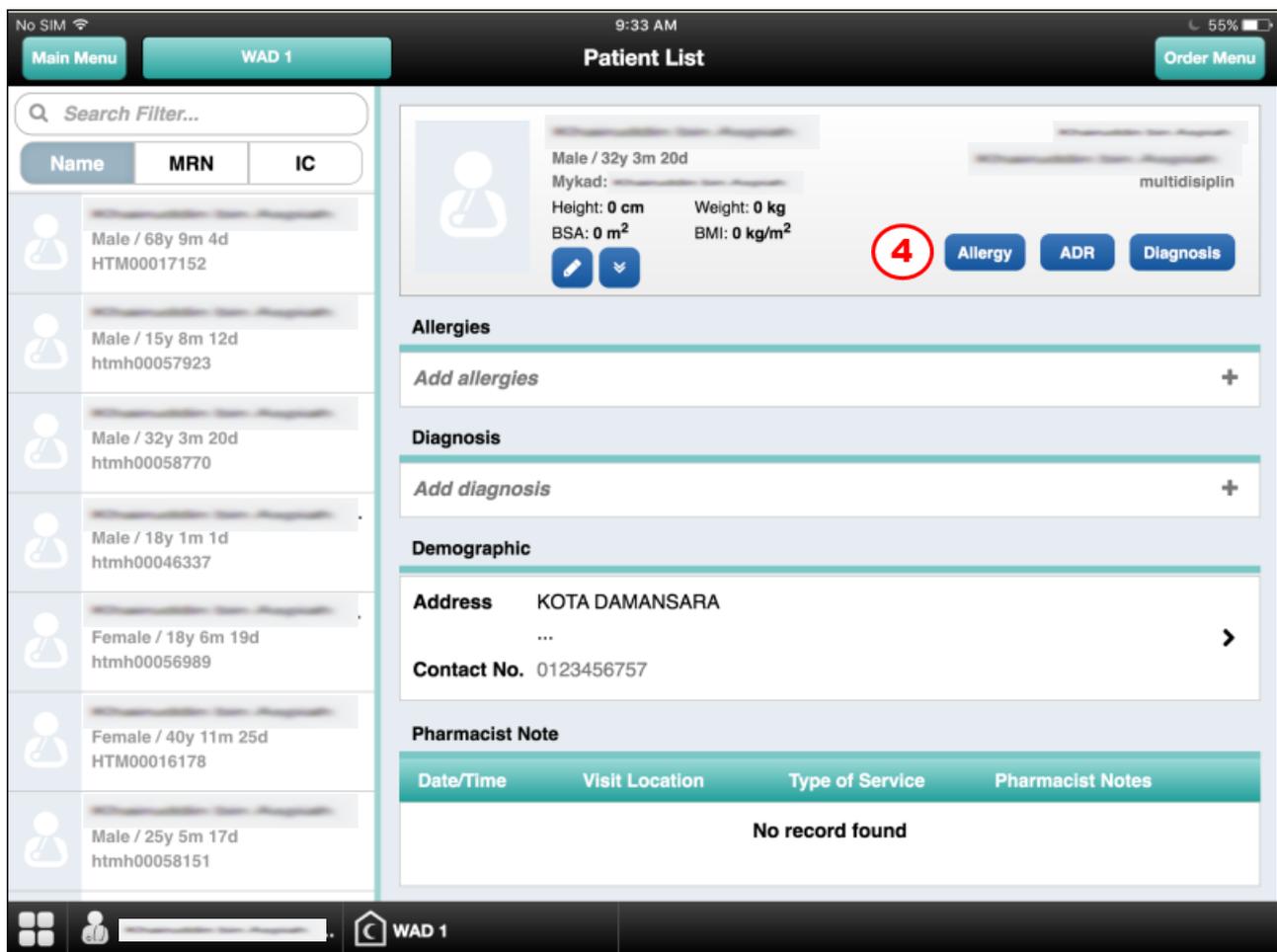


Figure 3.1.1-4 Patient Listing Page

Note

Search result of patient record list will be displayed:

- Allergies
- Diagnosis
- Demographic
- Pharmacist Note
- ADR Report

STEP 4

Tap on the  button to create new allergies

Note

Allergies also can be created from **Add Allergies** section by click on the  button

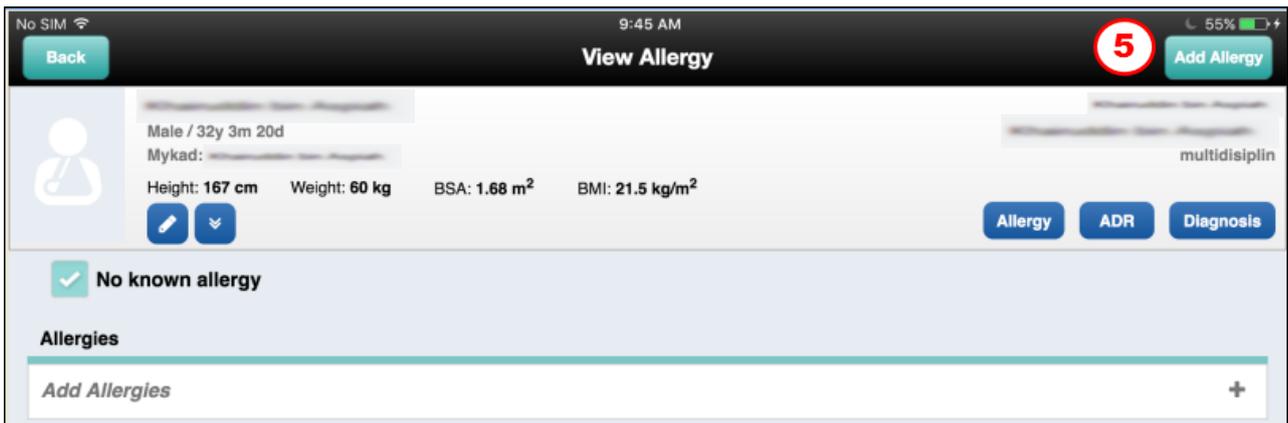


Figure 3.1.1-5 Patient Listing Page

Note

By default for all patient system will checked on **No Known allergy** box if the patient does not have any allergy.

STEP 5

Tap on the **Add Allergy** button and new screen will displayed as per Figure 3.1.1-6

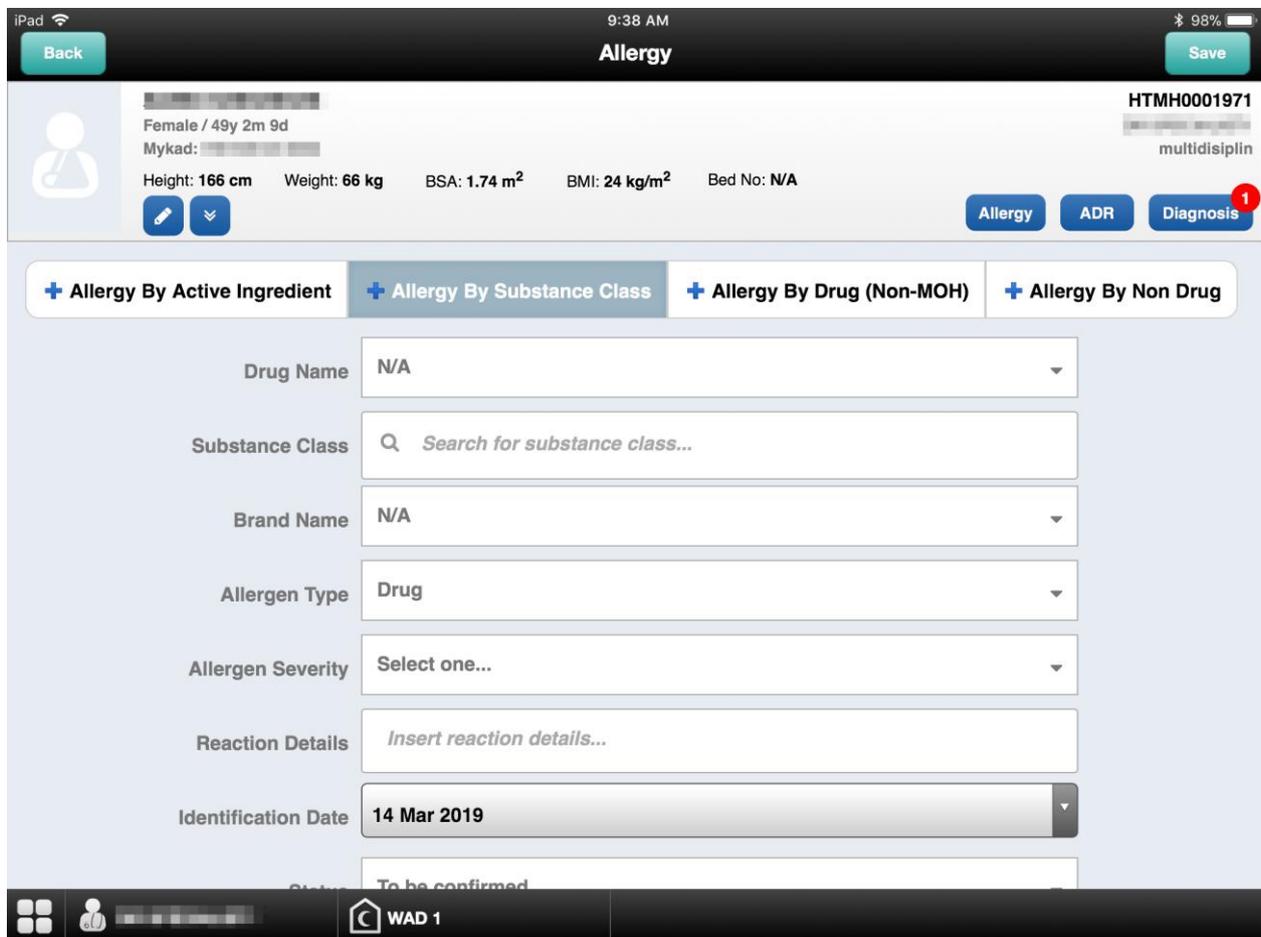


Figure 3.1.1-6 Allergy Screen

Note

- By default **+ Allergy By Substance Class** screen will be displayed
- Tap on the selected tab to declare Patient Allergy based on below selection:

- a) **+ Allergy By Active Ingredient**
- To record allergy by active ingredient.
 - Active Ingredient will be retrieve from master setup.
 - Tap the “Allergy By Active Ingredient” and Search the active ingredient
- b) **+ Allergy By Substance Class**
- To record allergy by substance class
 - Drug will be displayed based on the substance class that selected
- c) **+ Allergy By Drug (Non-MOH)**
- To record allergy of drug not in MOH list.
 - Drug which not define in MOH database.
 - Tap on the “Allergy By Substance Class” and enter drug name.
- d) **+ Allergy By Non Drug**
- To record allergy of non drug.
 - Tap on the “Allergy By Non Drug” and enter drug name.

STEP 6

Tap on the **+ Allergy By Active Ingredient** tab and enter drug name to view list of drug

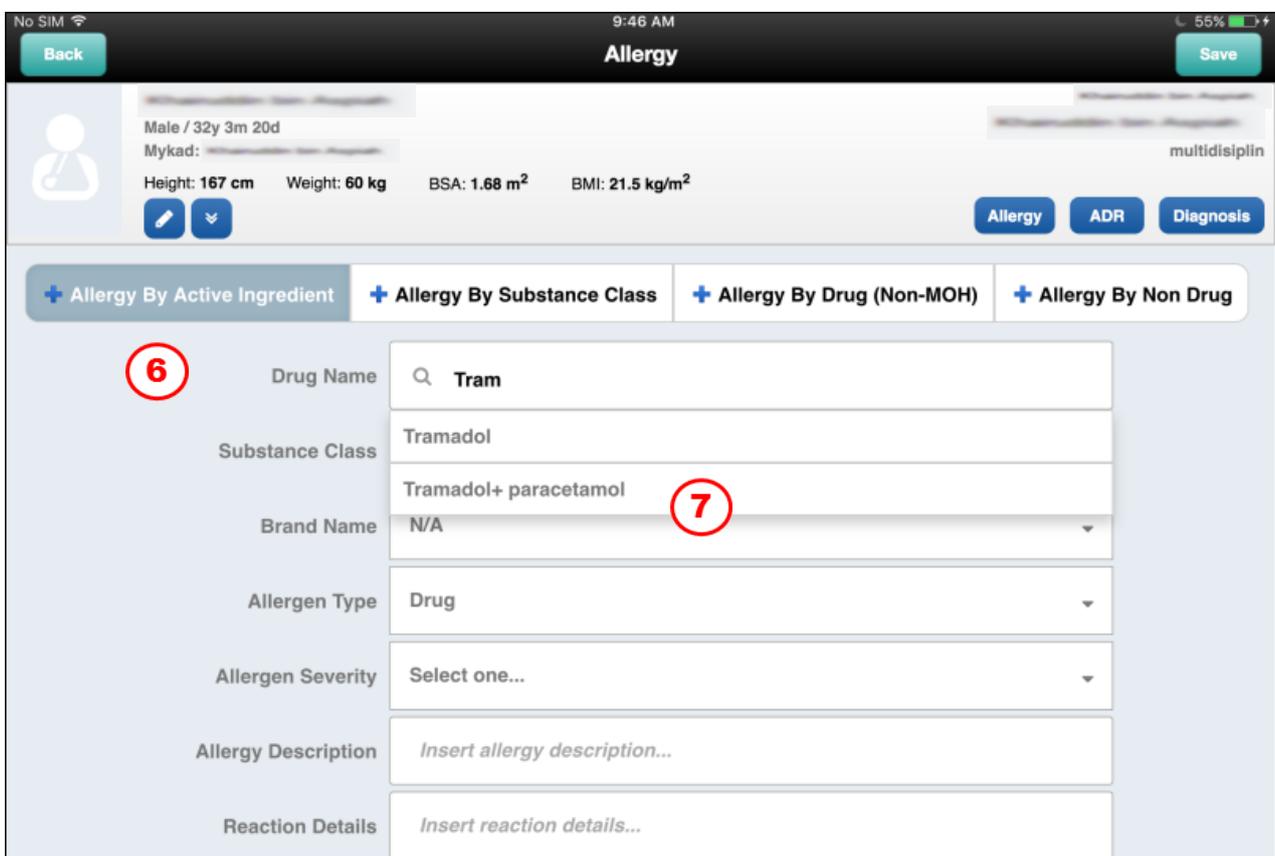


Figure 3.1.1-7 Allergy Detail Screen

STEP 7

Tap on the selected active ingredient

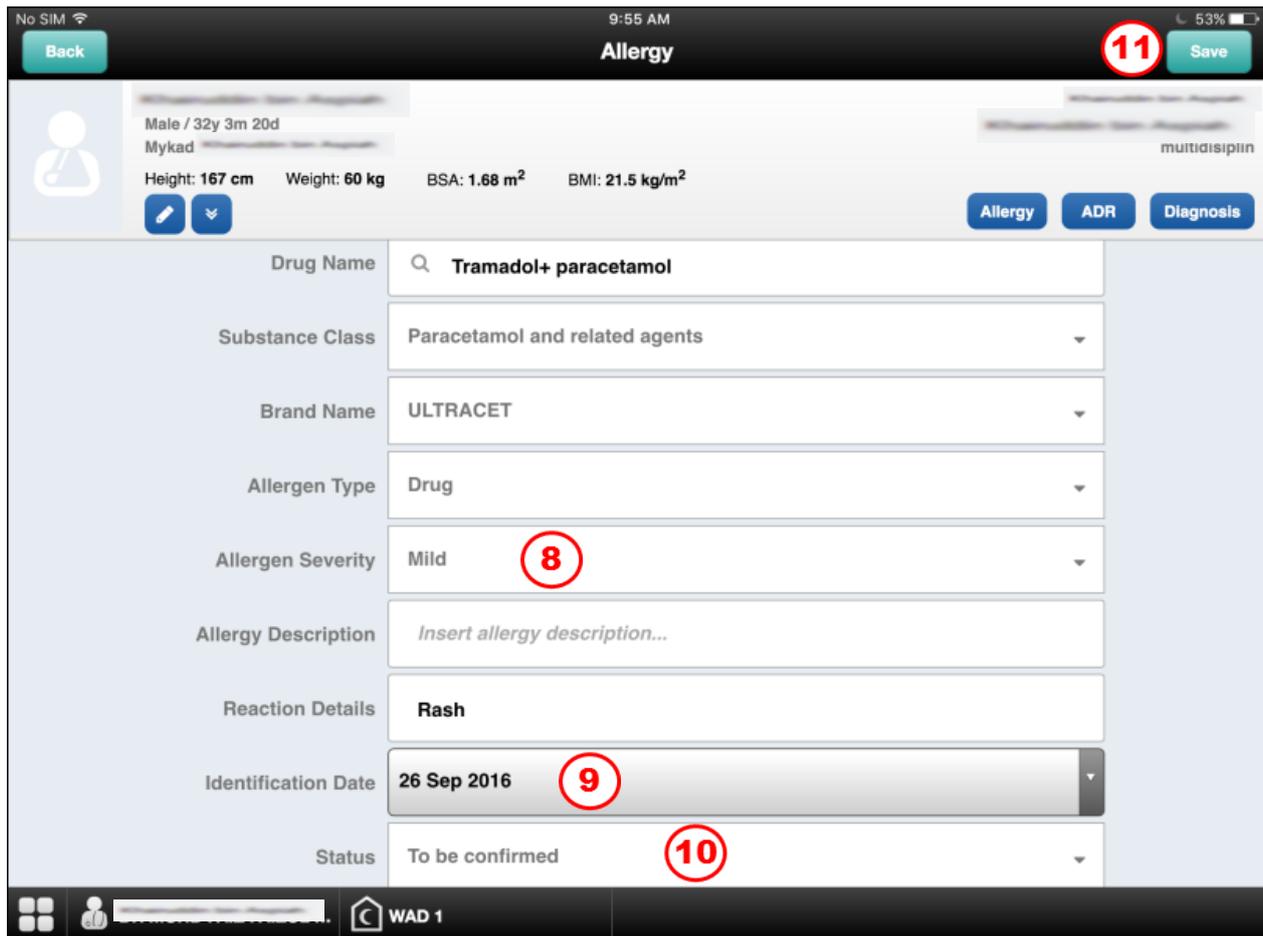


Figure 3.1.1-8 Allergy Detail Screen

STEP 8

Select **Allergy Severity** from drop down box :

- Mild
- Moderate
- Severe
- Unknown

STEP 9

Select **Identification Date** of allergy

STEP 10

Select **Status** from drop down box:

- Confirmed
- Resolved
- Suspected
- To be confirmed

Note

Below are the optional fields to be entered:

- a) Brand name
- b) Allergen Type
- c) Allergy Severity
- d) Allergen Description

STEP 11

Tap on the **Save** button to confirm the recorded allergy

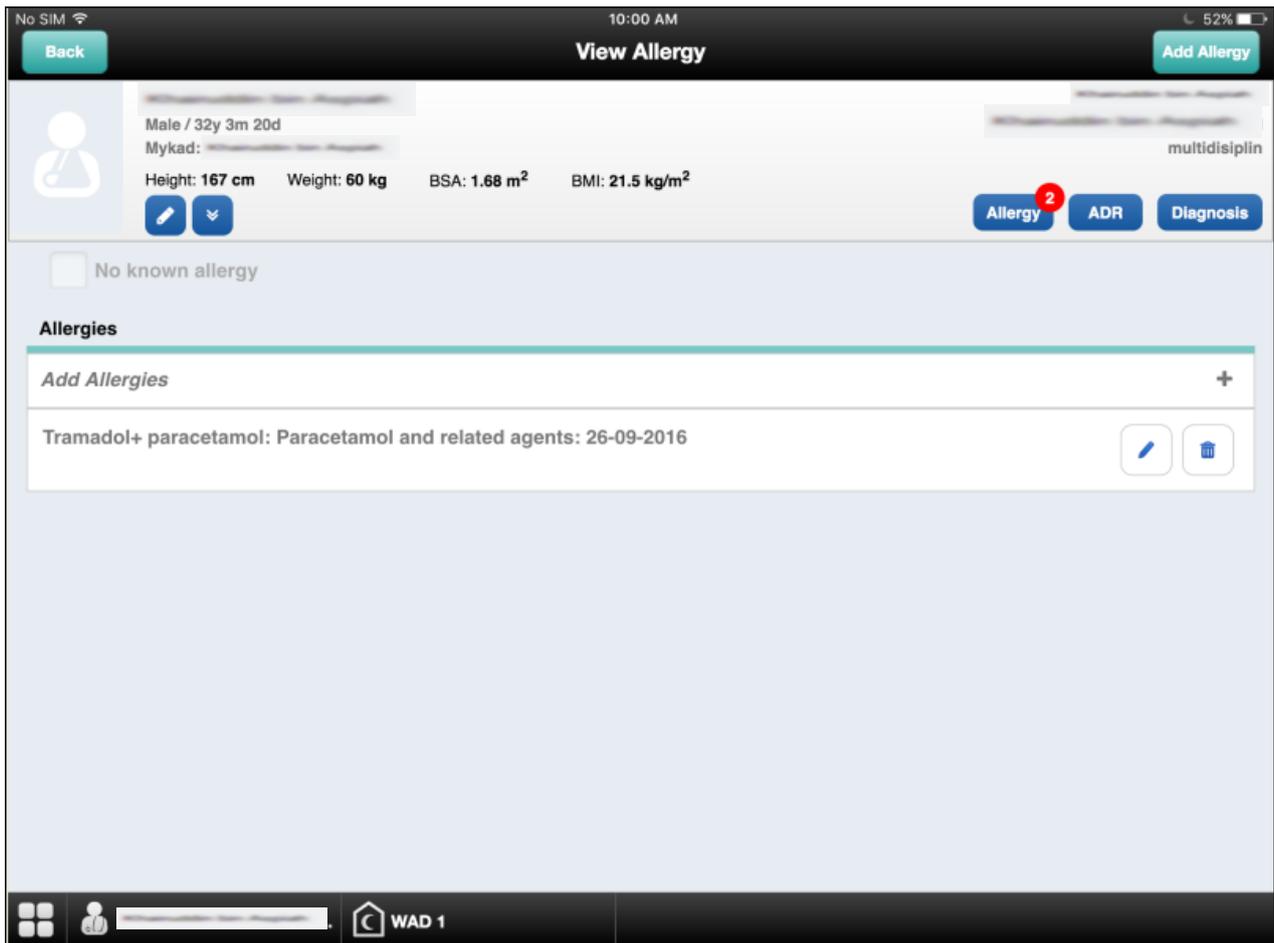


Figure 3.1.1-9 Allergy Detail Screen

Note

- Allergy will be displayed as per figure 3.1.1-9 after save record.

3.1.2 Record Diagnosis

This function is used for prescriber to record summary patient's diagnosis. Record patient diagnosis for every visit is a mandatory process in order to prescribe medication.

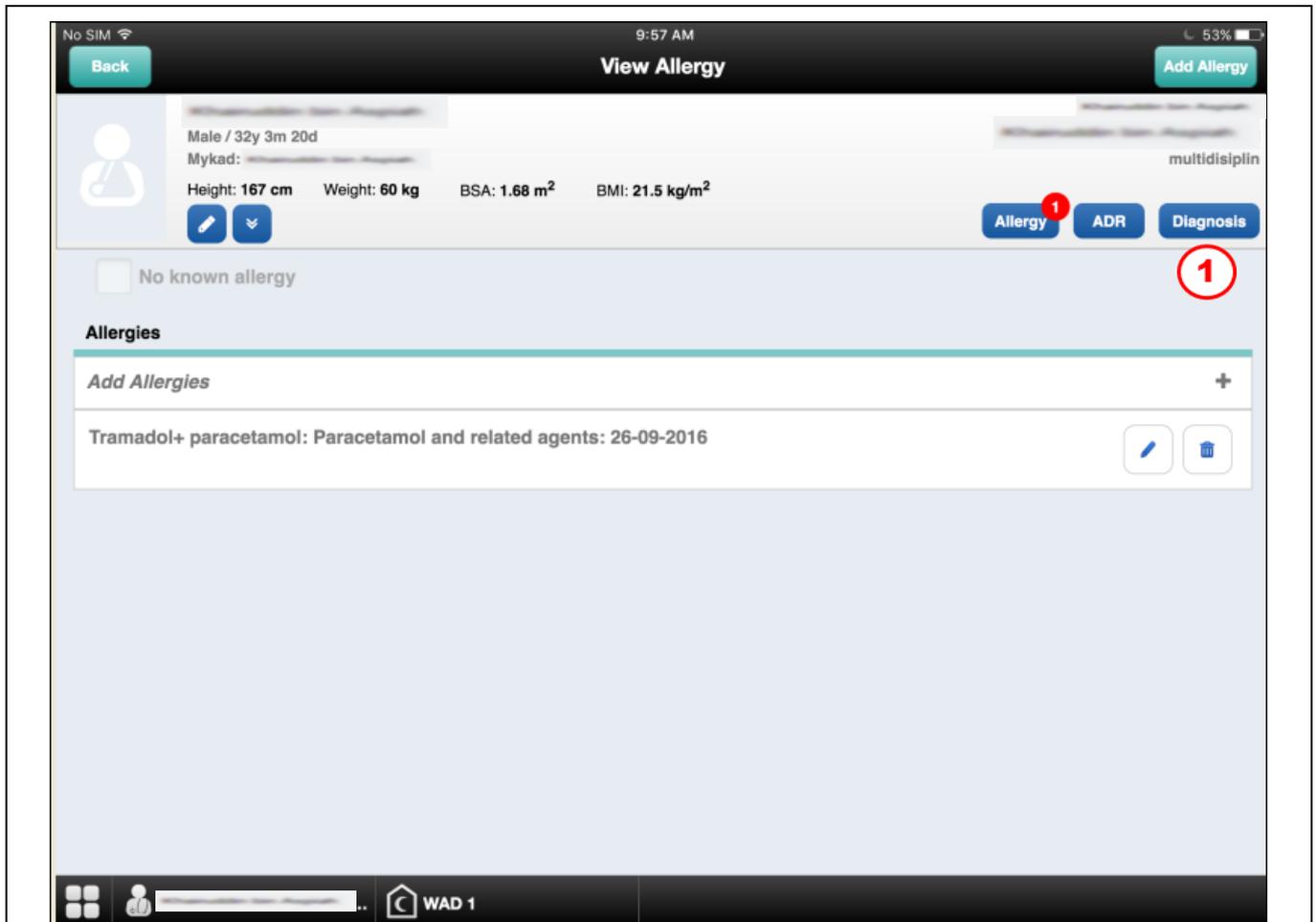


Figure 3.1.2-1 Diagnosis Landing Screen

STEP 1

Tap on the **Diagnosis** to record new diagnosis

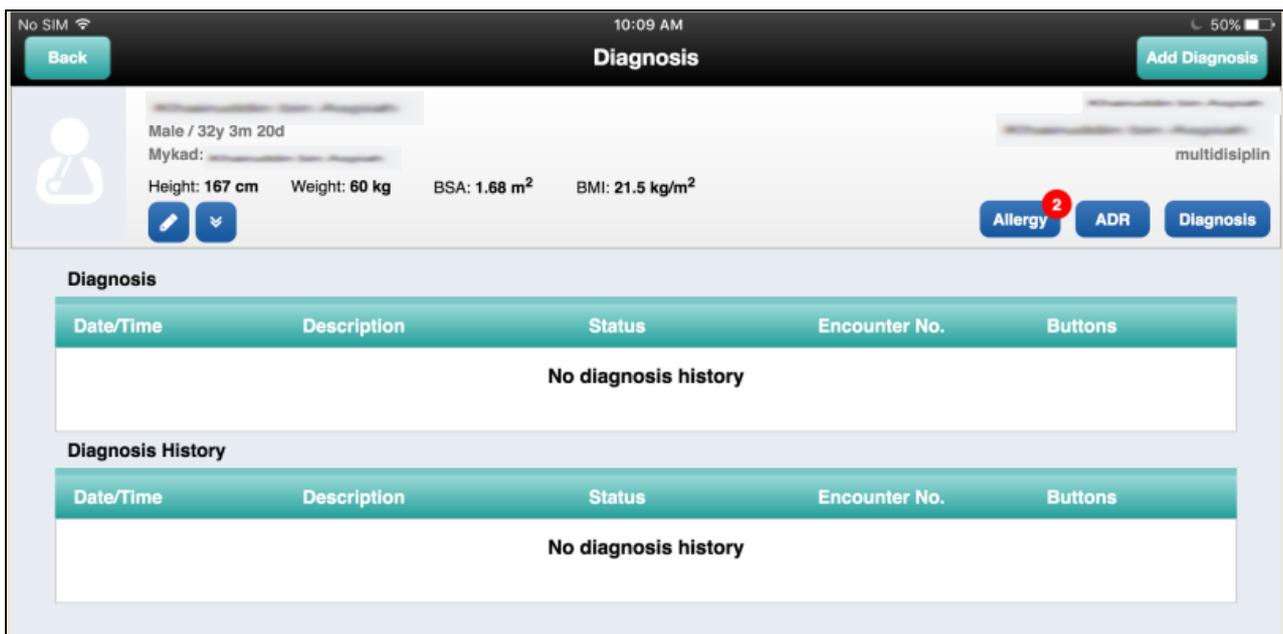


Figure 3.1.2-2 Diagnosis Landing Screen

Note

- **Diagnosis History** to view patient's diagnosis history.

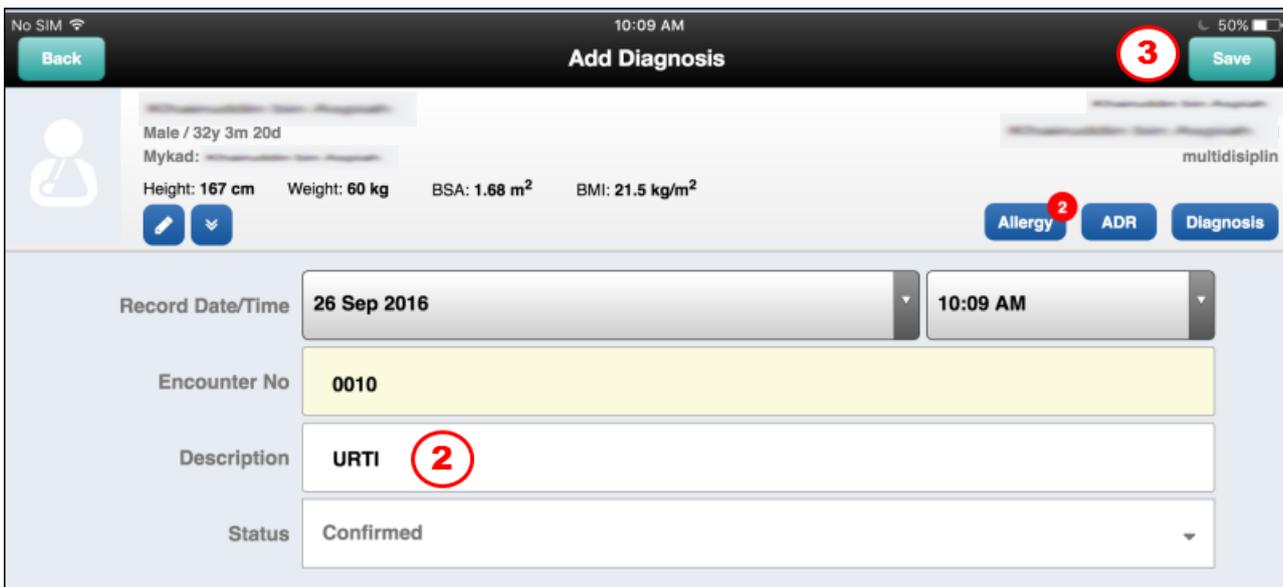


Figure 3.1.2-3 Diagnosis Detail Screen

STEP 2

Enter diagnosis **Description**

STEP 3

Tap on the **Save** button to confirm the record

Note

- **Record Date/Time** system will default to current date and time, but the user still has the option to select from calendar.
- **Status** will be defaulted to **Confirmed** but users can select from the drop down box for other status:
 - Confirmed

- Resolved
- Suspected
- To be Confirmed

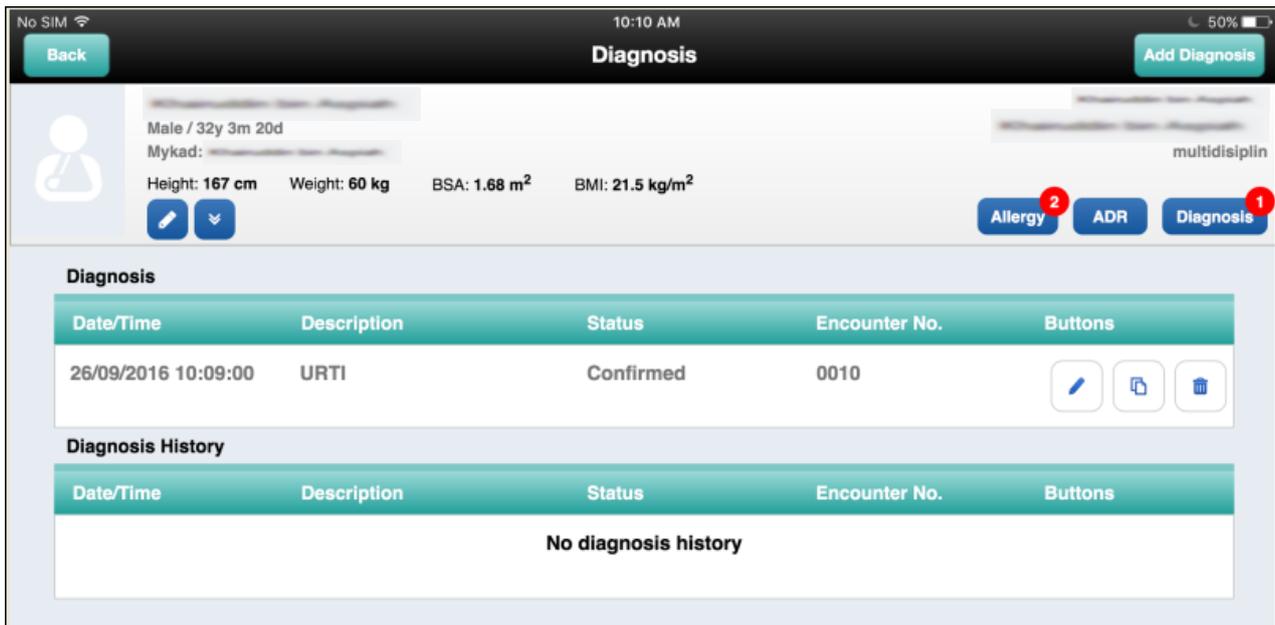


Figure 3.1.2-4 Diagnosis Detail Screen

Note

- Tap  button for record / renew same diagnosis, user need to tap on  button and tap on the  button to confirm the record.
- Recorded diagnosis will displayed as per figure 3.1.2-4

3.1.3 Normal Order

This function is used to prescribe medication for both inpatient and outpatient department.

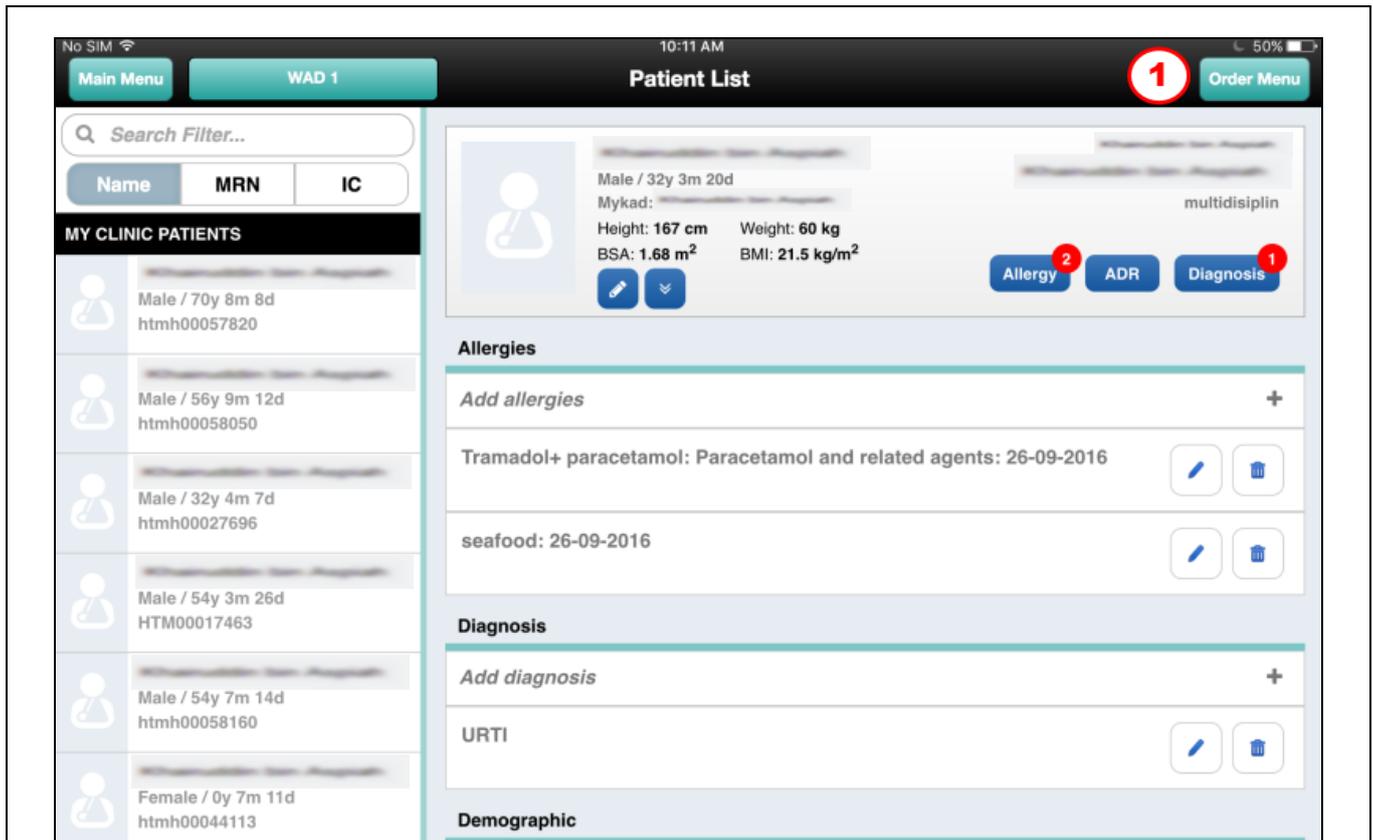


Figure 3.1.3-1 Order Screen Listing Page

Note

Repeat **step 1** until **step 3** as section 3.1.1 record allergy

STEP 1

Tap on the **Order Menu** button

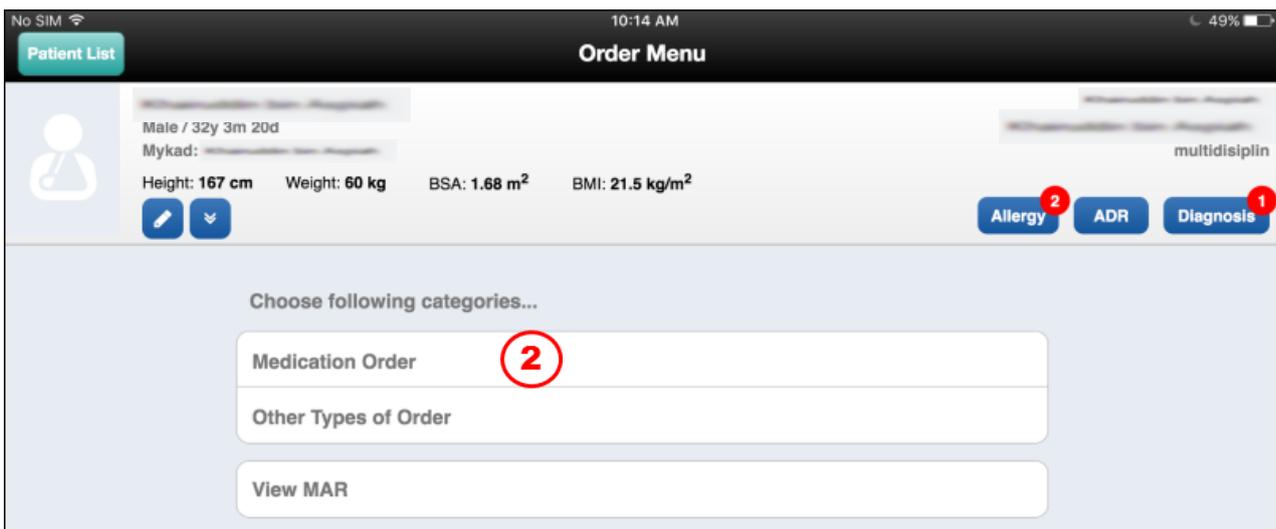


Figure 3.1.3-2 Order Screen Listing Page

STEP 2

Tap on the **Medication Order** field

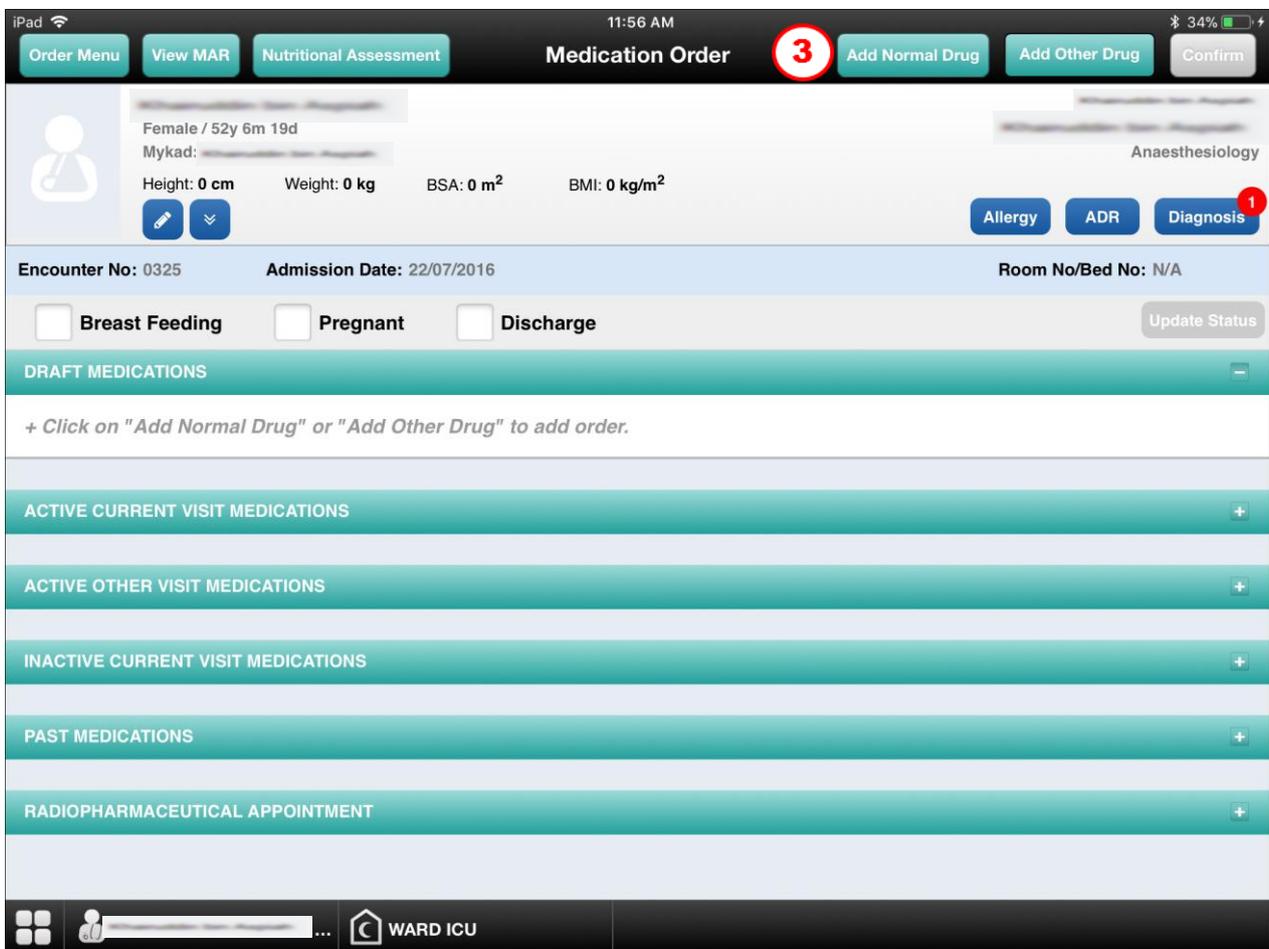


Figure 3.1.3-3 Order Screen Listing Page

Note

Breast Feeding and Pregnant checkboxes are only applicable for female patient.

STEP 3

Tap on the **Add Normal Drug** button

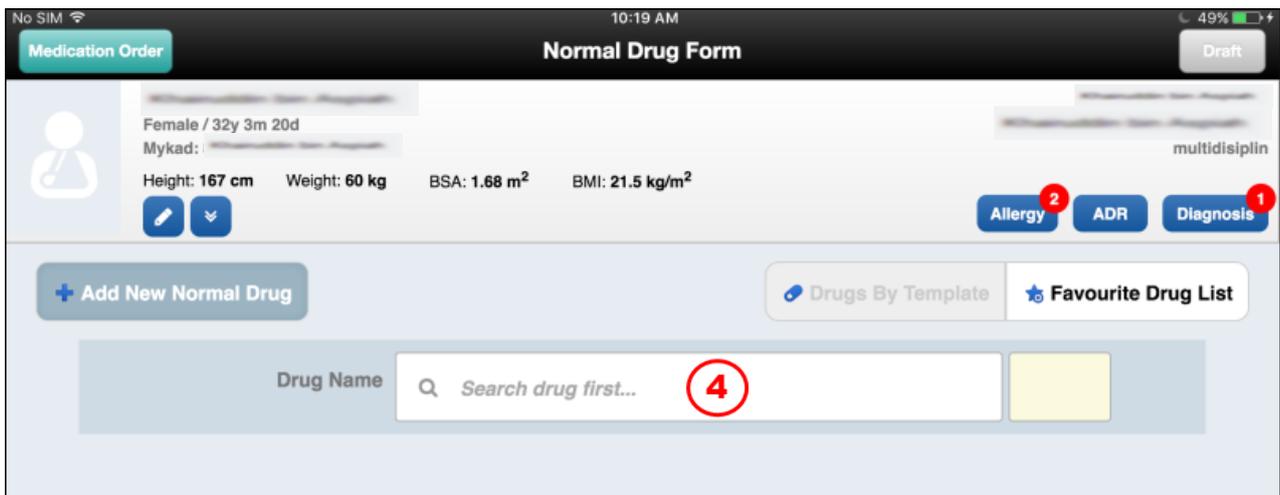


Figure 3.1.3-4 Order Screen Listing Page

STEP 4

Search drug by enter keyword of the drug name

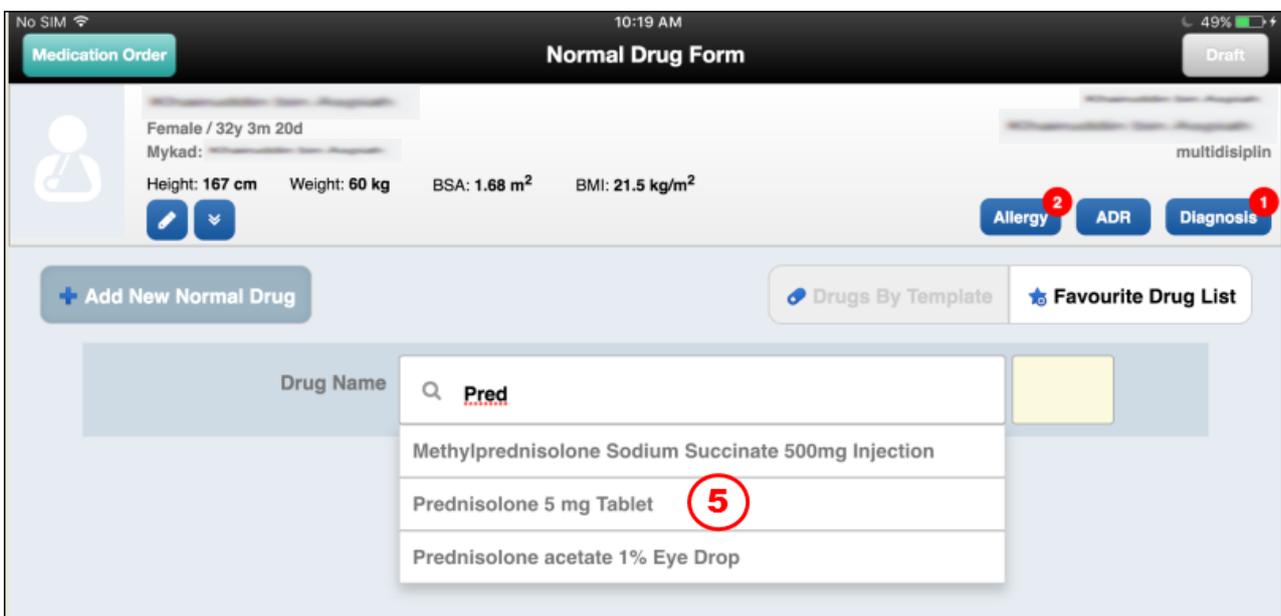


Figure 3.1.3-5 Order Screen Listing Page

STEP 5

Tap on the selected drug from displayed list

Note

This list will be displayed with the result of any drug active ingredient or trade name contains the search text criteria.

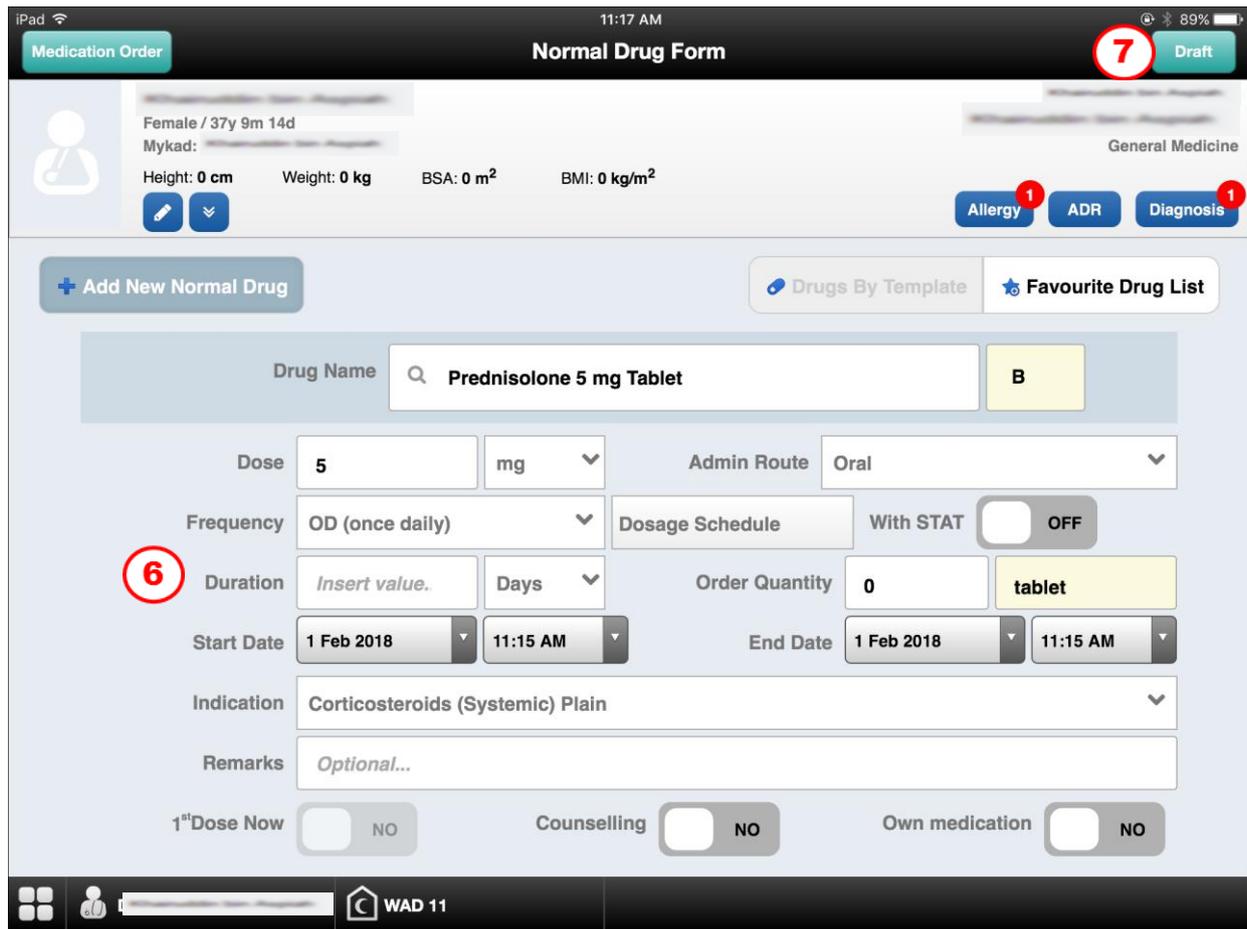


Figure 3.1.3-6 Normal Order Detail Screen

STEP 6

Enter **Duration** and select days/months or weeks from drop down menu

STEP 7

Tap on the **Draft** button to add drug in prescription list

Note

- **Start Date/Time** will be defaulted to current date.
- **End Date/Time** will be calculated based on the Duration.
- **Dosage, Admin Route and Frequency** will be retrieved from master setup, however prescriber can amend the value accordingly as required
- Insert drug with other frequency and select **with STAT** checkbox.
- **Counselling Indication** checkbox can be selected if prescriber want pharmacist to counsel the patient on the medicines.
- Check the **Own Medication** checkbox if patient brought and used their own medication. Only applicable for inpatient and where pharmacist do not supply medication to the wards.
- Enter **Drug Remark** if applicable.

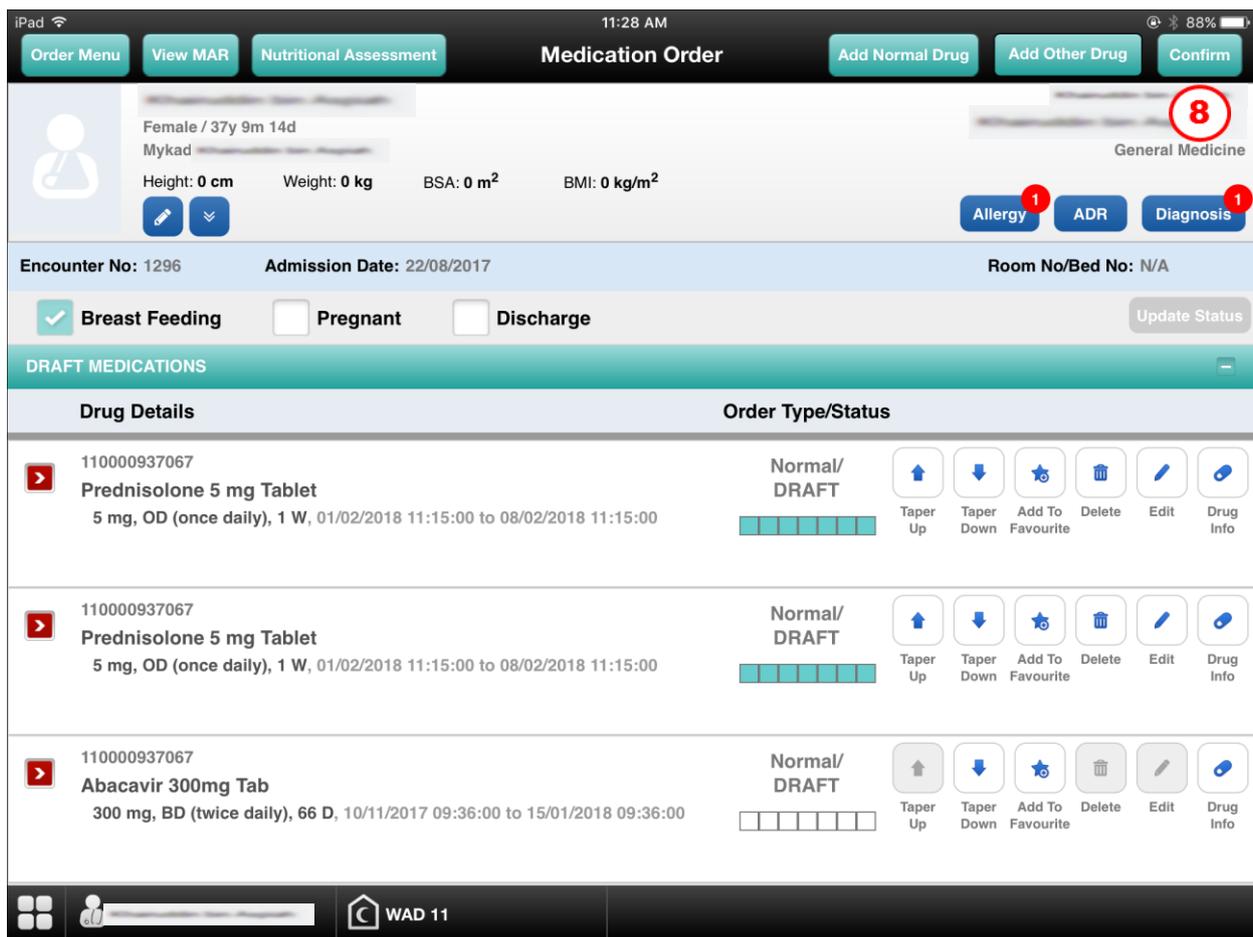


Figure 3.1.3-7 Normal Order Detail Screen

Note

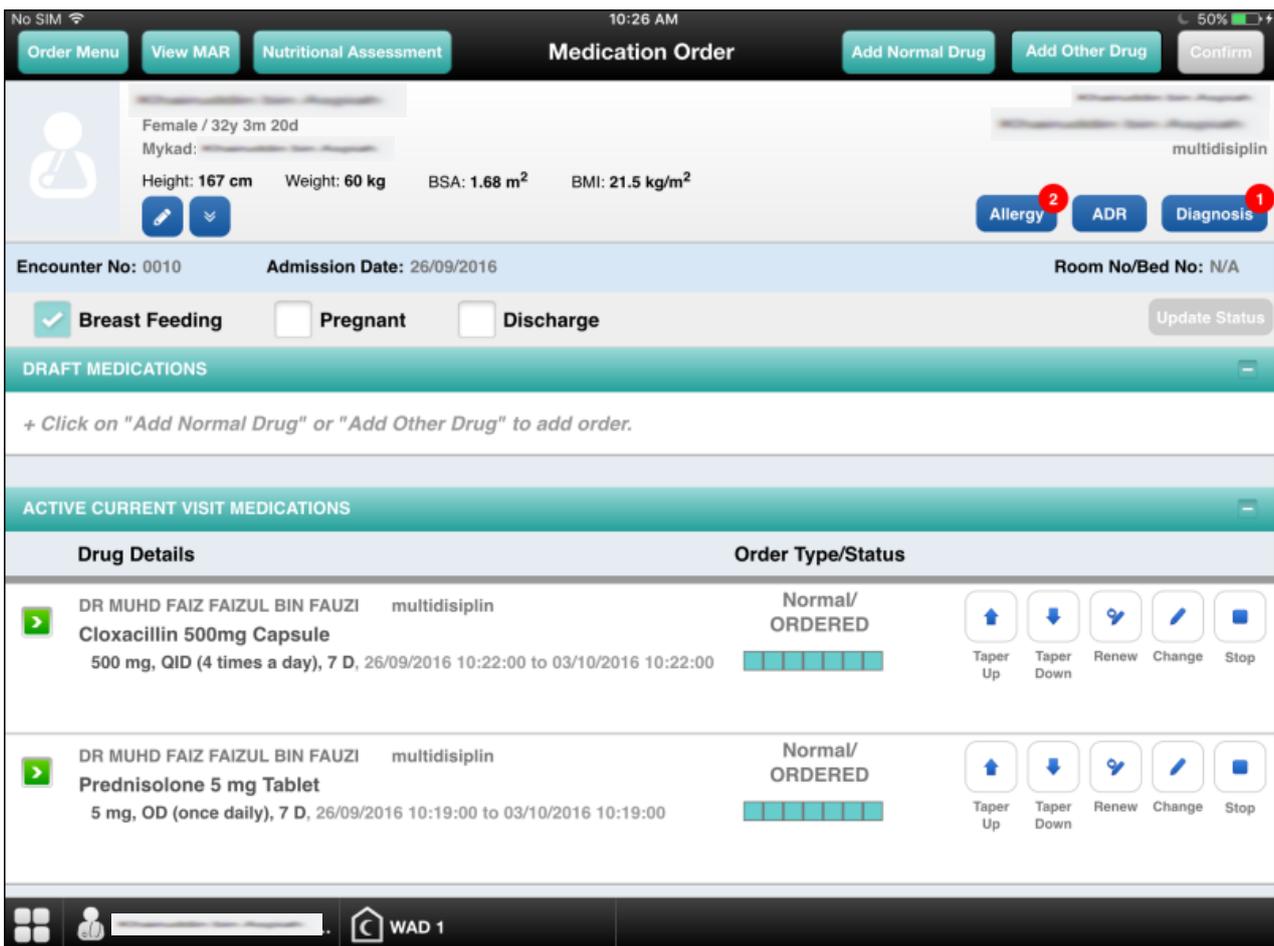
- To add another drug in prescription repeat **Step 1 to 7**
- Order Status = 'Draft' , saved prescription but has not been confirmed.

STEP 8

Tap on the **Confirm** button to confirm order and prescription will sent to pharmacy for dispensing

Note

- Master Index of Medical Specialities (MIMS) will alert if there is any drug interaction.
- On tap of confirm button, system will check if diagnosis already entered or not.
 - If diagnosis is entered, order will be confirmed. Medication order screen will be displayed.
 - If diagnosis is not entered, diagnosis screen will be displayed. On tap of save button diagnosis will be save and order will be confirmed. Medication order screen will be displayed.
- For inpatient order, user allowed to create order duration maximum to 7 days. The bar indicator will indicate the number of days order is being created. If all bar coloured (green), it means order duration is for 7 days. Otherwise it will be blank.



The screenshot displays the 'Medication Order' screen. At the top, there are navigation buttons: 'Order Menu', 'View MAR', 'Nutritional Assessment', 'Add Normal Drug', 'Add Other Drug', and 'Confirm'. The patient information section includes a profile icon, gender/age ('Female / 32y 3m 20d'), Mykad, height (167 cm), weight (60 kg), BSA (1.68 m²), and BMI (21.5 kg/m²). There are also buttons for 'Allergy' (with a red '2' notification), 'ADR', and 'Diagnosis' (with a red '1' notification). Encounter details include 'Encounter No: 0010', 'Admission Date: 26/09/2016', and 'Room No/Bed No: N/A'. Status options for 'Breast Feeding' (checked), 'Pregnant', and 'Discharge' are shown, along with an 'Update Status' button. Below this are sections for 'DRAFT MEDICATIONS' and 'ACTIVE CURRENT VISIT MEDICATIONS'. The active medications table lists two items: Cloxacillin 500mg Capsule and Prednisolone 5 mg Tablet, both with a status of 'Normal/ORDERED'. Each medication entry includes a green arrow icon, drug name, dosage, frequency, duration, a progress bar, and action buttons for 'Taper Up', 'Taper Down', 'Renew', 'Change', and 'Stop'. The bottom navigation bar shows a home icon, a user profile icon, and 'WAD 1'.

Figure 3.1.3-8 Normal Order Detail Screen

Note

Order Status = 'ORDERED' , confirmed prescription as per Figure 3.1.3-8

3.1.4 Add to Favorite

Prescriber able to create their own favourite medication list for regular used. This is the quicker way to search the drug by favourite list rather than whole drug master.

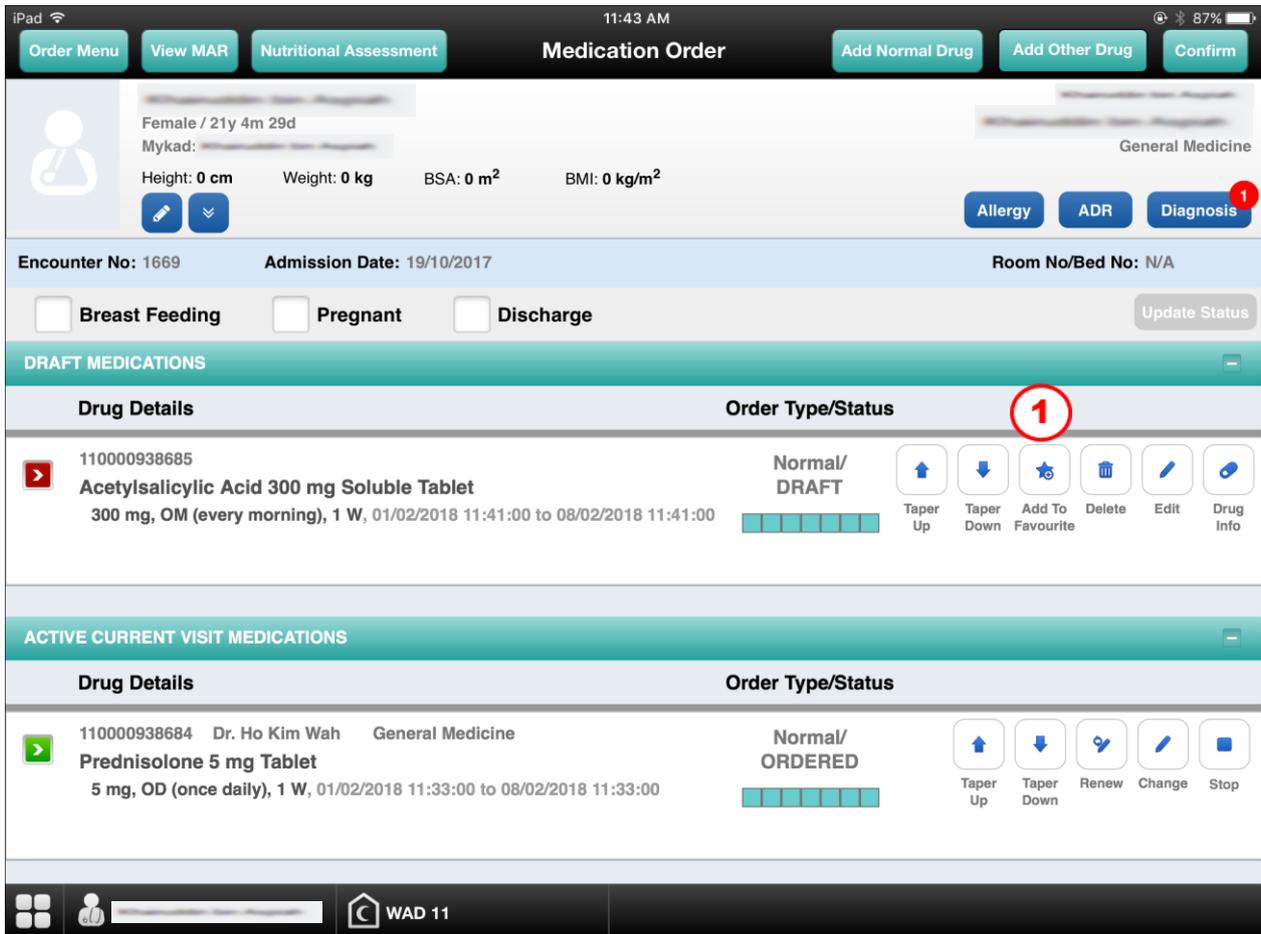


Figure 3.1.4-1 Add to Favorites Option Screen

Note

Repeat normal order, follow **Step 1** to **7**.

STEP 1

Tap on the  button from the selected drug

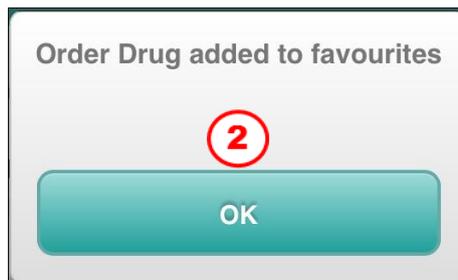


Figure 3.1.4-2 Add to Favorites Option Screen

STEP 2

Tap on the  button from displayed alert message

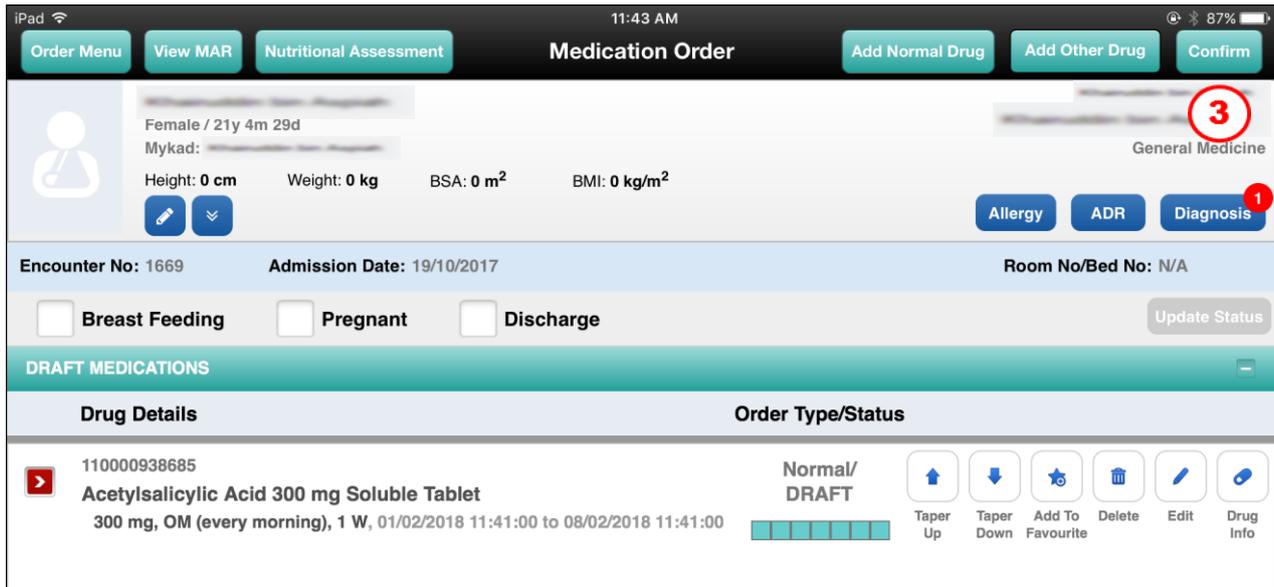


Figure 3.1.4-3 Add to Favorites Option Screen

STEP 3

Tap on the **Confirm** button to confirm order and prescription will sent to pharmacy for dispensing

3.1.5 Split Dose

This function is used to create multi dosing in a way to administer in a different time with different dosage.

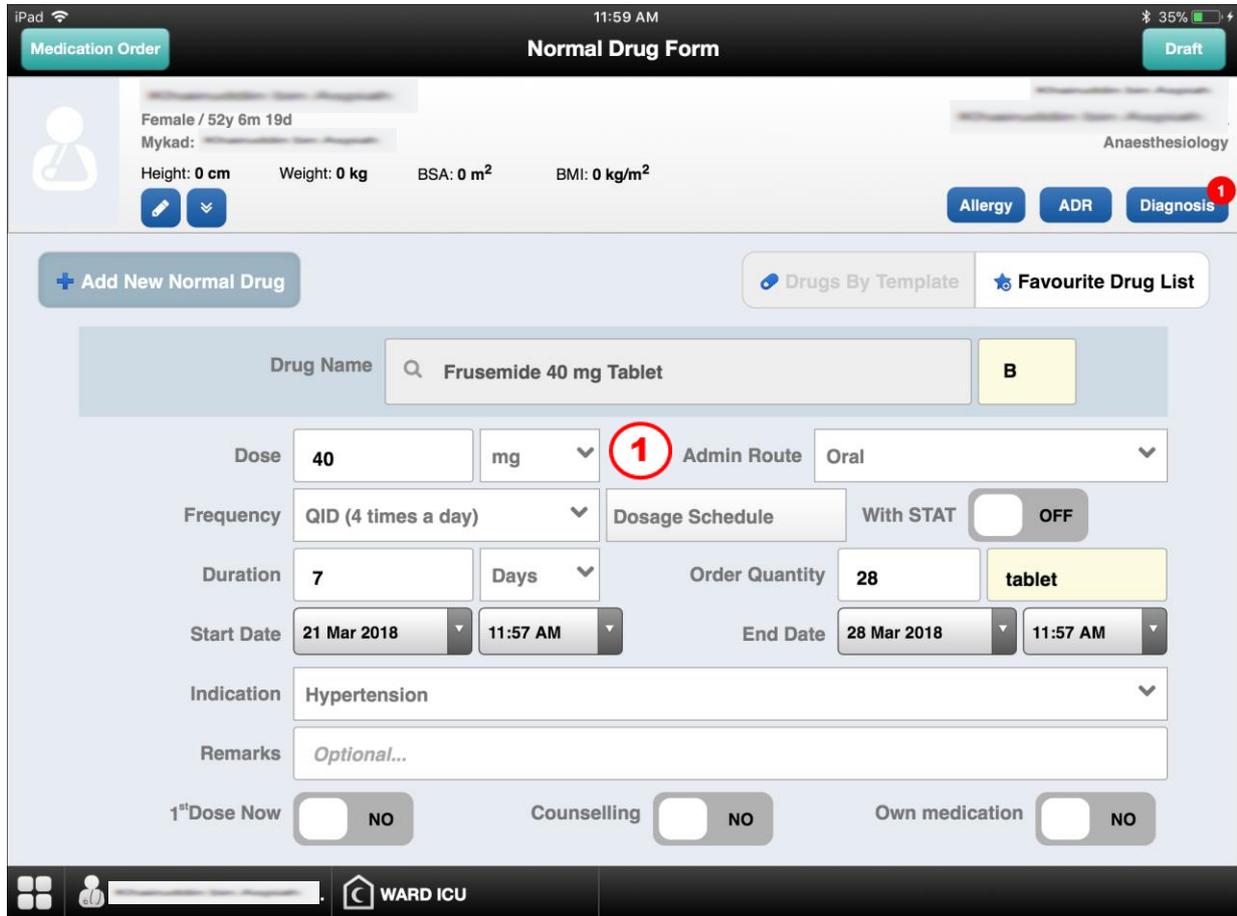
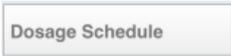


Figure 3.1.5-1 Normal Order Screen

Note

To prescribe split dose, repeat as normal order from **Step 1** to **7**.

STEP 1

Click on the  button and schedule box will displayed as per Figure 3.1.5-2

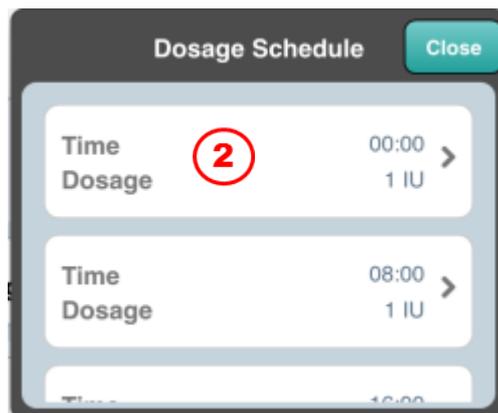


Figure 3.1.5-2 Dosage Schedule Screen

STEP 2

Tap on the dose for each **Time / Dosage** schedule

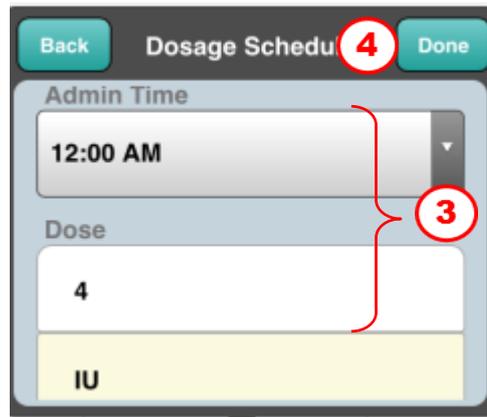


Figure 3.1.5-3 Split Dose Schedule Screen

STEP 3

Enter **Admin Time** and **Dose** for each administration

STEP 4

Tap on the **Done** button to save record

Note

Prescriber is allowed to change the admin time if necessary. Number of column displayed based on frequency selected.

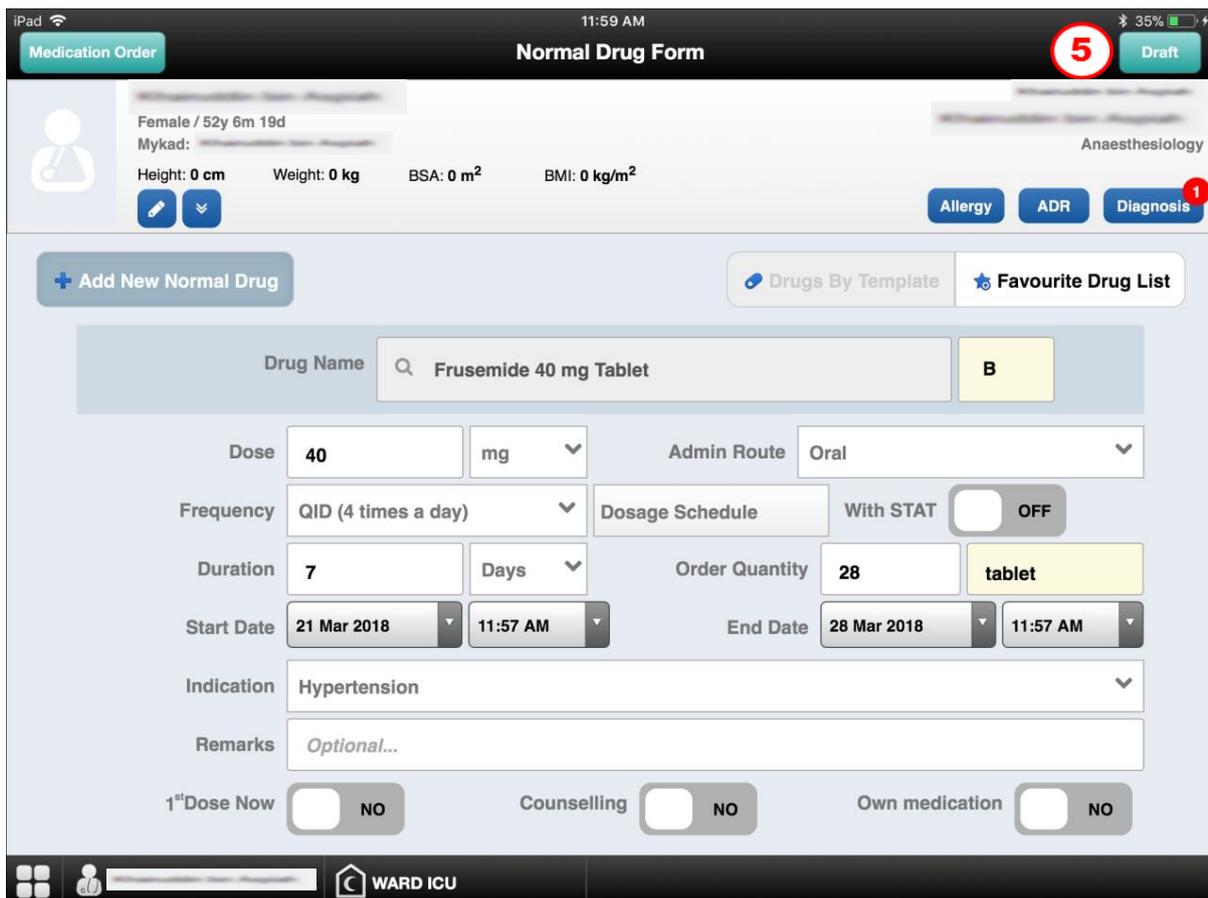


Figure 3.1.5-4 Order Screen

STEP 5

Click on the **Draft** button to add drug in prescription list

Note

Split dose is only applicable for selected drug as defined in the Drug Master setup

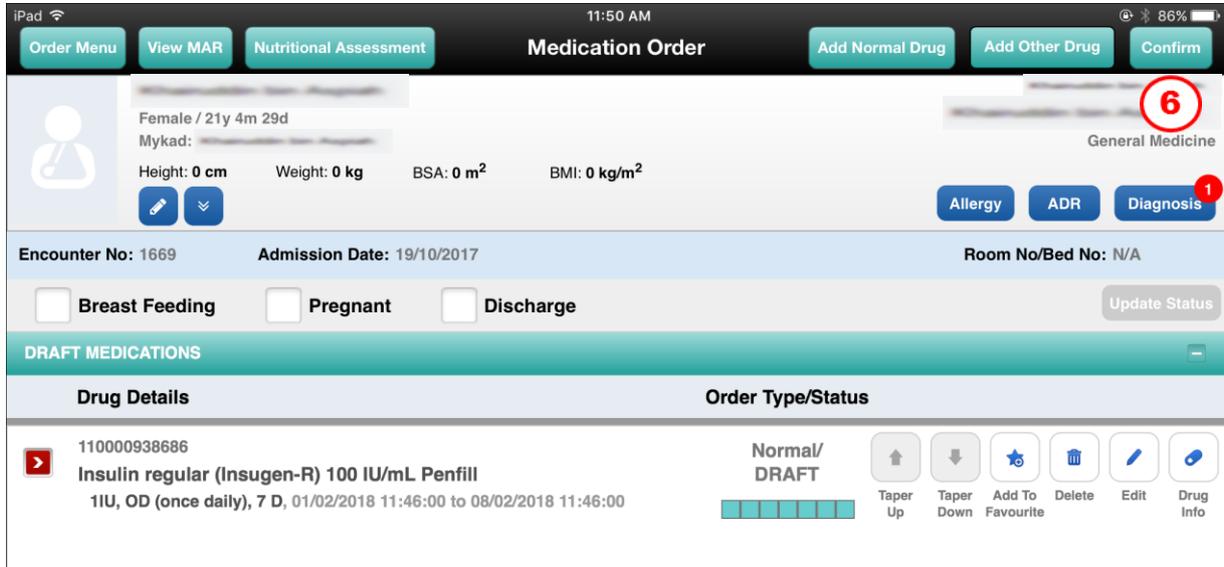


Figure 3.1.5-5 Order Screen

STEP 6

Tap on the **Confirm** button to confirm and send order to the pharmacy

3.1.6 Tapering

Tapering is a function to prescribe same drug with gradually decreasing or increasing the drug dosage by specific duration and time. Tapering drug functions divided into two (2) categories which are taper up / increase dosage or taper down /decrease dosage. Only selected drug which has been defined in drug master set up are allowed to do tapering.

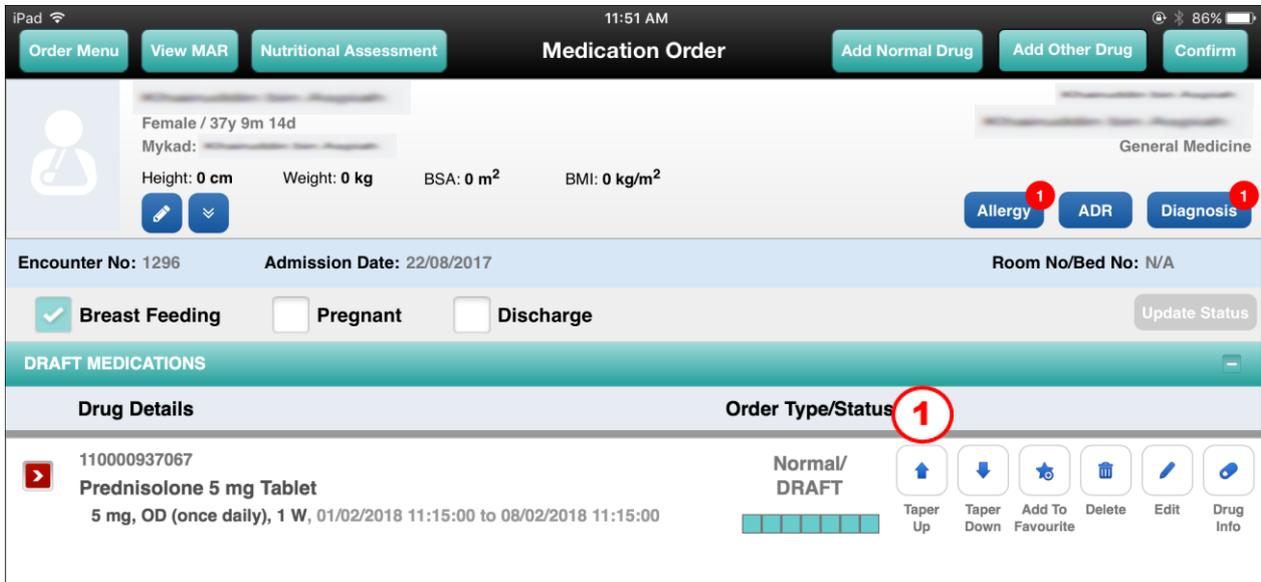


Figure 3.1.6-1 Order Screen

Note

To taper prescribed drug, order the first dose as normal order from **Step 1** to **7**.

STEP 1

Tap on the  button from the selected drug

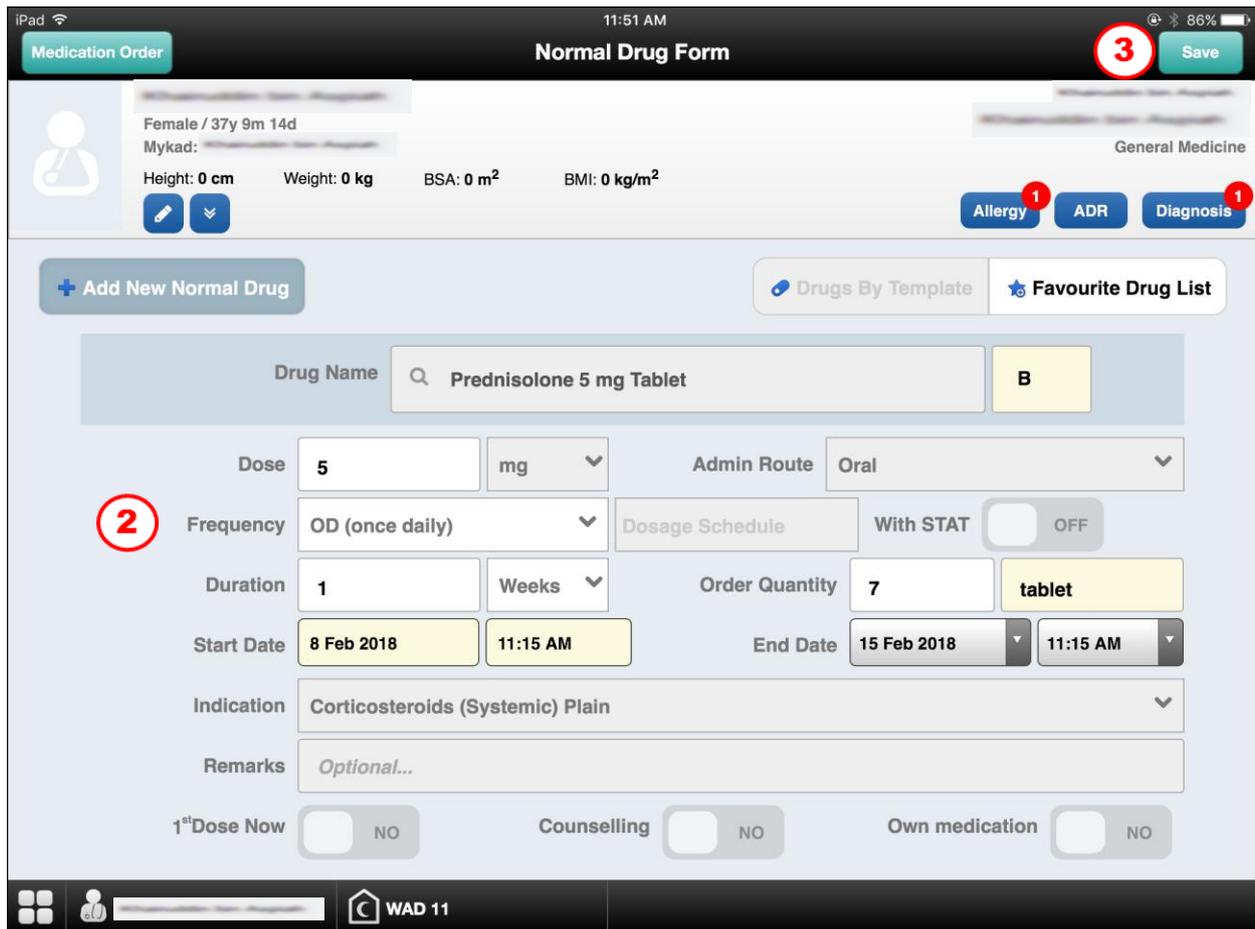


Figure 3.1.6-2 Normal Order Screen

STEP 2

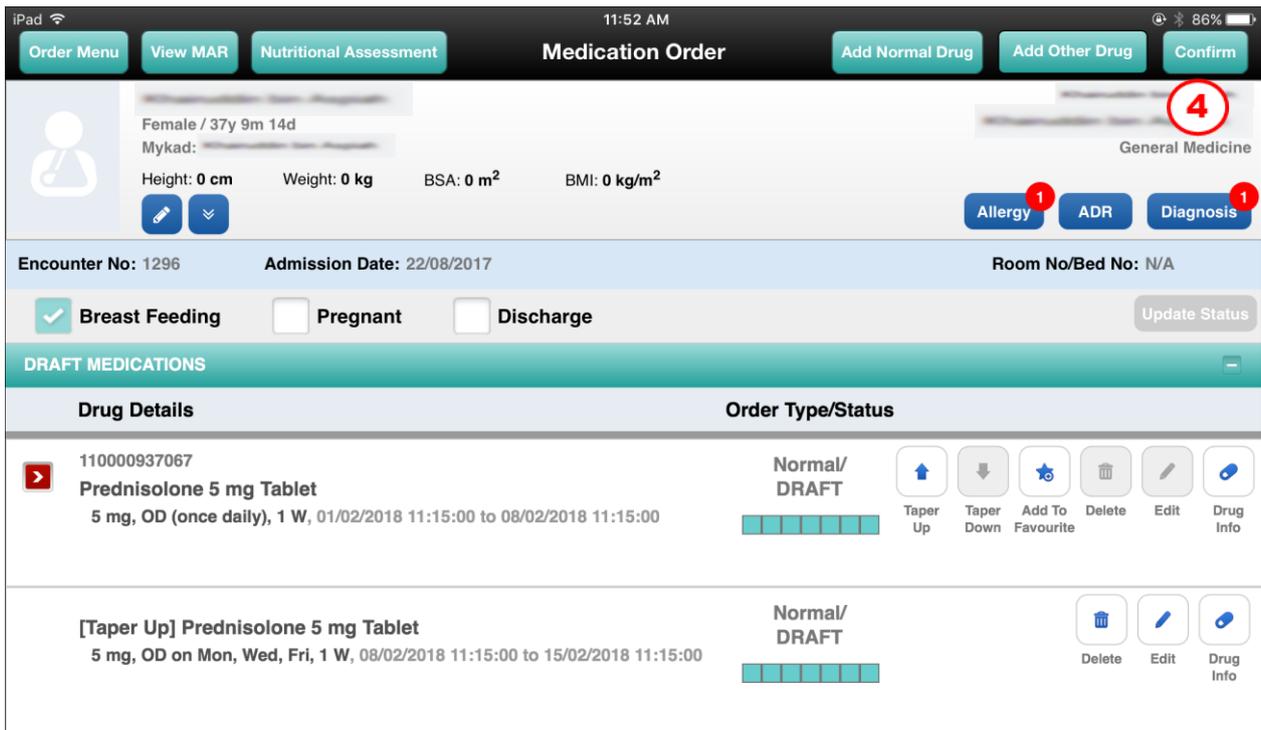
Change the **Dosage** , **Frequency** and **Duration of drugs** as required

Note

For taper up, frequency or dose should be higher than previous order/main order. System will displayed alert message

STEP 3

Tap on the  button to save record



The screenshot displays the 'Medication Order' screen on an iPad. At the top, there are navigation buttons: 'Order Menu', 'View MAR', 'Nutritional Assessment', 'Add Normal Drug', 'Add Other Drug', and 'Confirm'. The patient information section includes a profile icon, gender/age ('Female / 37y 9m 14d'), Mykad number, and physical attributes (Height: 0 cm, Weight: 0 kg, BSA: 0 m², BMI: 0 kg/m²). A red circle with the number '4' highlights the 'General Medicine' label. Below this are buttons for 'Allergy', 'ADR', and 'Diagnosis', with red circles and the number '1' highlighting the 'Allergy' and 'Diagnosis' buttons. The encounter details section shows 'Encounter No: 1296', 'Admission Date: 22/08/2017', and 'Room No/Bed No: N/A'. There are checkboxes for 'Breast Feeding' (checked), 'Pregnant', and 'Discharge', along with an 'Update Status' button. The 'DRAFT MEDICATIONS' section is divided into two columns: 'Drug Details' and 'Order Type/Status'. The first medication entry is '110000937067 Prednisolone 5 mg Tablet' with a dosage of '5 mg, OD (once daily), 1 W, 01/02/2018 11:15:00 to 08/02/2018 11:15:00'. It has a 'Normal/DRAFT' status and a progress bar. Action buttons include 'Taper Up', 'Taper Down', 'Add To Favourite', 'Delete', 'Edit', and 'Drug Info'. The second entry is '[Taper Up] Prednisolone 5 mg Tablet' with a dosage of '5 mg, OD on Mon, Wed, Fri, 1 W, 08/02/2018 11:15:00 to 15/02/2018 11:15:00'. It also has a 'Normal/DRAFT' status and a progress bar, with 'Delete', 'Edit', and 'Drug Info' buttons.

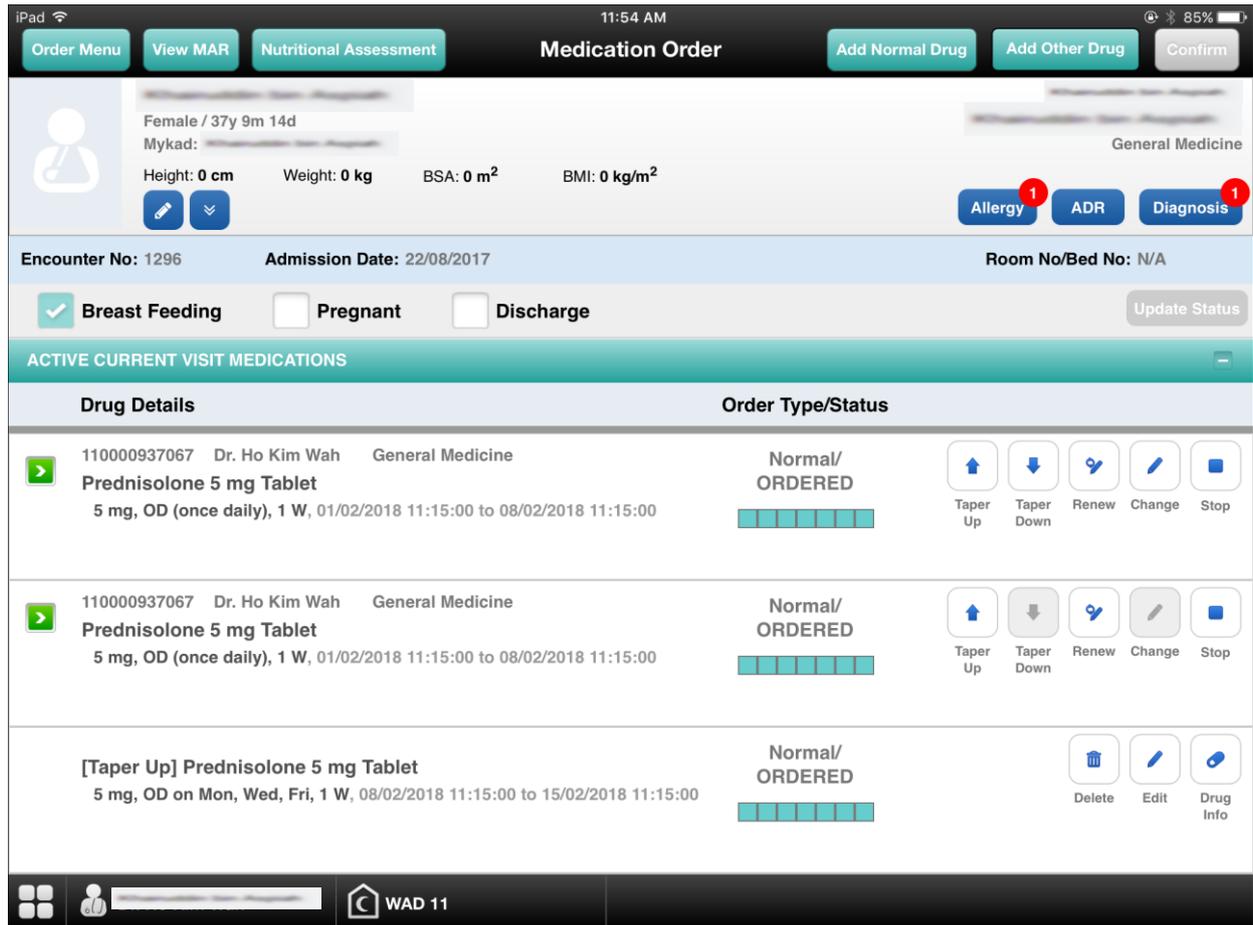
Figure 3.1.6-3 Normal Order Screen After Tapering

Note

- Repeat **step 1 to 3** if another level of taper is required.
- To modify prescription, delete the latest tapering from the list.

STEP 4

Tap on the **Confirm** button to confirm and send order to the pharmacy



The screenshot displays the 'Medication Order' screen on an iPad. At the top, there are navigation buttons: 'Order Menu', 'View MAR', 'Nutritional Assessment', 'Add Normal Drug', 'Add Other Drug', and 'Confirm'. The patient information section shows 'Female / 37y 9m 14d', 'Mykad: [redacted]', 'Height: 0 cm', 'Weight: 0 kg', 'BSA: 0 m²', and 'BMI: 0 kg/m²'. There are also buttons for 'Allergy', 'ADR', and 'Diagnosis'. Below this, the encounter details include 'Encounter No: 1296', 'Admission Date: 22/08/2017', and 'Room No/Bed No: N/A'. There are checkboxes for 'Breast Feeding', 'Pregnant', and 'Discharge', along with an 'Update Status' button. The main section is titled 'ACTIVE CURRENT VISIT MEDICATIONS' and contains a table of medication orders.

Drug Details	Order Type/Status	Actions
<p>110000937067 Dr. Ho Kim Wah General Medicine</p> <p>Prednisolone 5 mg Tablet</p> <p>5 mg, OD (once daily), 1 W, 01/02/2018 11:15:00 to 08/02/2018 11:15:00</p>	Normal/ ORDERED	Taper Up, Taper Down, Renew, Change, Stop
<p>110000937067 Dr. Ho Kim Wah General Medicine</p> <p>Prednisolone 5 mg Tablet</p> <p>5 mg, OD (once daily), 1 W, 01/02/2018 11:15:00 to 08/02/2018 11:15:00</p>	Normal/ ORDERED	Taper Up, Taper Down, Renew, Change, Stop
<p>[Taper Up] Prednisolone 5 mg Tablet</p> <p>5 mg, OD on Mon, Wed, Fri, 1 W, 08/02/2018 11:15:00 to 15/02/2018 11:15:00</p>	Normal/ ORDERED	Delete, Edit, Drug Info

At the bottom of the screen, there is a home indicator bar with a 'WAD 11' button.

Figure 3.1.6-4 Normal Order Screen After Tapering

Note

Once tapering order confirmed prescription will be shown as per Figure 3.1.6-4

3.1.7 Discharge Medication

This function is only for inpatient for order discharge medication. The discharge medication can be prescribed before the patient being discharge.

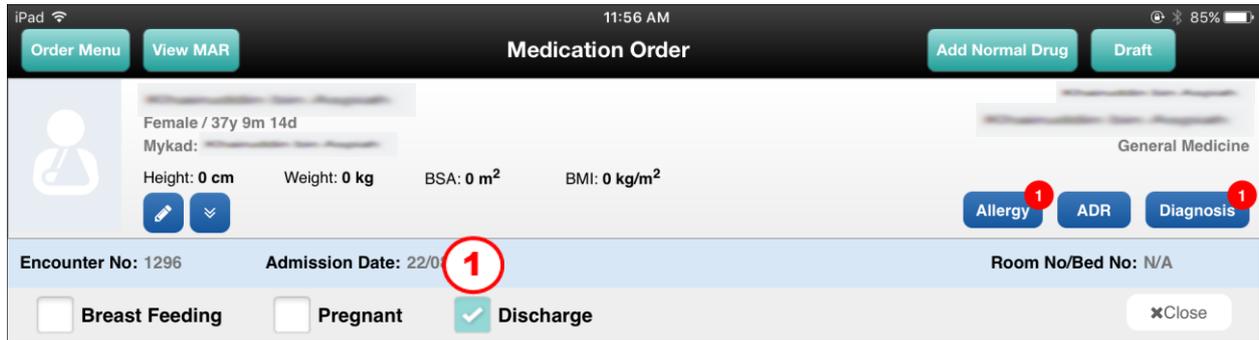


Figure 3.1.7-1 Normal Order Screen After Tapering

Note

Repeat **step 1** until **step 3** as section 3.1.3 Normal Order section

STEP 1

Tap on the Discharge checkbox

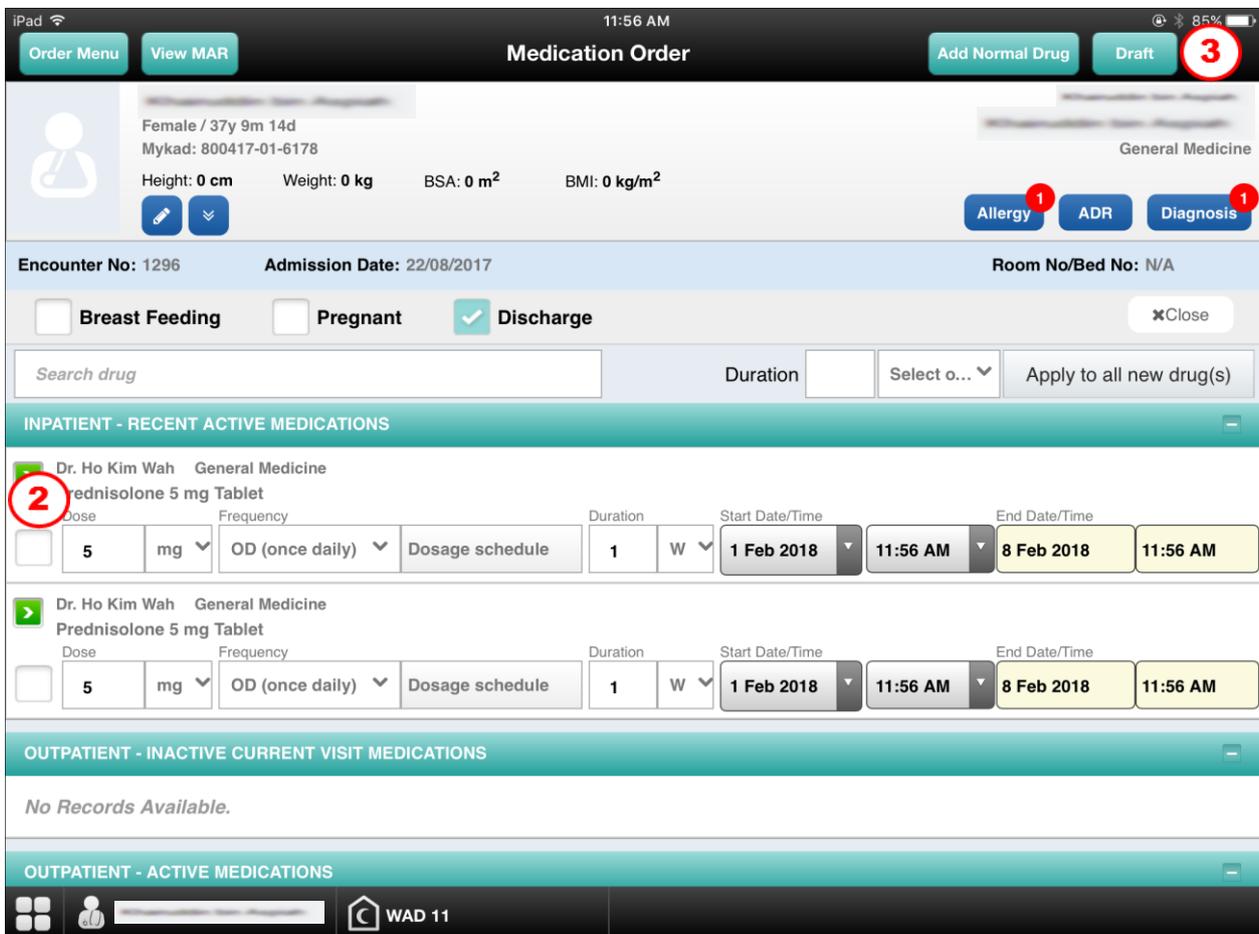


Figure 3.1.7-2 Normal Order Screen After Tapering

STEP 2

Tap on the checkbox to select drugs that want to continue after discharge

Note

User also should be able to change the duration, dose and frequency when create for discharge order.

STEP 3

Tap on the **Draft** button

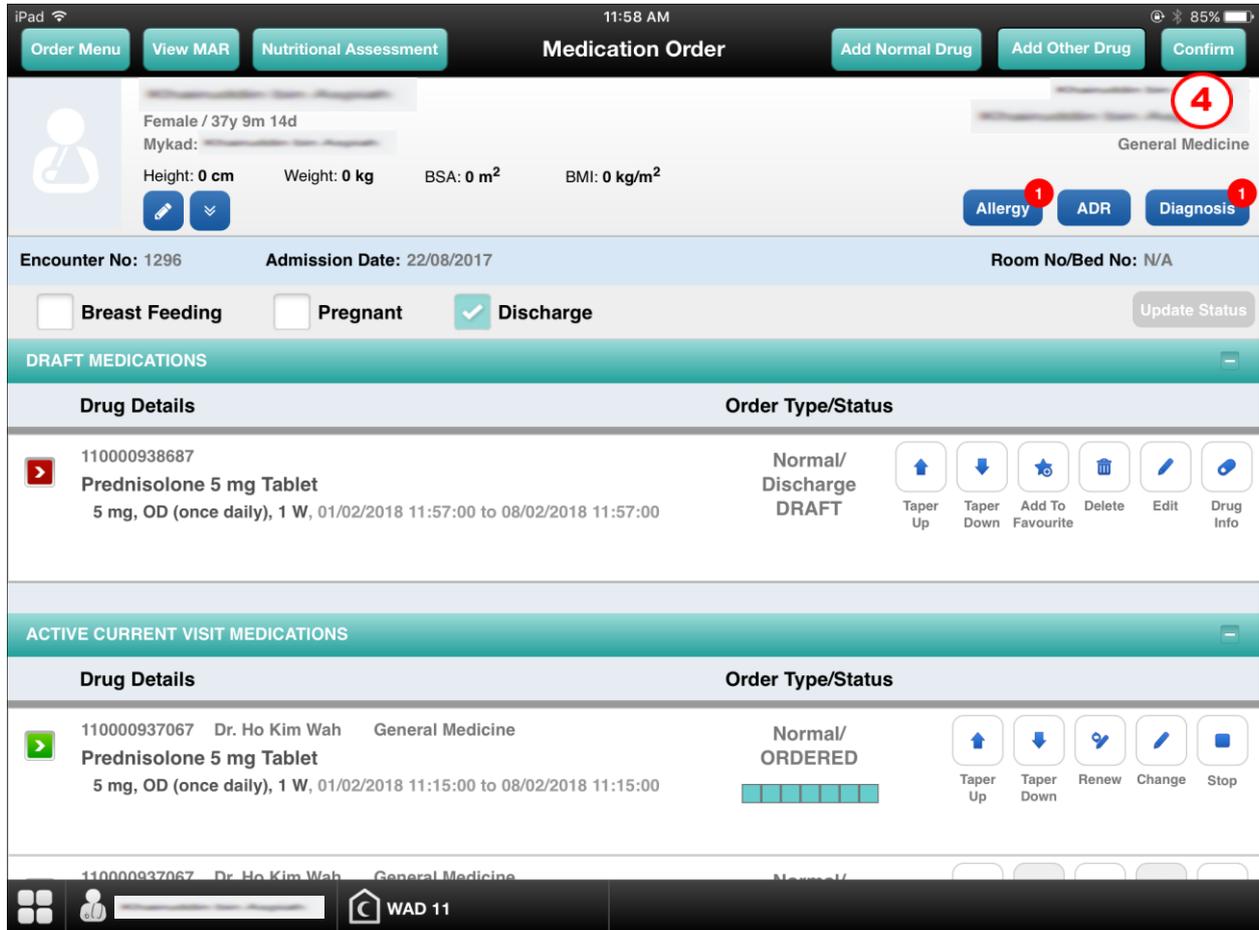
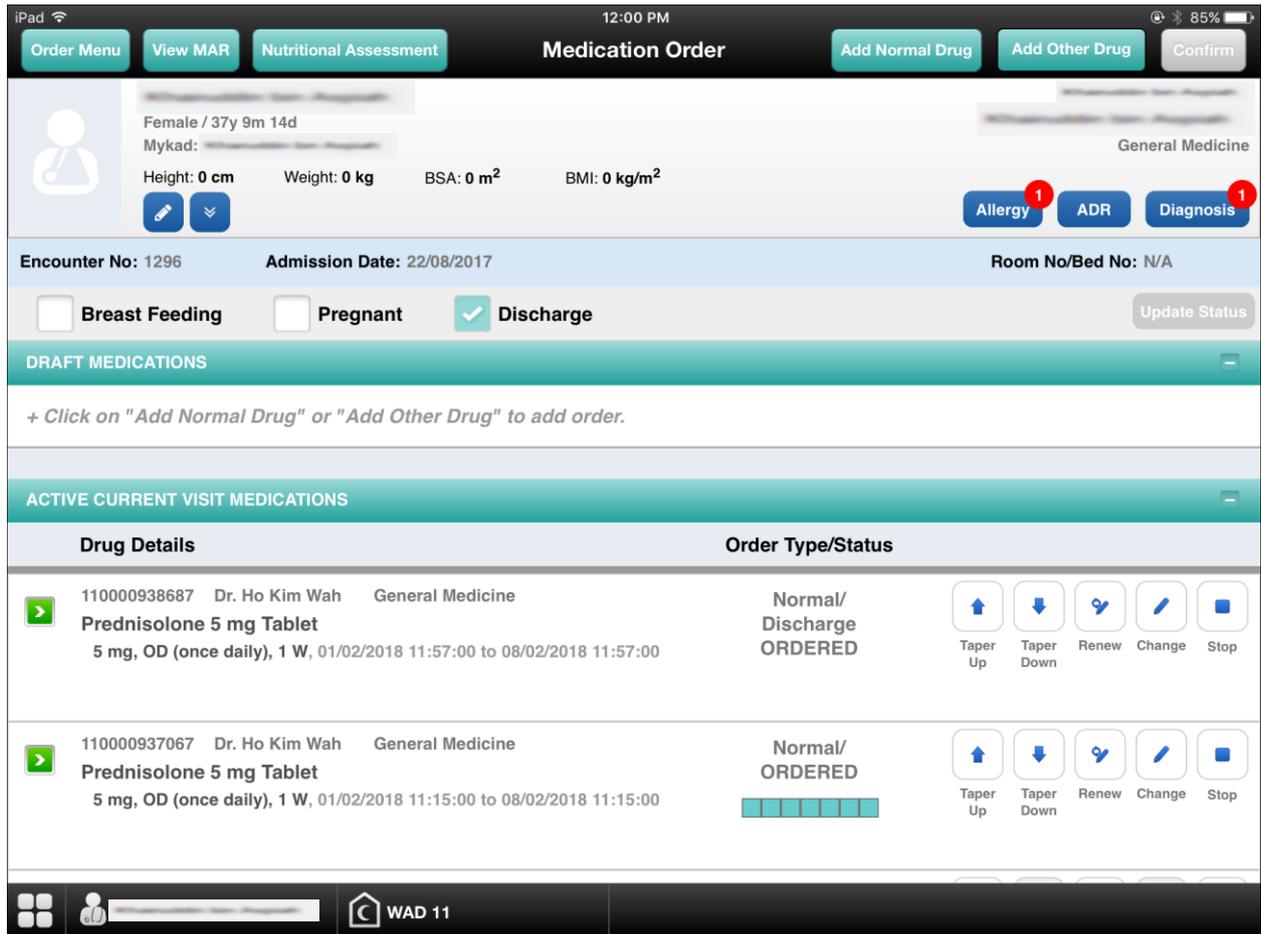


Figure 3.1.7-3 Normal Order Screen After Tapering

STEP 4

Tap on the **Confirm** button



The screenshot displays the 'Medication Order' screen on an iPad. At the top, there are navigation buttons: 'Order Menu', 'View MAR', 'Nutritional Assessment', 'Add Normal Drug', 'Add Other Drug', and 'Confirm'. The patient information section shows 'Female / 37y 9m 14d', 'Mykad: [redacted]', 'Height: 0 cm', 'Weight: 0 kg', 'BSA: 0 m²', and 'BMI: 0 kg/m²'. There are also buttons for 'Allergy', 'ADR', and 'Diagnosis', each with a red '1' notification badge. Encounter details include 'Encounter No: 1296', 'Admission Date: 22/08/2017', and 'Room No/Bed No: N/A'. Status options are 'Breast Feeding', 'Pregnant', and 'Discharge' (which is checked). Below this is a 'DRAFT MEDICATIONS' section with a note: '+ Click on "Add Normal Drug" or "Add Other Drug" to add order.' The 'ACTIVE CURRENT VISIT MEDICATIONS' section contains a table with two rows of medication orders.

Drug Details	Order Type/Status	Actions
<p>110000938687 Dr. Ho Kim Wah General Medicine</p> <p>Prednisolone 5 mg Tablet</p> <p>5 mg, OD (once daily), 1 W, 01/02/2018 11:57:00 to 08/02/2018 11:57:00</p>	<p>Normal/ Discharge ORDERED</p>	<p>Taper Up, Taper Down, Renew, Change, Stop</p>
<p>110000937067 Dr. Ho Kim Wah General Medicine</p> <p>Prednisolone 5 mg Tablet</p> <p>5 mg, OD (once daily), 1 W, 01/02/2018 11:15:00 to 08/02/2018 11:15:00</p>	<p>Normal/ ORDERED</p>	<p>Taper Up, Taper Down, Renew, Change, Stop</p>

The bottom of the screen shows a home indicator bar with a 'WAD 11' button.

Figure 3.1.7-4 Normal Order Screen After Tapering

Note

Order after tapering order type/status will show the order as Discharge Order as shown in Figure 3.1.7-4

3.1.8 Renew Rx

This function is use by prescriber to renew the drugs from patient’s profile.

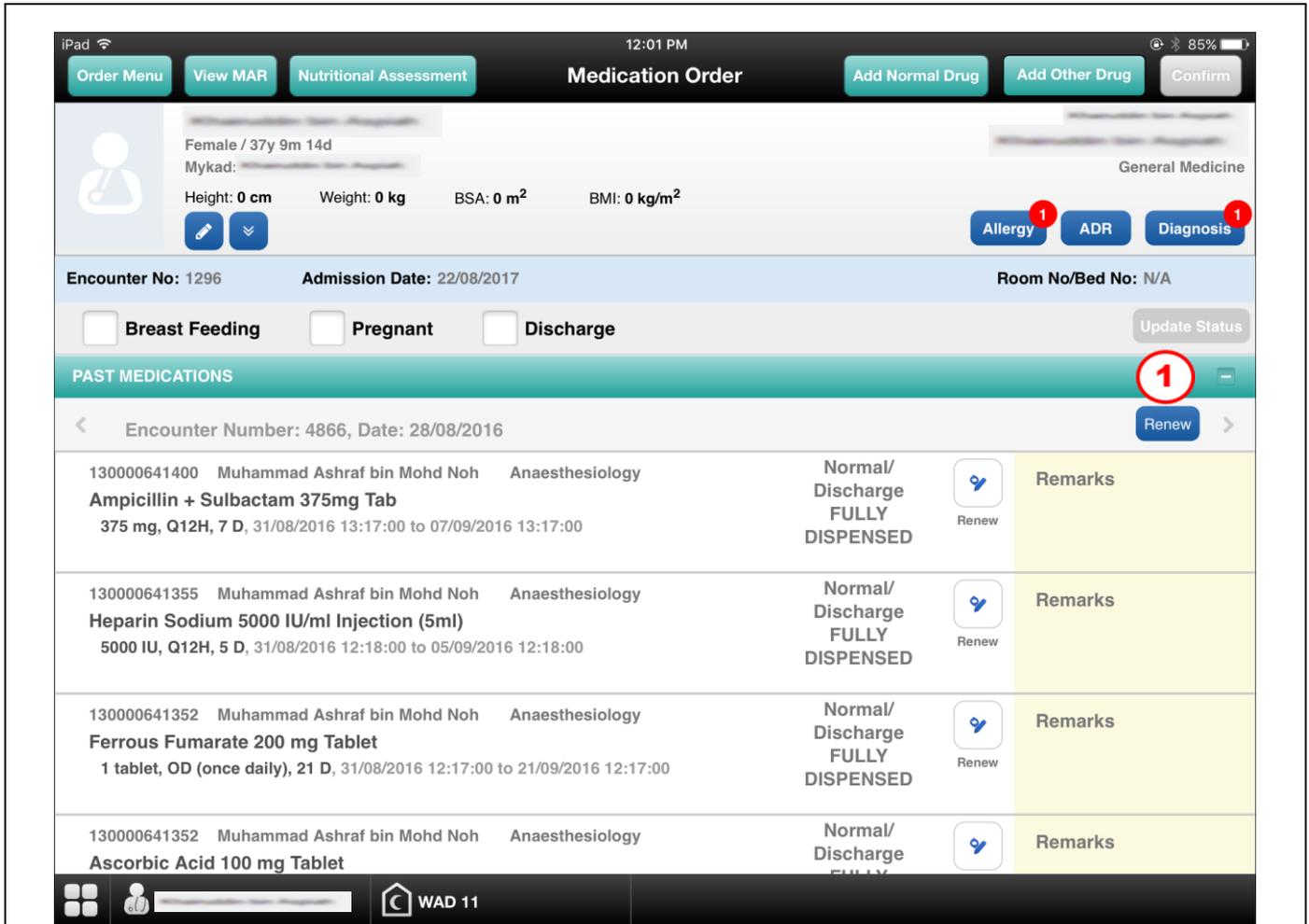
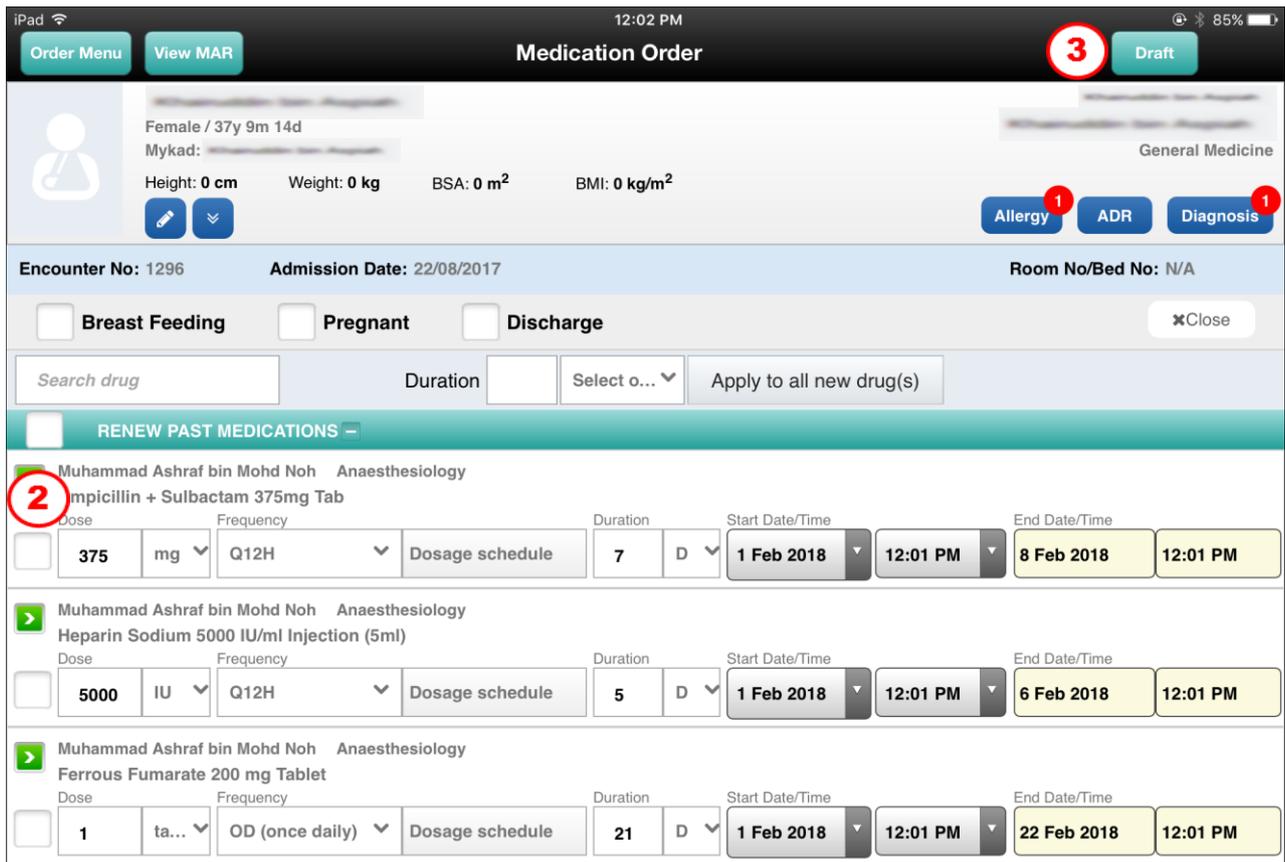


Figure 3.1-8-1 Medication Order Screen

STEP 1

Click on the  button



Medication Order

Female / 37y 9m 14d
Mykad: [redacted]
Height: 0 cm Weight: 0 kg BSA: 0 m² BMI: 0 kg/m²

General Medicine

Encounter No: 1296 Admission Date: 22/08/2017 Room No/Bed No: N/A

Breast Feeding Pregnant Discharge

Search drug Duration Select o... Apply to all new drug(s)

RENEW PAST MEDICATIONS -

	Dose	Frequency	Duration	Start Date/Time	End Date/Time
<input type="checkbox"/>	375 mg	Q12H	7 D	1 Feb 2018 12:01 PM	8 Feb 2018 12:01 PM
<input checked="" type="checkbox"/>	5000 IU	Q12H	5 D	1 Feb 2018 12:01 PM	6 Feb 2018 12:01 PM
<input checked="" type="checkbox"/>	1 ta...	OD (once daily)	21 D	1 Feb 2018 12:01 PM	22 Feb 2018 12:01 PM

Figure 3.1-8-2 Medication Profile Screen

STEP 2

Tap on the checkbox to select drugs that want to renew

STEP 3

Tap on the button to renew selected drugs

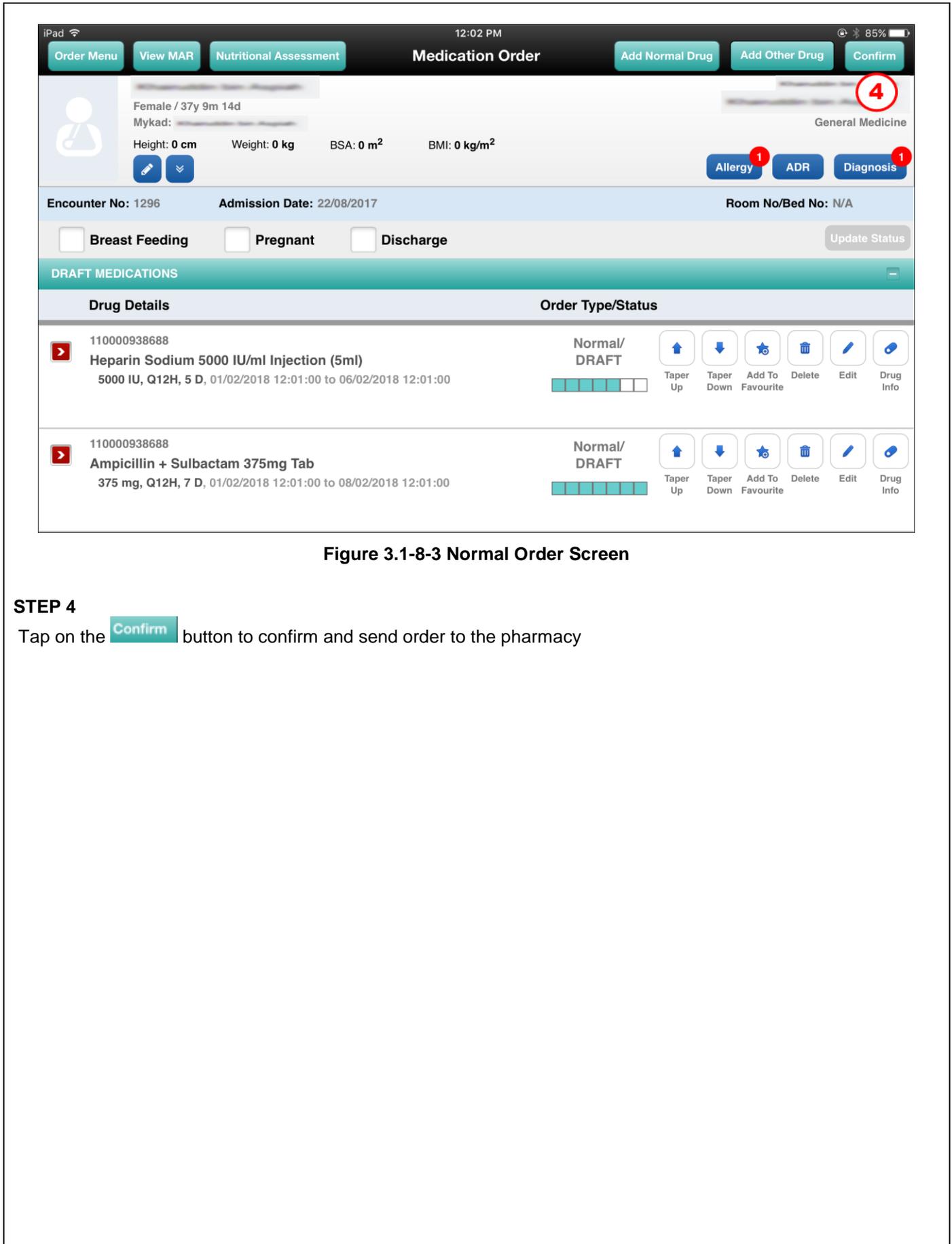


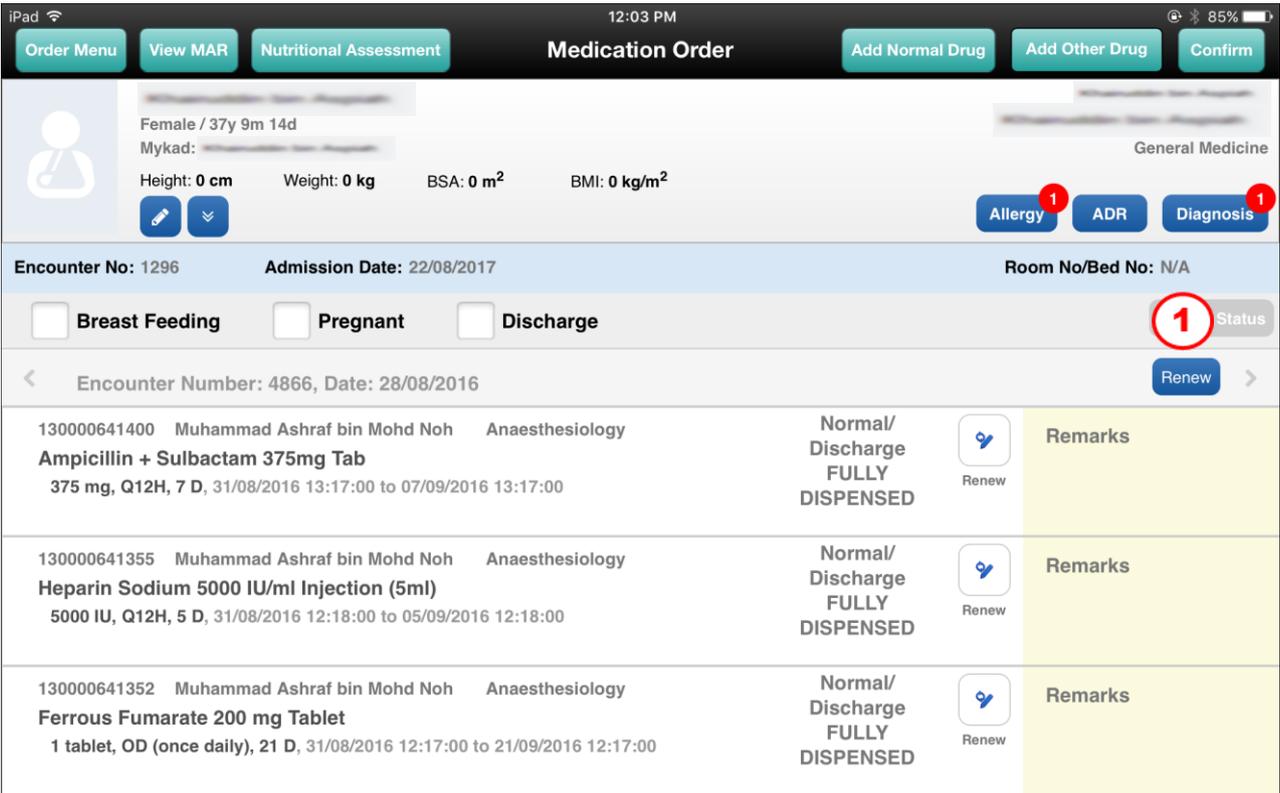
Figure 3.1-8-3 Normal Order Screen

STEP 4

Tap on the **Confirm** button to confirm and send order to the pharmacy

3.1.9 Renew RX With Different Duration

This function is use by prescriber to renew the drugs from patient’s profile with new duration.

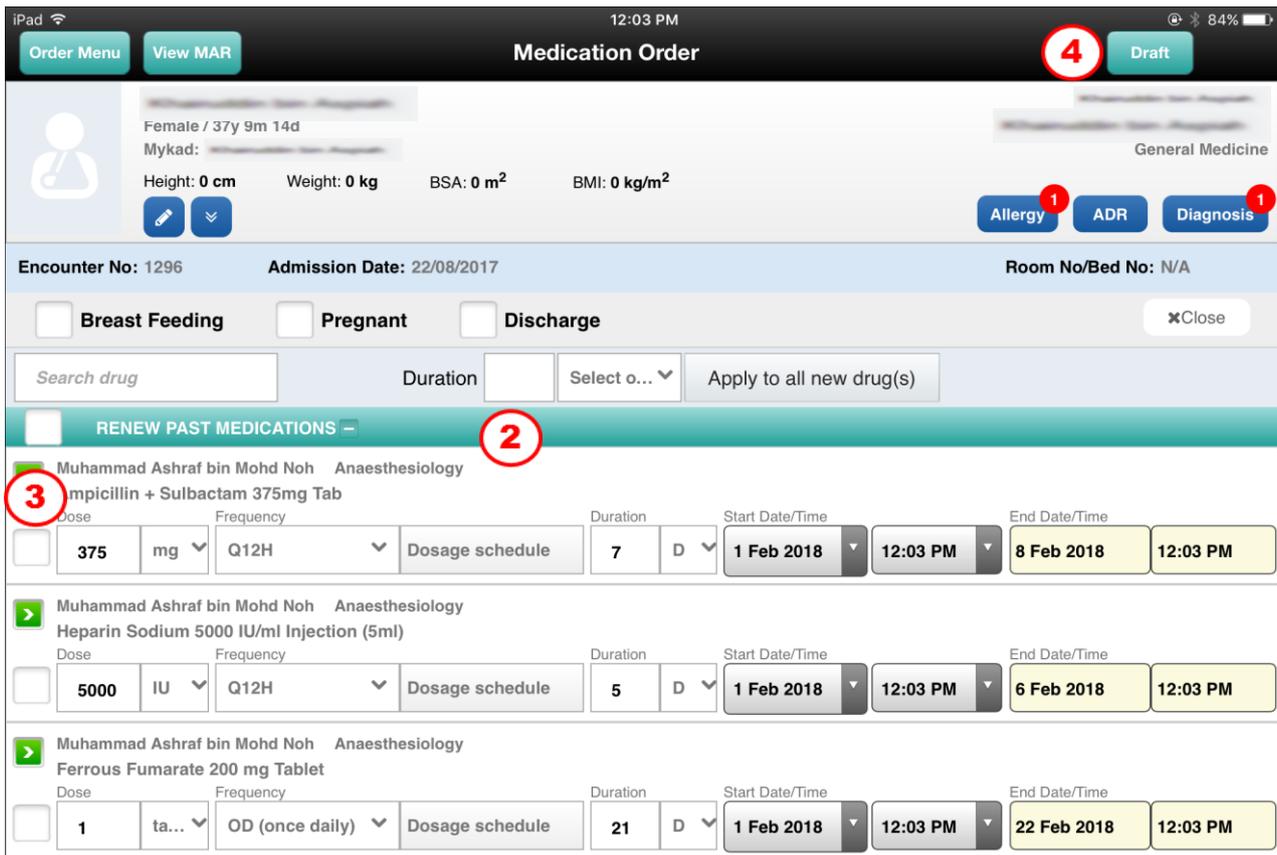


The screenshot displays the 'Medication Order' screen on an iPad. At the top, there are navigation buttons: 'Order Menu', 'View MAR', 'Nutritional Assessment', 'Medication Order', 'Add Normal Drug', 'Add Other Drug', and 'Confirm'. Below this, patient information is shown: 'Female / 37y 9m 14d', 'Mykad: [redacted]', 'Height: 0 cm', 'Weight: 0 kg', 'BSA: 0 m²', and 'BMI: 0 kg/m²'. There are also buttons for 'Allergy', 'ADR', and 'Diagnosis', each with a red '1' notification. Encounter details include 'Encounter No: 1296', 'Admission Date: 22/08/2017', and 'Room No/Bed No: N/A'. Below this, there are checkboxes for 'Breast Feeding', 'Pregnant', and 'Discharge', and a 'Status' button with a red '1' notification. A 'Renew' button is also visible. The main part of the screen shows a list of medications with columns for drug name, dosage, and status. The first medication is 'Ampicillin + Sulbactam 375mg Tab' with a status of 'Normal/ Discharge FULLY DISPENSED'. A red circle with the number '1' highlights the 'Renew' button for this medication. The second medication is 'Heparin Sodium 5000 IU/ml Injection (5ml)' and the third is 'Ferrous Fumarate 200 mg Tablet', both also with 'Normal/ Discharge FULLY DISPENSED' status and 'Renew' buttons.

Figure 3.1-9-1 Medication Order Screen

STEP 1

Click on the  button



Medication Order

Female / 37y 9m 14d
Mykad: [Redacted]

Height: 0 cm Weight: 0 kg BSA: 0 m² BMI: 0 kg/m²

Encounter No: 1296 Admission Date: 22/08/2017 Room No/Bed No: N/A

Breast Feeding Pregnant Discharge

Search drug Duration Select o... Apply to all new drug(s)

RENEW PAST MEDICATIONS

Medication	Dose	Frequency	Duration	Start Date/Time	End Date/Time
<input checked="" type="checkbox"/> Ampicillin + Sulbactam 375mg Tab	375 mg	Q12H	7 D	1 Feb 2018 12:03 PM	8 Feb 2018 12:03 PM
<input type="checkbox"/> Heparin Sodium 5000 IU/ml Injection (5ml)	5000 IU	Q12H	5 D	1 Feb 2018 12:03 PM	6 Feb 2018 12:03 PM
<input type="checkbox"/> Ferrous Fumarate 200 mg Tablet	1 ta...	OD (once daily)	21 D	1 Feb 2018 12:03 PM	22 Feb 2018 12:03 PM

Figure 3.1-9-2 Medication Profile Screen

STEP 2

Enter the new **Duration**

Note

- After entering the duration, user have to click on **Apply to all new drugs(s)** to insert the new duration. If not, duration remain as previous.
- Besides duration, user may change dosage and frequency.
- User may tap on the **Apply to all new drug(s)** button if entered duration want to apply for all selected drugs

STEP 3

Tap on the checkbox to select drugs that want to renew

STEP 4

Tap on the button to renew selected drugs

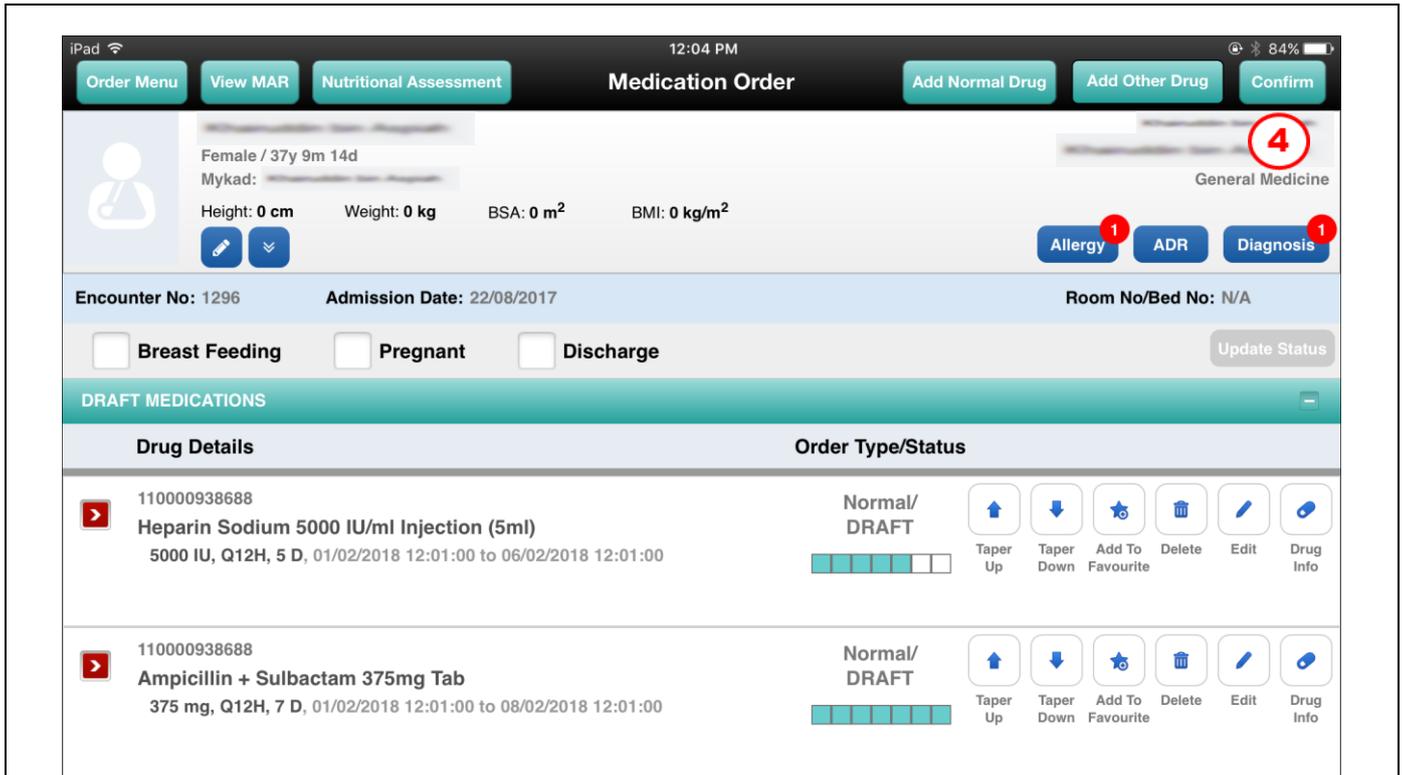


Figure 3.1-9-3 Normal Order Screen

STEP 4

Tap on the **Confirm** button to confirm and send order to the pharmacy

3.1.10 Change

Prescriber is allowed to modify Dosage, Frequency and Duration.

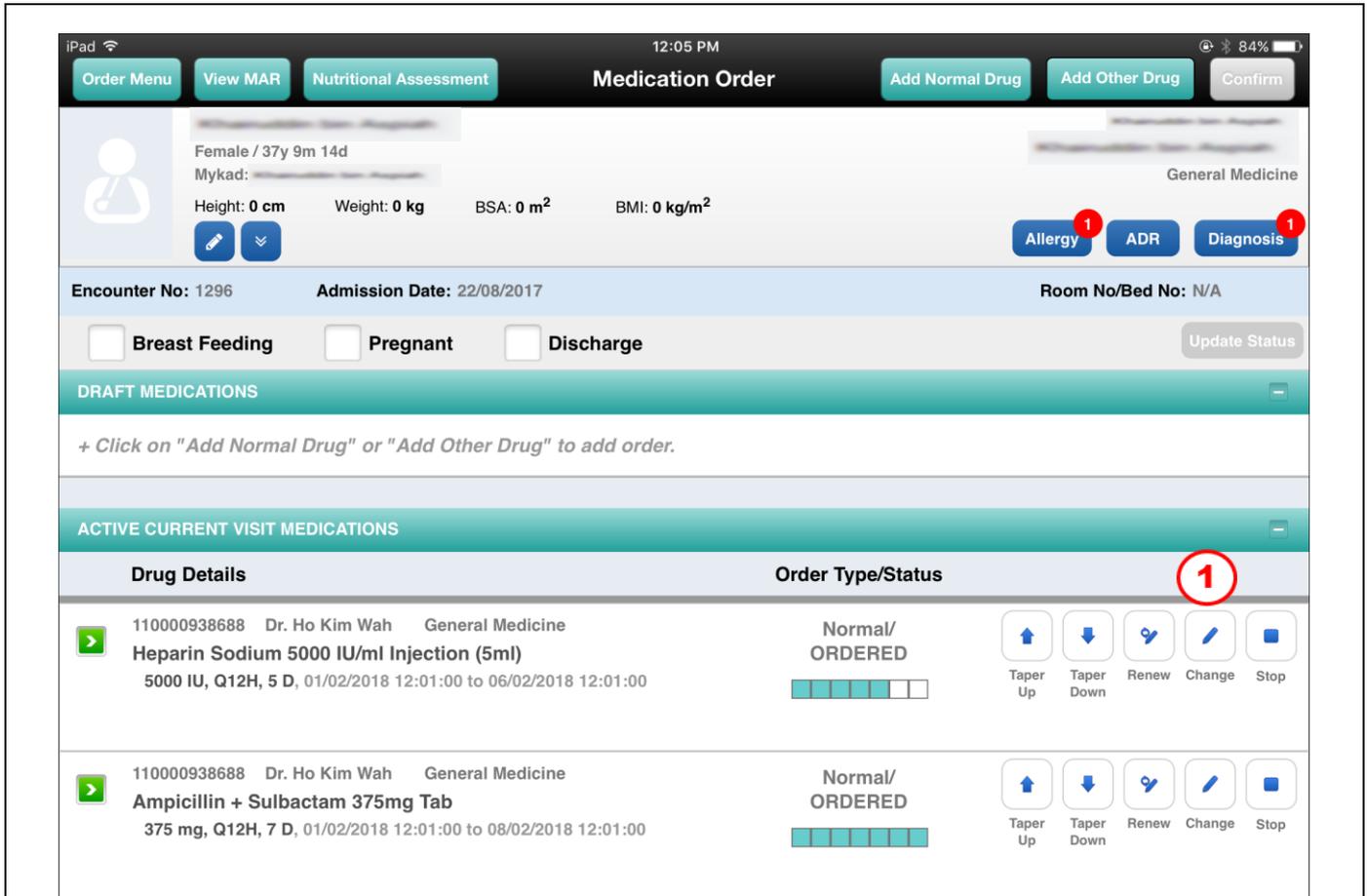


Figure 3.1-10-1 Medication Order Screen

STEP 1

Tap on the  button to modify the drug details

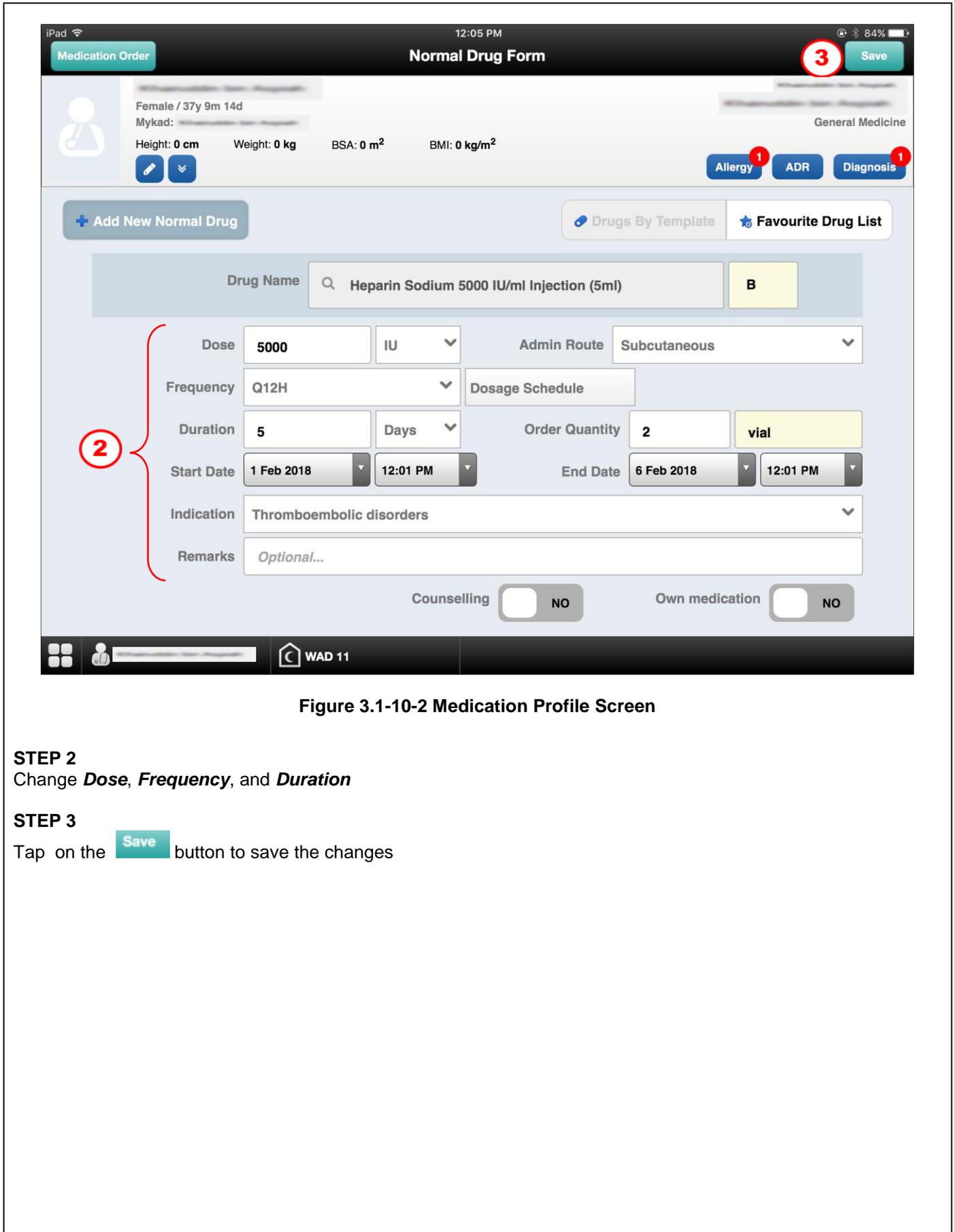


Figure 3.1-10-2 Medication Profile Screen

STEP 2

Change **Dose**, **Frequency**, and **Duration**

STEP 3

Tap on the  button to save the changes

3.1.11 Stop

Prescriber is allowed to stop current medication.

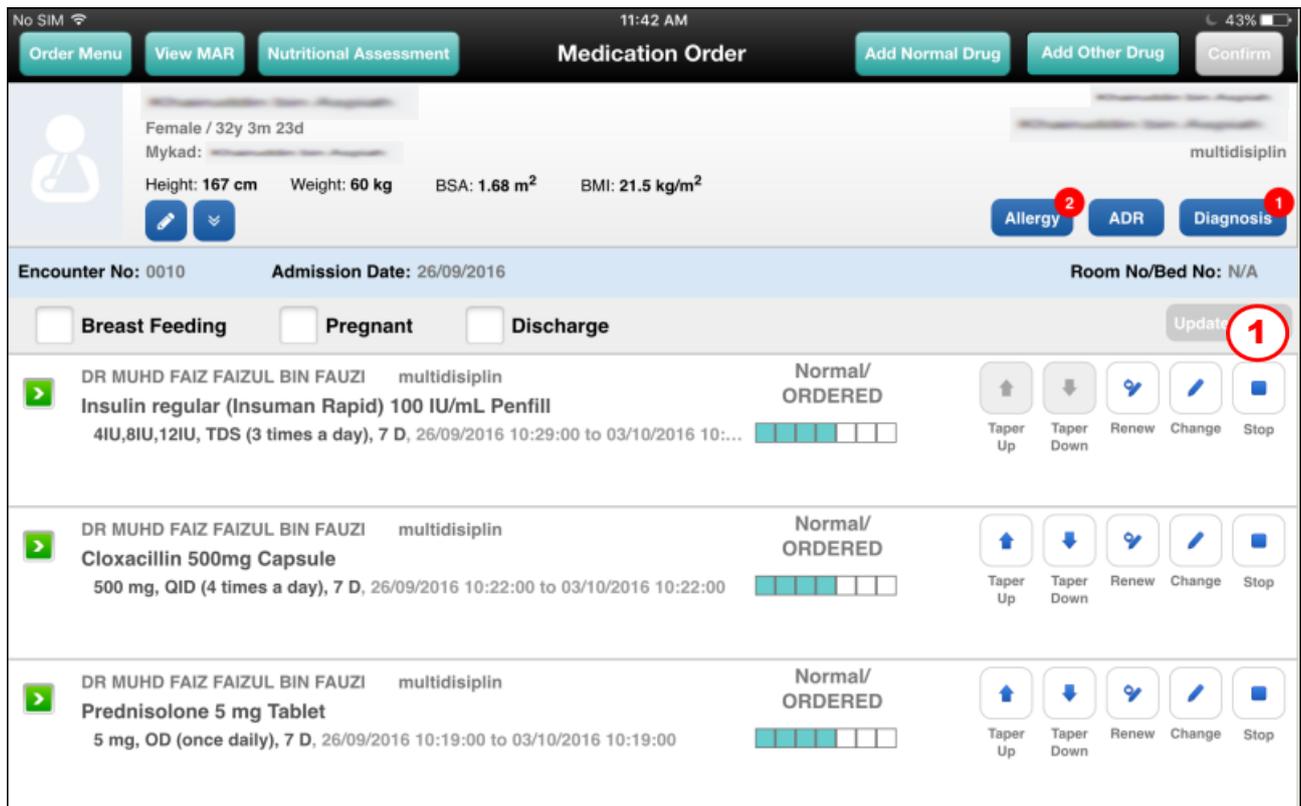


Figure 3.1-11-1 Medication Order Screen

STEP 1

Click on the  button to stop the drug

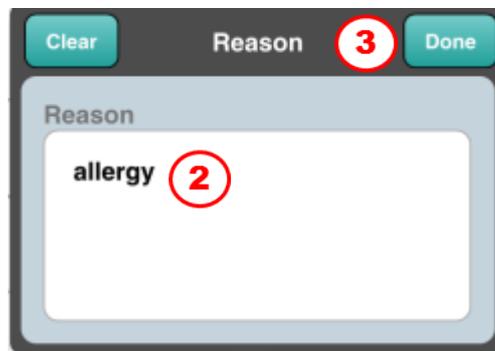


Figure 3.1-11-2 Stop Reason screen

STEP 2

Enter reason in the displayed window as per Figure 3.1-11-2

Note

Stop Remarks is not mandatory

STEP 3

Tap on the  to stop the current order

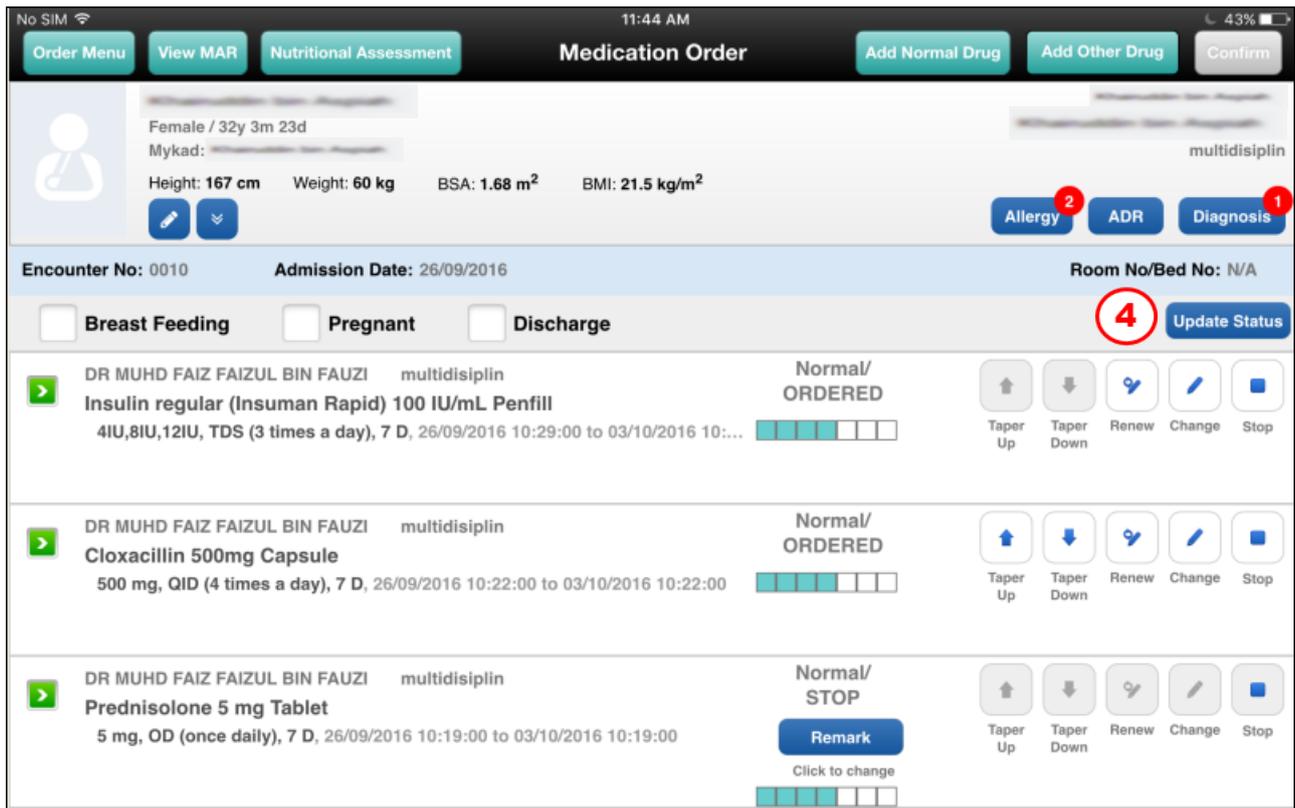


Figure 3.1-11-2 Medication Profile creen

STEP 4

Tap on the **Update Status** to confirm the stop order

Note

- Once stop, record will appear In Past Medication list
- Order status will be changed to Stop once tap on the update status

3.2 Order Endorsement

Order endorsement is to notify prescriber on prescription changes made by pharmacist upon confirmation by the prescriber.

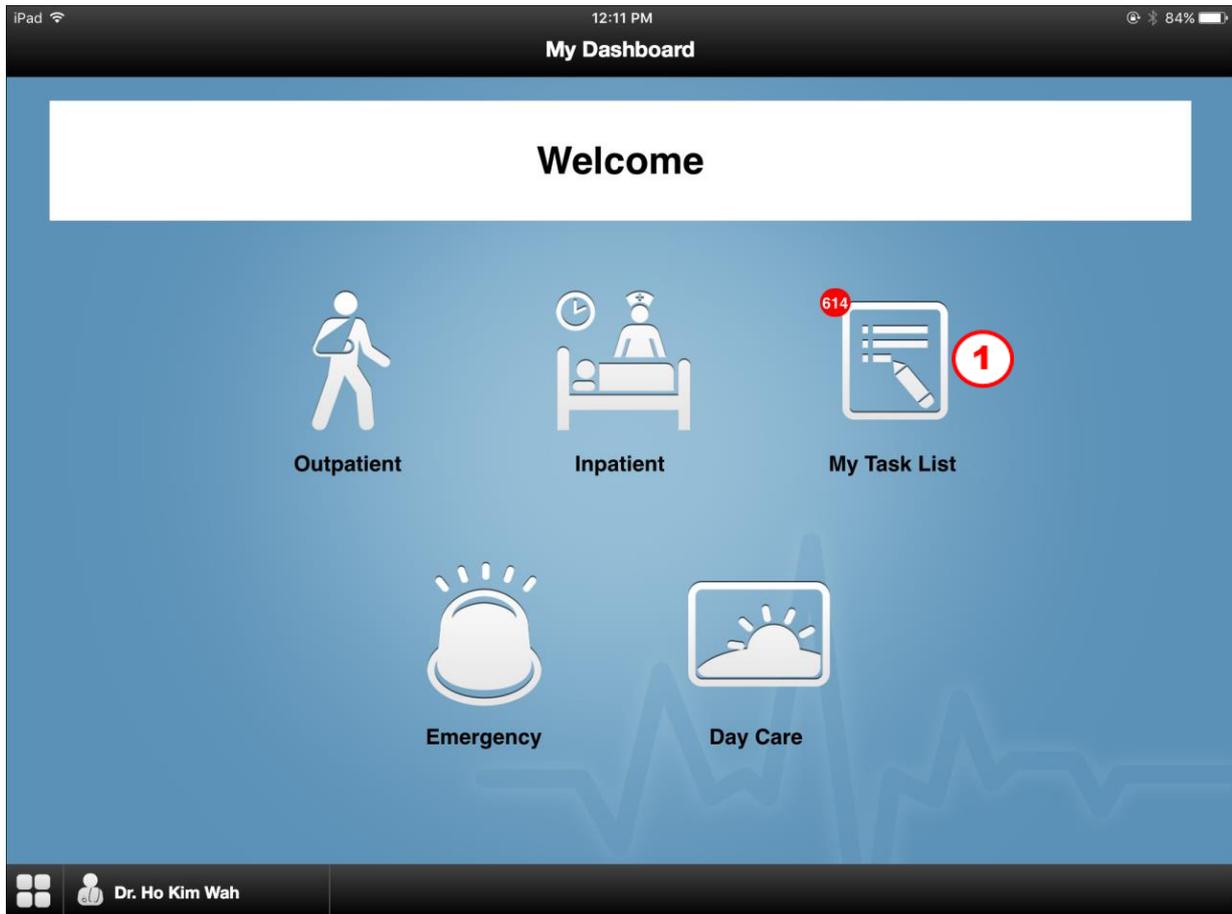


Figure 3.2-1 Home Page Listing Screen

STEP 1

Tap on **My Task List** menu

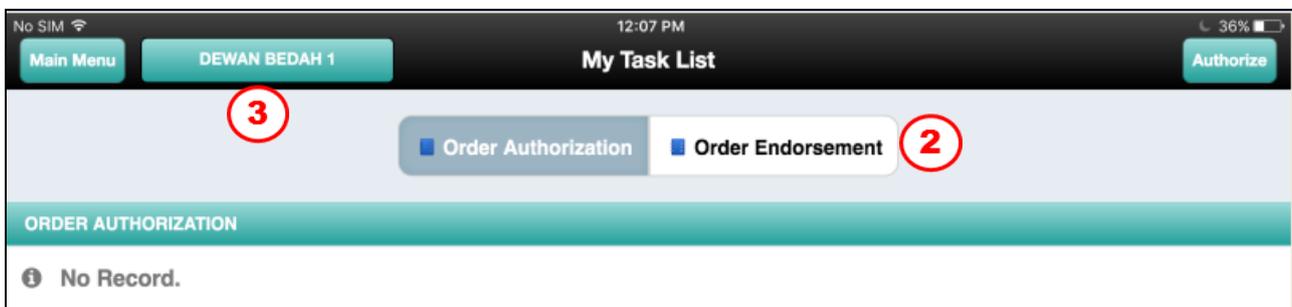


Figure 3.2-2 Endorsement Listing Screen

STEP 2

Tap on tab to search endorsement listing

STEP 3

Tap on the location button e.g. to search patient

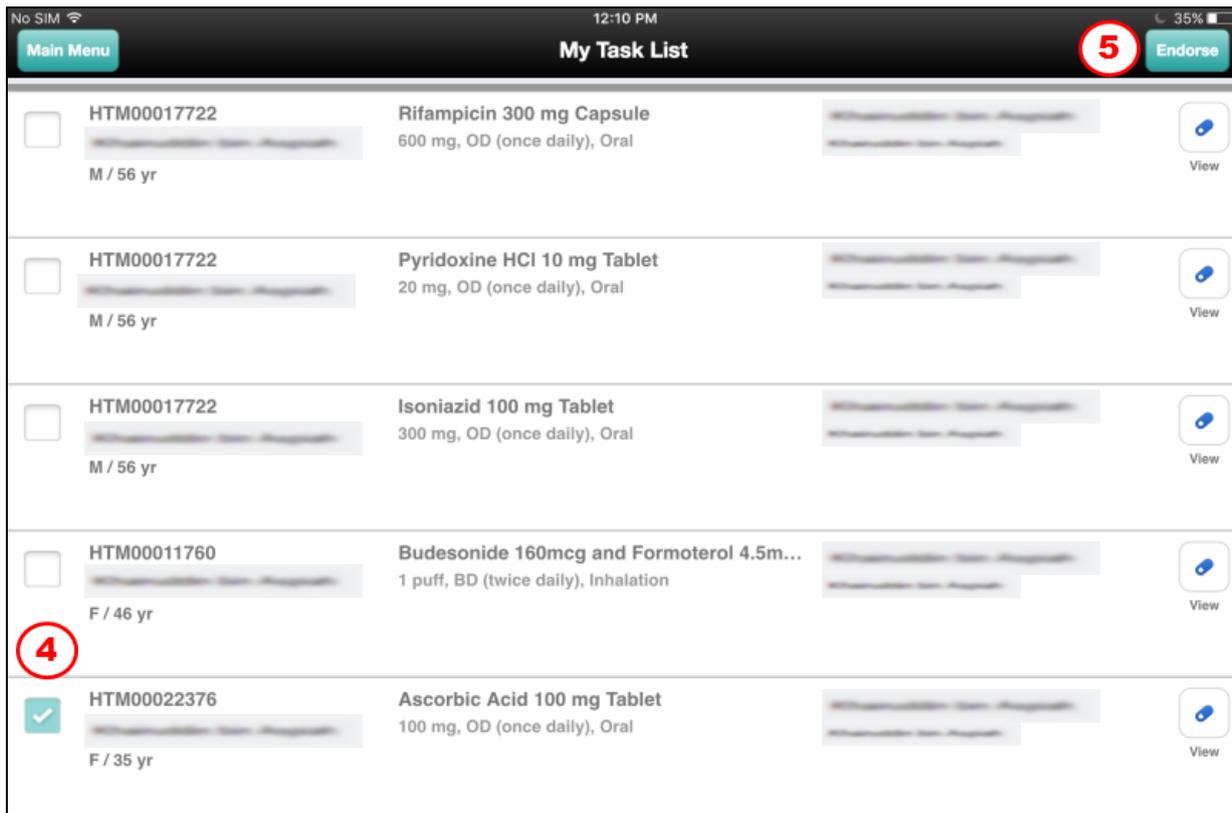


Figure 3.2-3 Endorsement Screen

Note

- Search result of patient record list will be displayed:
 - MRN / Patient Name
 - Drug Name / Dosage Details
 - Order By

STEP 4

Tap on the checkbox on selected patient

STEP 5

Tap on the **Endorse** button to proceed endorsement

Note

User may click on the  button to see original value and intervened prescription as per Figure 3.2.-4

No SIM 12:10 PM 35%

Task List **Endorsement - Drug Changes**

Female / 35y 3m 21d
 Mykad: [redacted] multidisiplin

Height: 0 cm Weight: 0 kg BSA: 0 m² BMI: 0 kg/m²

Allergy **ADR** **Diagnosis** ¹

Description	Original Value	Changed To
Dosage	500 mg	100 mg
Frequency	OD (once daily)	
Duration	30 Days	
Route	Oral	
Order Qty	150 tablet	30 tablet
Start Date/Time	15/09/2015	
End Date/Time	15/10/2015	
Status	DS	
Remarks		

Figure 3.2-4 Endorsement Screen

3.3 Order Authorisation

This function is used by specialist or authorised person to approve list A/ A*/ A/KK drug that requires authorisation.

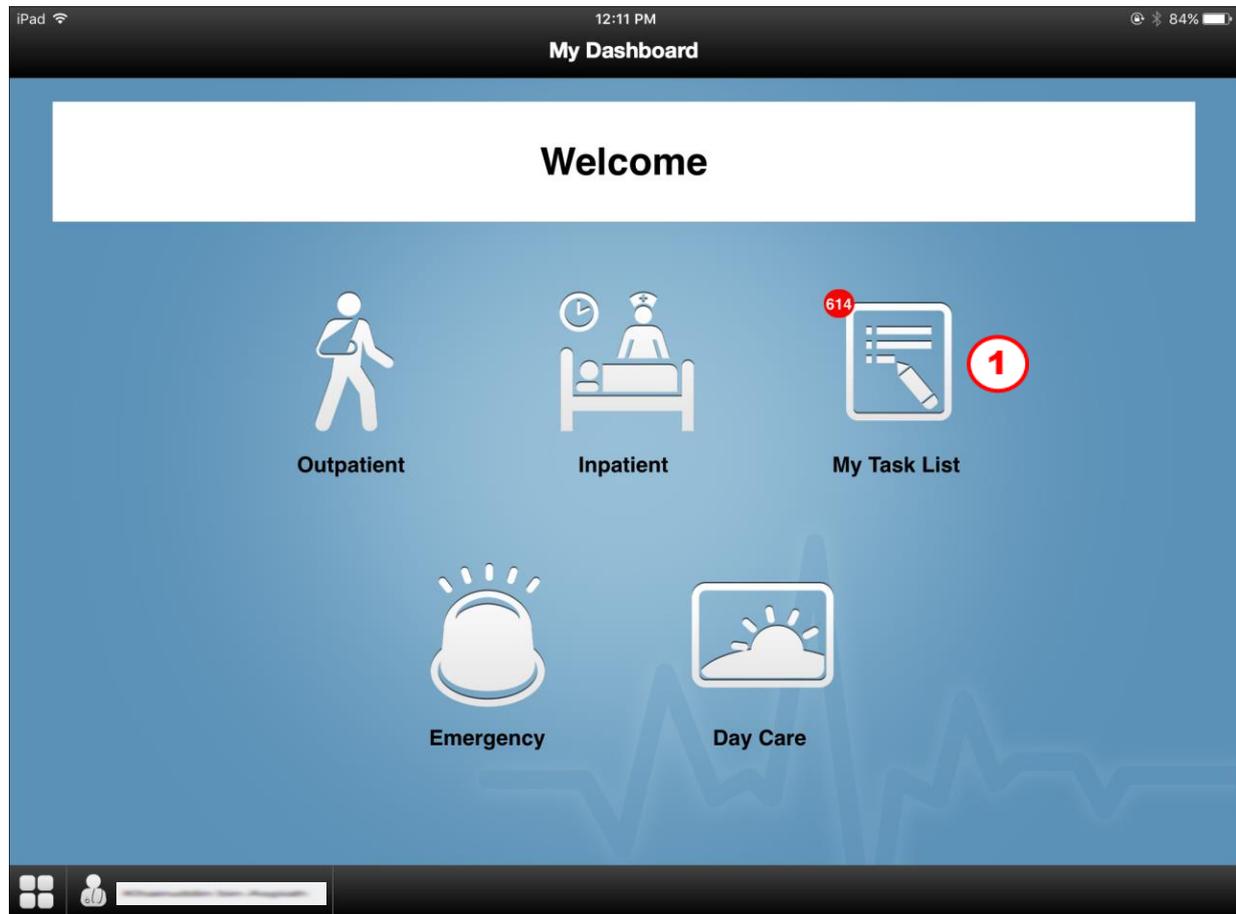


Figure 3.3-1 Listing Screen

STEP 1

Tap on the **My Task List** menu

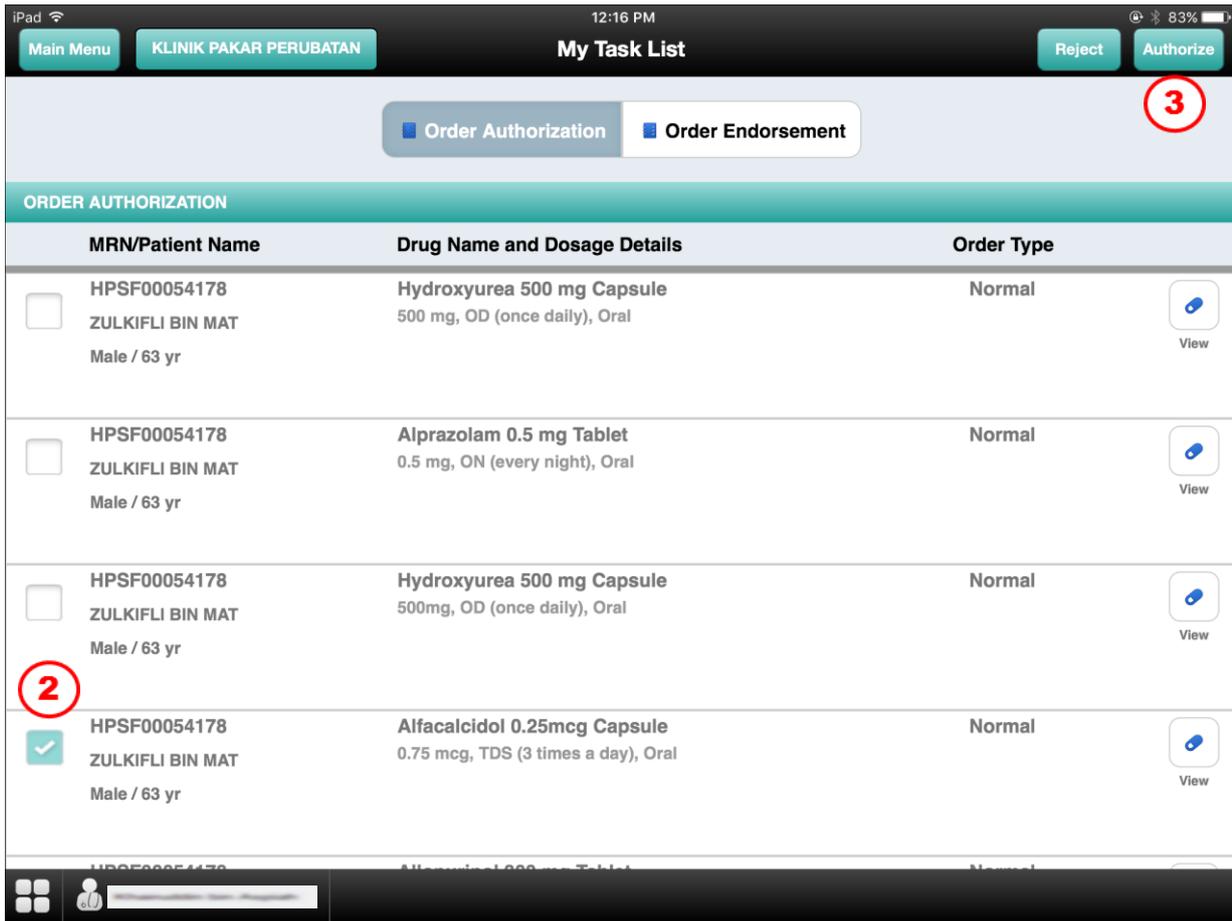


Figure 3.3-1 Order Authorisation Screen

Note

- Search result of patient record list will be displayed:
 - MRN / Patient Name
 - Drug Name / Dosage Details
 - Order By

STEP 2

Tap on the checkbox on selected patient

STEP 3

Tap on the **Authorize** button

Note

User able to reject the transaction by using click on the **Reject** button

3.3.1 Cancel order

This function is used by specialist or authorised person to cancel list A/ A*/ A/KK drug that requires authorisation.

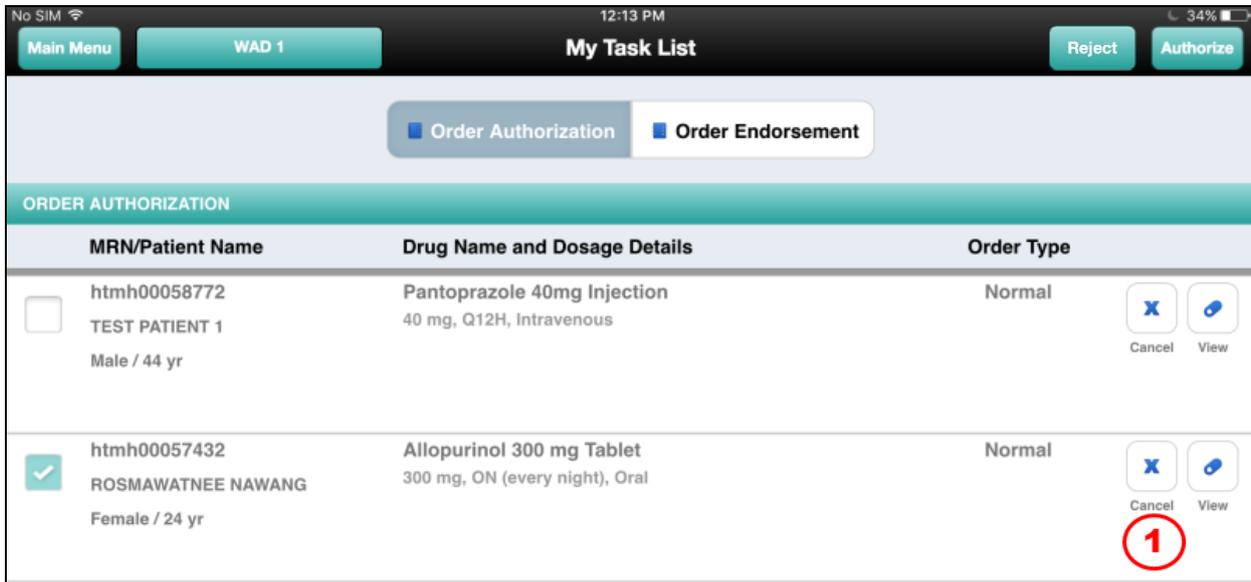


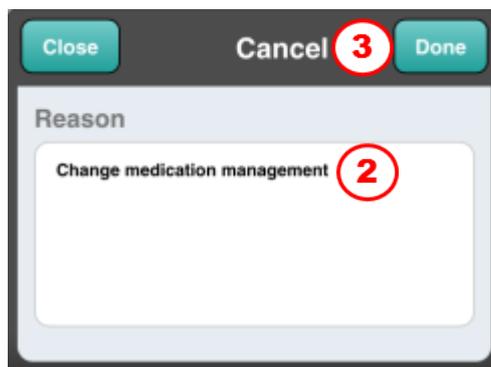
Figure 3.3-1 Order Authorisation Screen

Note

Repeat **step 1** till **step 2** as per section 3.4 authorisation

STEP 1

Tap on the button to cancel the drugs



3.4-1 Order Authorisation Screen

STEP 2

Enter cancellation remark

STEP 3

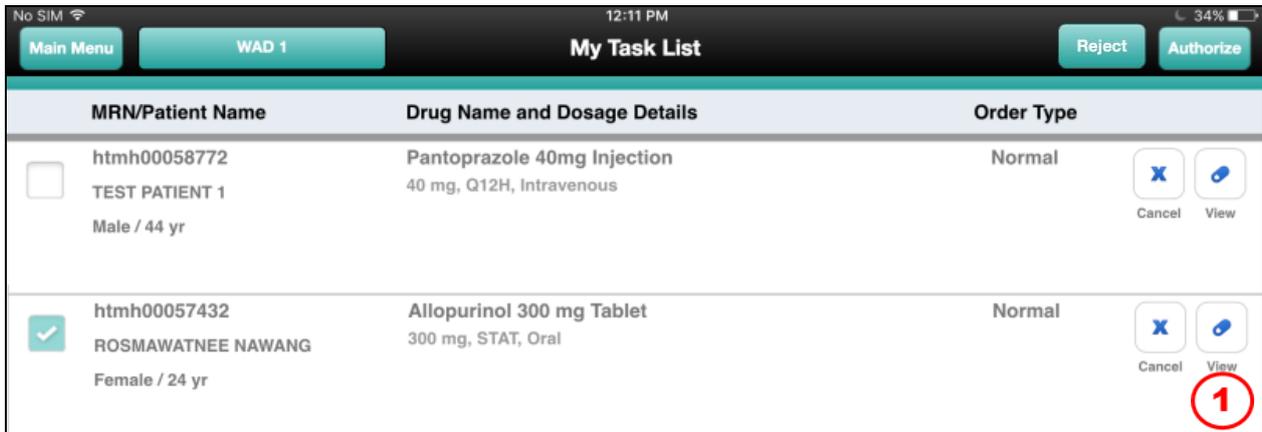
Tap on the button to confirm the cancellation

Note

User able to reject the transaction by using click on the button

3.3.2 Modify and Authorise

This function is used by specialist or authorised person to modify and authorise list A/ A*/ A/KK drug that requires authorisation.



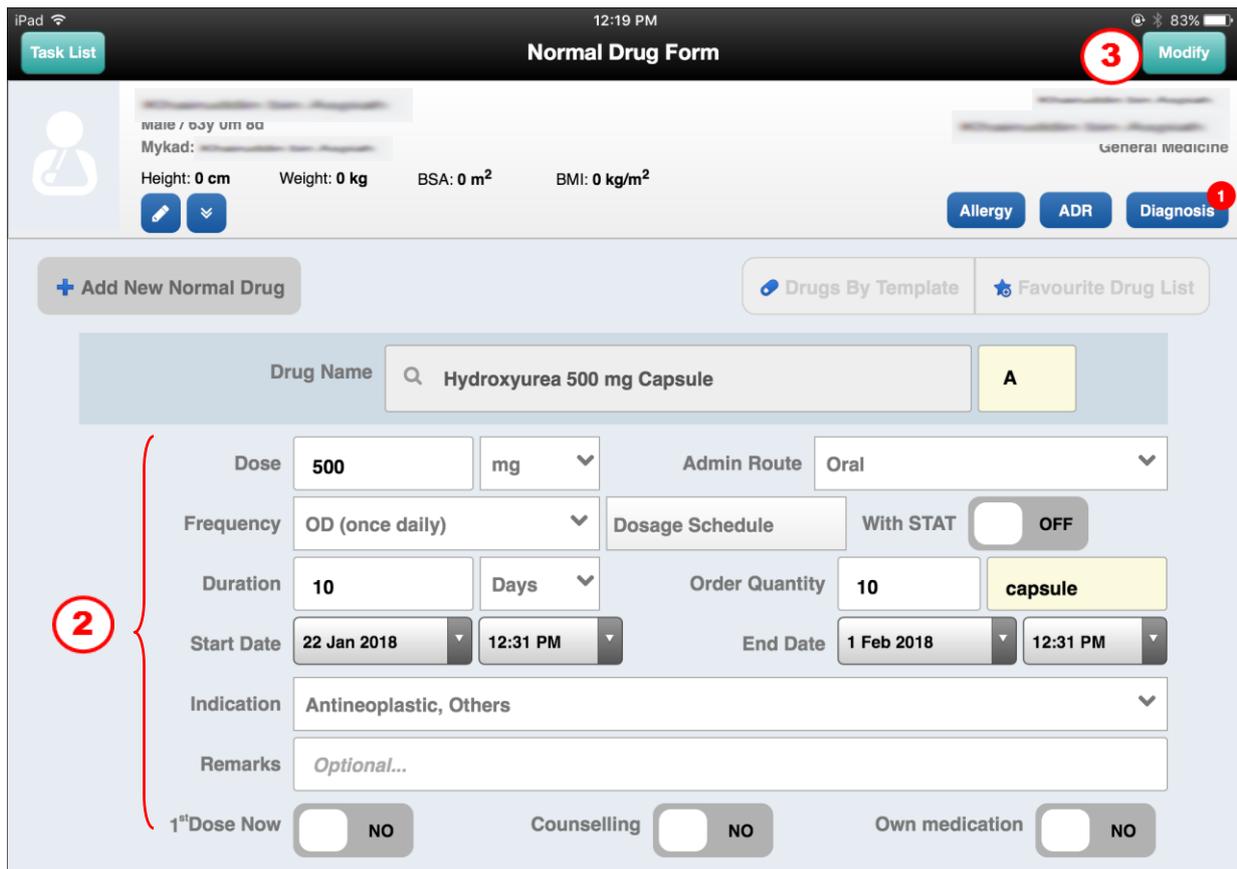
3.3.2-1 Order Authorisation Screen

Note

Repeat **step 1** till **step 2** as per section 3.4 authorisation

STEP 1

Tap on the  button to view the drug



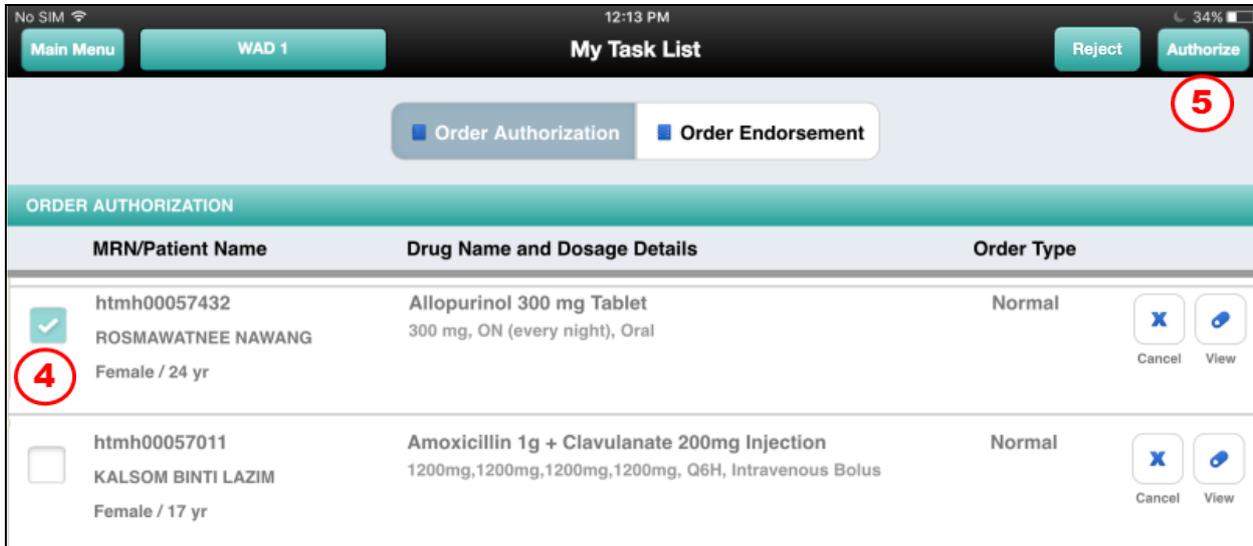
3.3.2-2 Order Authorisation Screen

STEP 2

Change details as required

STEP 3

Tap on the **Modify** button



3.3.2-3 Order Authorisation Screen

STEP 4

Tap on the checkbox on selected patient

STEP 5

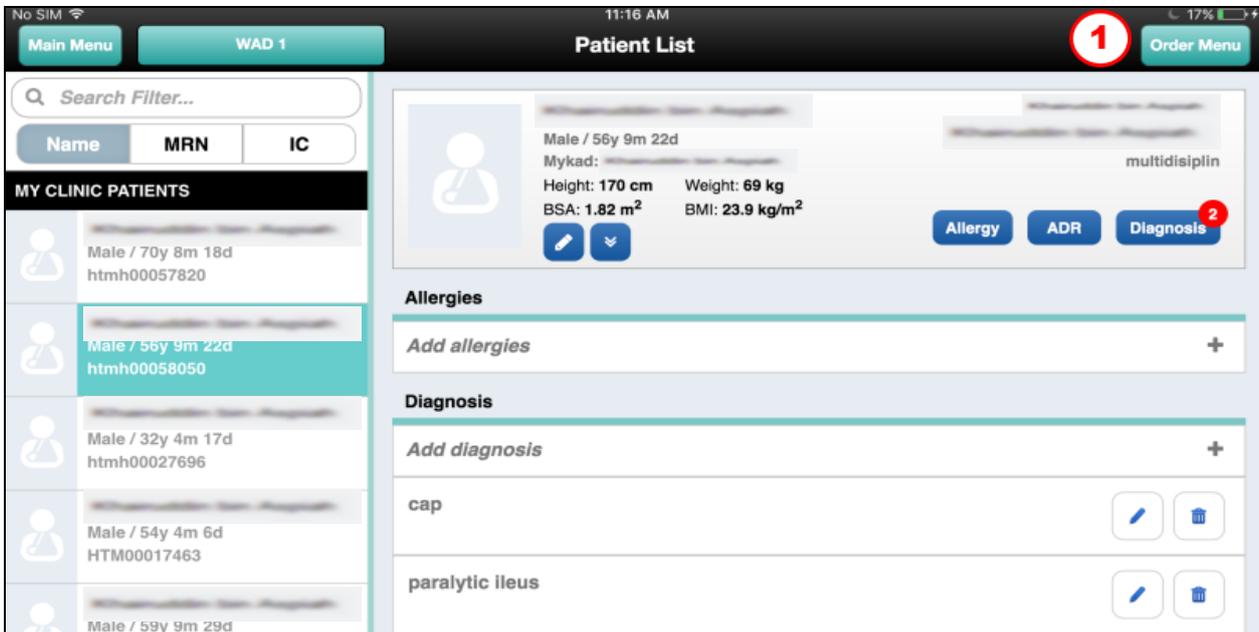
Tap on the **Authorize** button

Note

User able to reject the transaction by using click on the **Reject** button

4.0 Therapeutic Drug Monitoring

TDM Order screen allows Prescriber to place TDM Services order. The order will be sent to Pharmacist for verification and reporting.



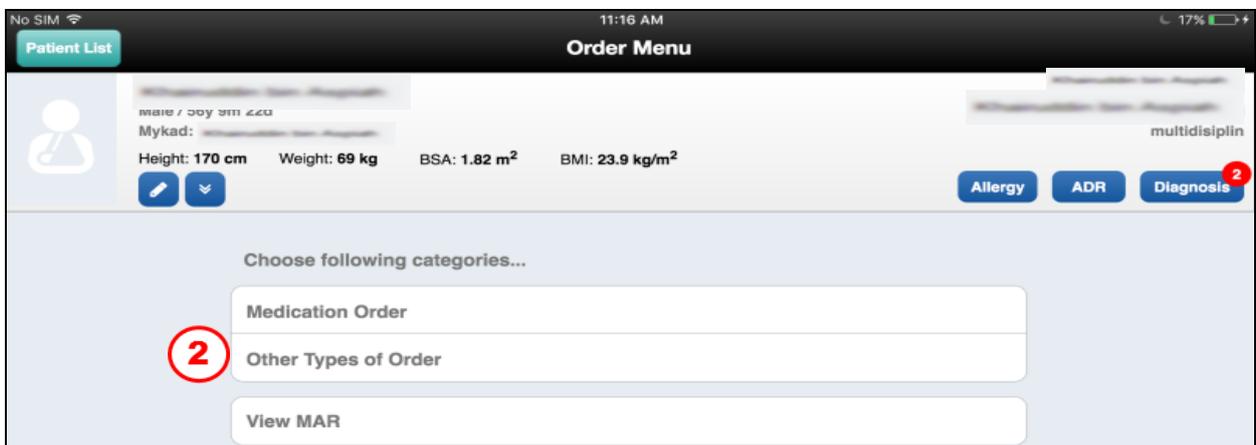
4.0-1 Patient Listing Screen

Note

Repeat **step 1** until **step 3** as 3.1.1 record allergy section

STEP 1

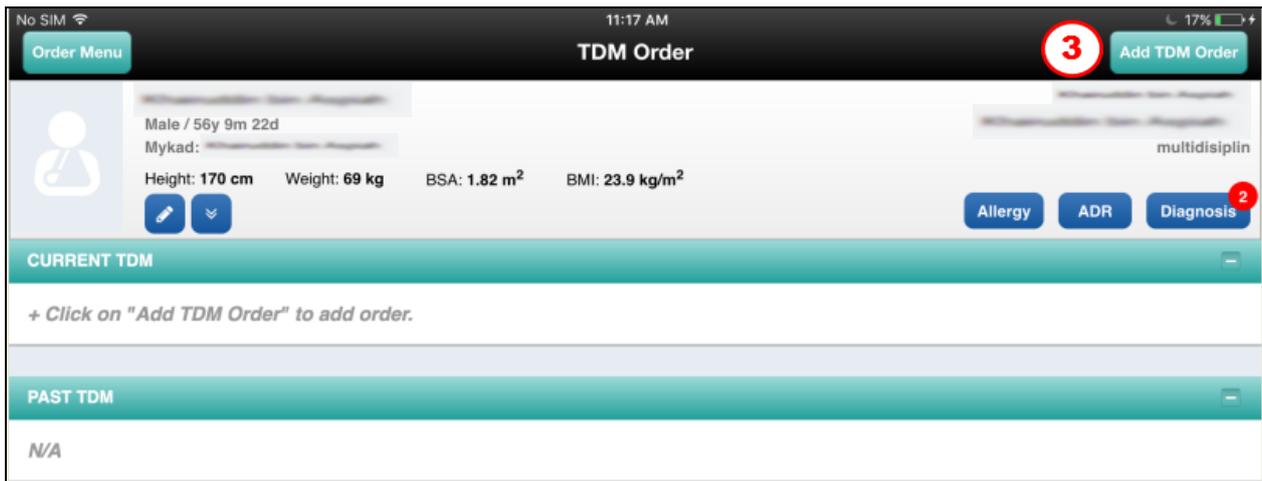
Tap on the **Order Menu**



4.0-2 Medication Order Screen

STEP 2

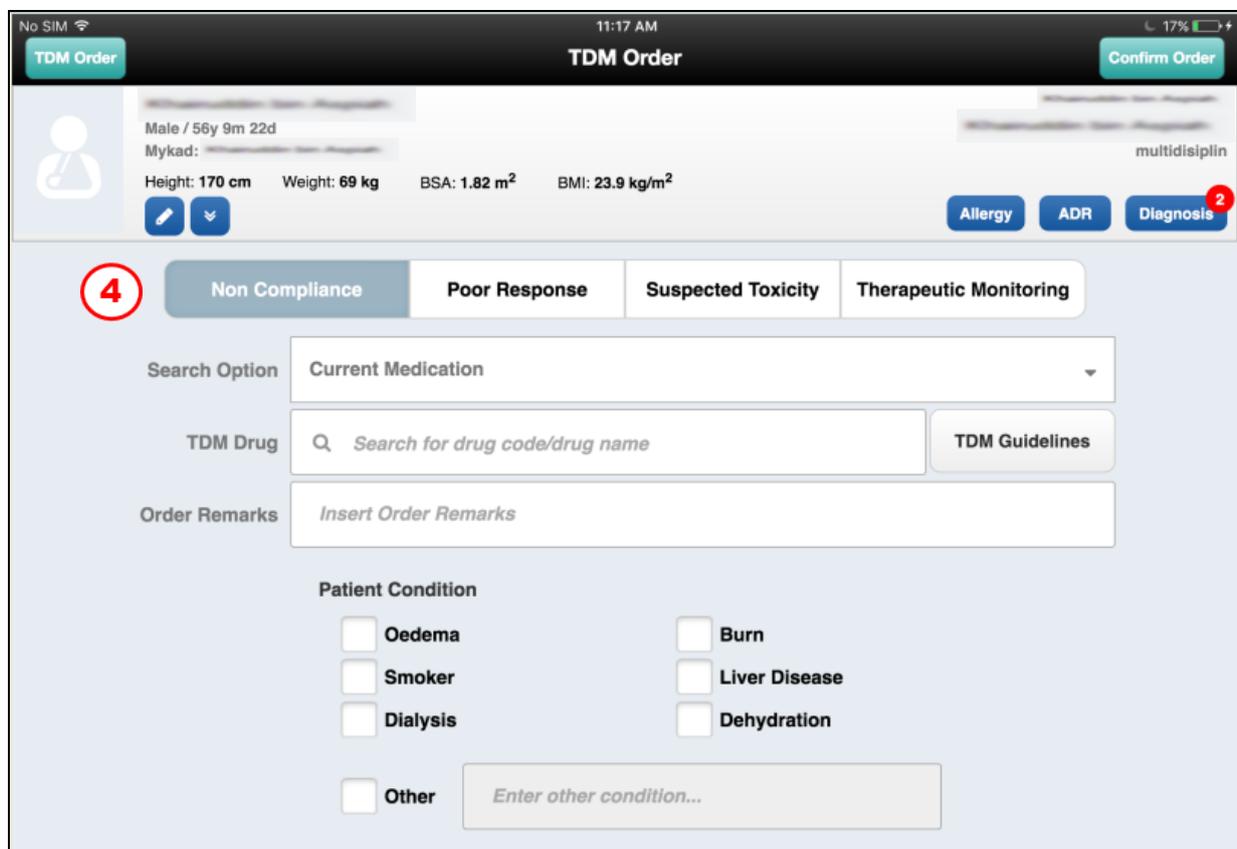
Tap on the **Other Types of Oder**



4.0-3 TDM Order Screen

STEP 3

Tap on the **Add TDM Order** button

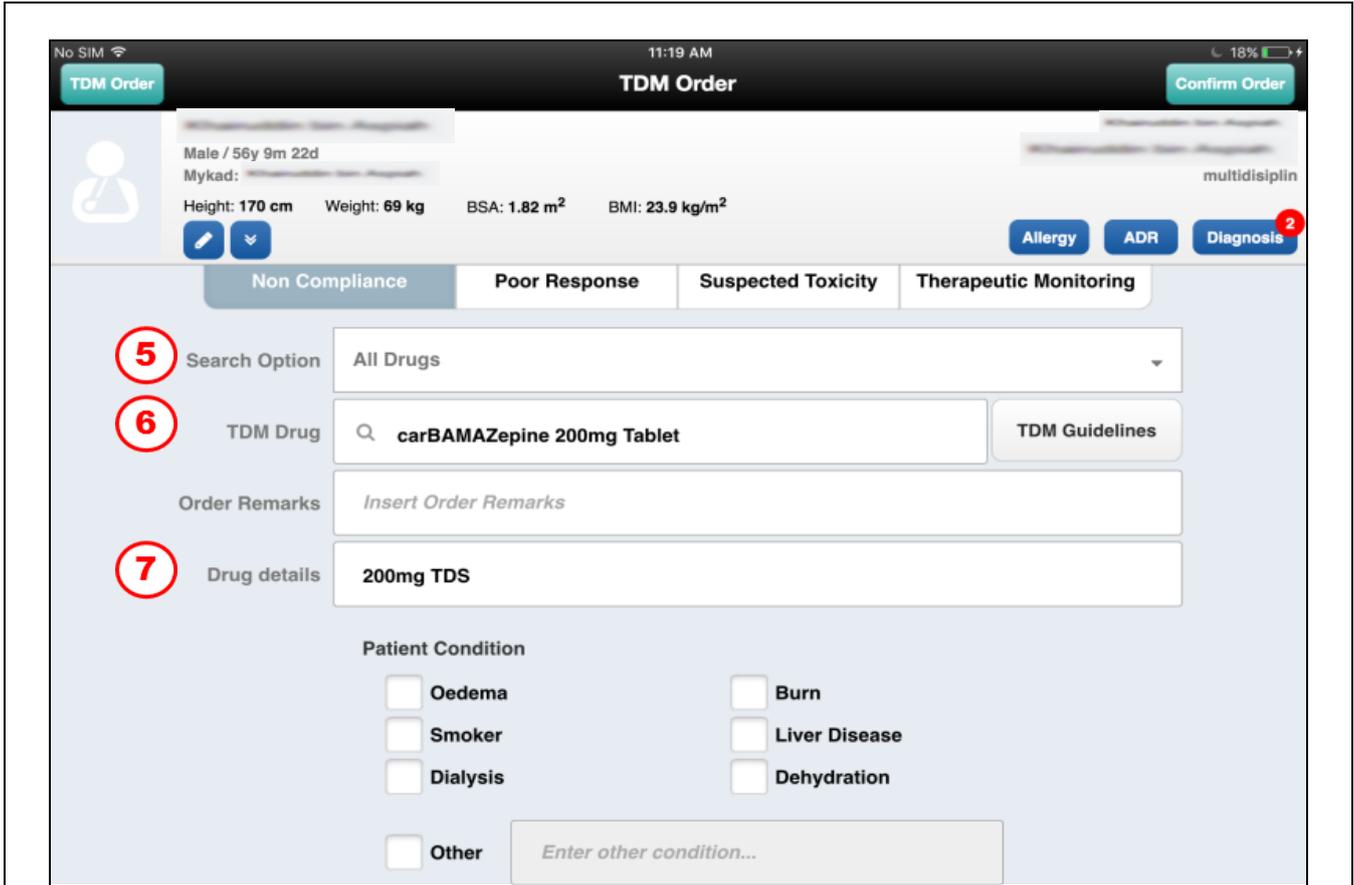


4.0-4 TDM Order Screen

STEP 4

Select indication for request from the **TDM Order** screen

- a) Non Compliance
- b) Poor Response
- c) Suspected Toxicity
- d) Therapeutic Monitoring



4.0-5 TDM Order Screen

STEP 5

Select drug category based on **Search Option** from drop down menu :

- a) Current Medication
- b) Previous Medication
- c) All Drugs

STEP 6

Select drug from **TDM Drug** search field

STEP 7

Enter **Drug details**

Note

- If the selected TDM Drug is the Current Medication or Previous Medication, system will automatically display the Drug Details from medication profile.
- Click on the **TDM Guidelines** button to view TDM Guideline details on the selected TDM Drug as per Figure 4.0-6.
- TDM Guideline master setup is controlled by HQ.
- If the selected Indication for Request is 'Suspected Toxicity', TDM Drug search will default to 'All drugs' which comes from drugs that have been set in TDM Guideline master.
- The Drug Details field will be a free text field for user to enter the current dosage and frequency

Close

TDM Drug	carBAMAZepine 200mg Tablet
Total Cost of Analysis(RM)	0.00
Time to Reach Steady State	2 – 3 weeks (Induction phase)4-7 days (MD)
Remarks	N/A

TDM Guideline Details

Sampling Type	After / Before	Default Time	Lab Order	Therapeutic Range	Uom	Update On
Random	AFTER	30 MINUTES	Carbamazepine random	TROUGH : 4 – 12 mcg / ml	mcg/ml	24/11/2015
Pre	BEFORE	30 MINUTES	Carbamazepine PRE	TROUGH : 4 – 12 mcg / ml	mcg/ml	03/11/2013

4.0-6 TDM Guideline

No SIM
11:24 AM
19%

TDM Order
TDM Order

11
Confirm Order



Male / 56v 9m 22d
Mykad: !

Height: 170 cm Weight: 69 kg BSA: 1.82 m² BMI: 23.9 kg/m²

multidisiplin

Allergy
ADR
Diagnosis ²

Latest Lab Result

Blood Urea <input style="width: 50px;" type="text" value="7"/> mmol/L	Sodium <input style="width: 50px;" type="text" value="135"/> mmol/L	Potassium <input style="width: 50px;" type="text" value="3.5"/> mmol/L
Serum Creatinine <input style="width: 50px;" type="text" value="123"/> µmol/L	Creatinine Clearance <input style="width: 50px;" type="text" value="57.96"/> ml/min	Albumin <input style="width: 50px;" type="text" value="3.5"/> g/L

Sampling Details

Sampling Type

- no remarks -

Drug Admin Date/Time

Sampling Time

Add Order

4.0-7 TDM Guideline

STEP 8

Enter **Latest Lab Result** which consists of:

- a) Blood Urea
- b) Sodium
- c) Potassium
- d) Serum Creatinine
- e) Creatinine Clearance
- f) Albumin

STEP 9

Select **Sampling Type** from dropdown box:

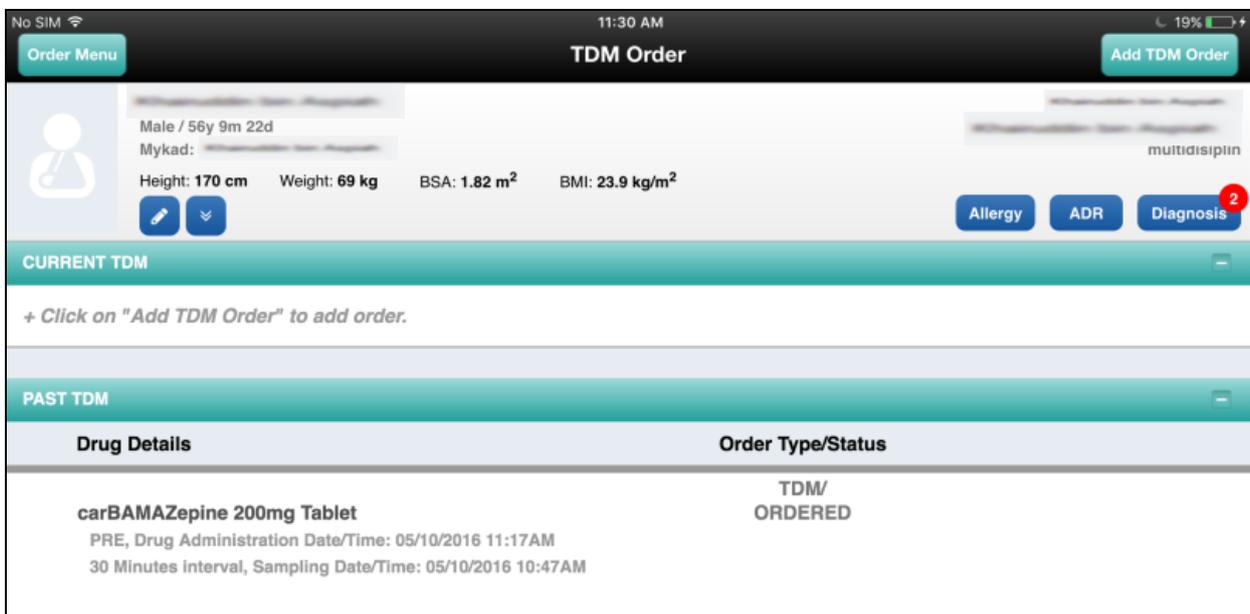
- Pre
- Post
- Random

STEP 10

Tap on the  button

STEP 11

Tap on the  to send the order to pharmacy



4.0-8 TDM Guideline

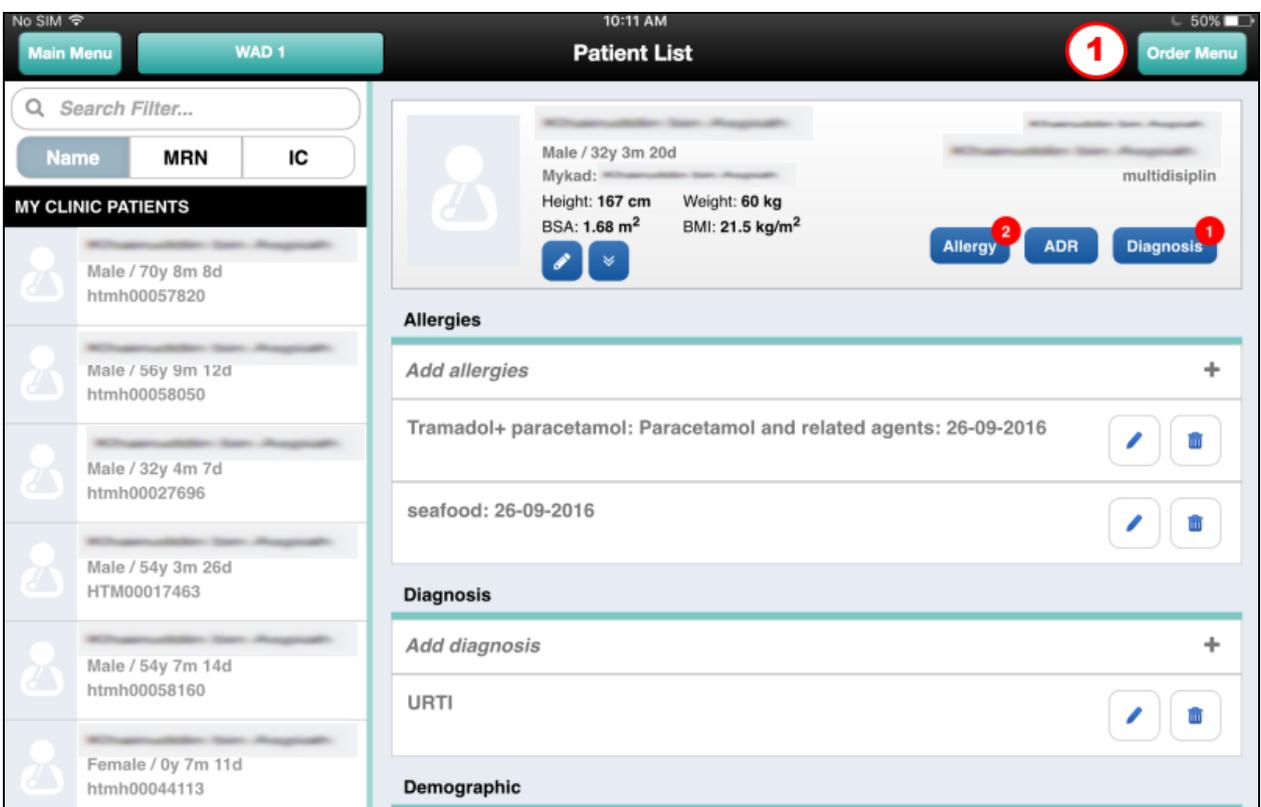
Note

Confirmed TDM Order as shown in Figure 4.0-8

5.0 Infusion

This is a function for a prescriber to order injectable medication that requires further dilution before administration. However, it is only applicable for medication that are diluted by pharmacist department. If the dilution is prepared by nursing personnel, the use of normal order is required.

5.1 IV Admixture



The screenshot displays the 'Patient List' interface. On the left, there is a search filter and a list of patients under 'MY CLINIC PATIENTS'. The right side shows a detailed view of a patient, including their demographic information (Male / 32y 3m 20d, Mykad, Height: 167 cm, Weight: 60 kg, BSA: 1.68 m², BMI: 21.5 kg/m²), a multidisciplinary team, and sections for Allergies (Tramadol+ paracetamol, seafood) and Diagnosis (URTI). A red circle with the number 1 highlights the 'Order Menu' button in the top right corner.

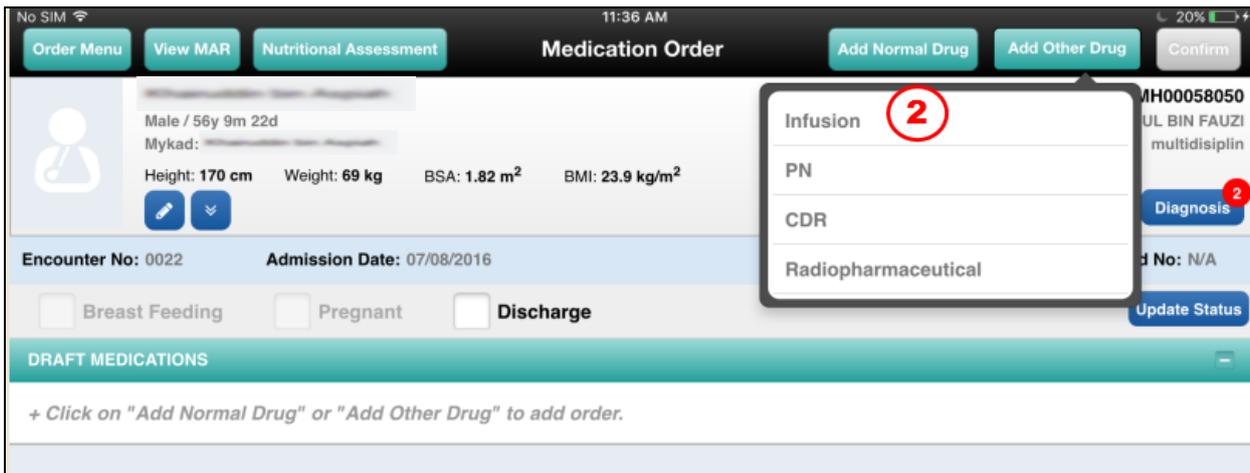
5.0-1 Order Screen

Note

Repeat **step 1** until **step 3** as 3.1.1 record allergy section

STEP 1

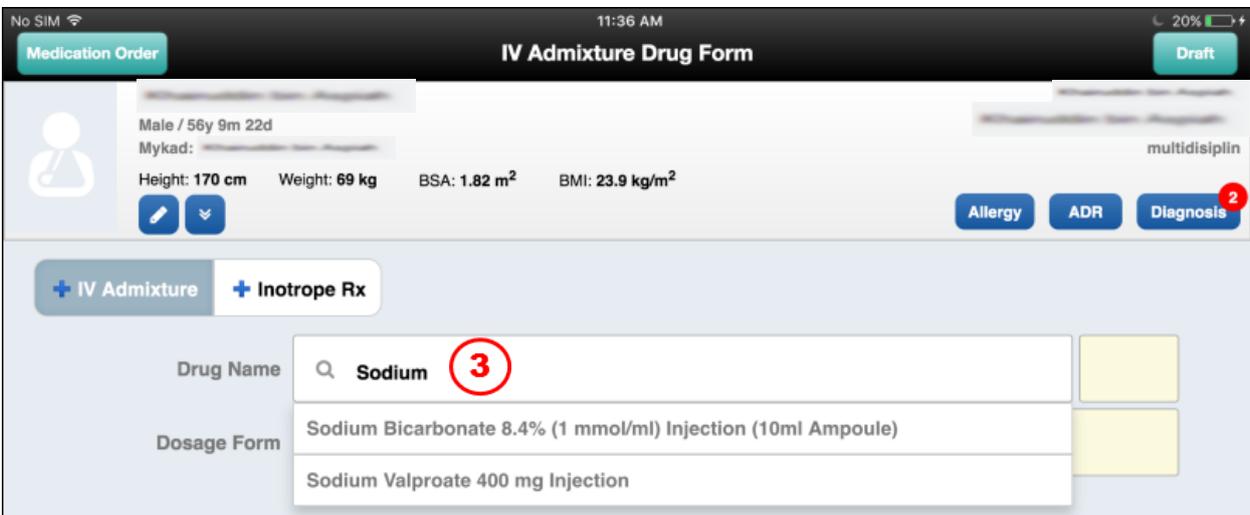
Tap on the 



5.0-2 Order Screen

STEP 2

Tap on the **Infusion** menu



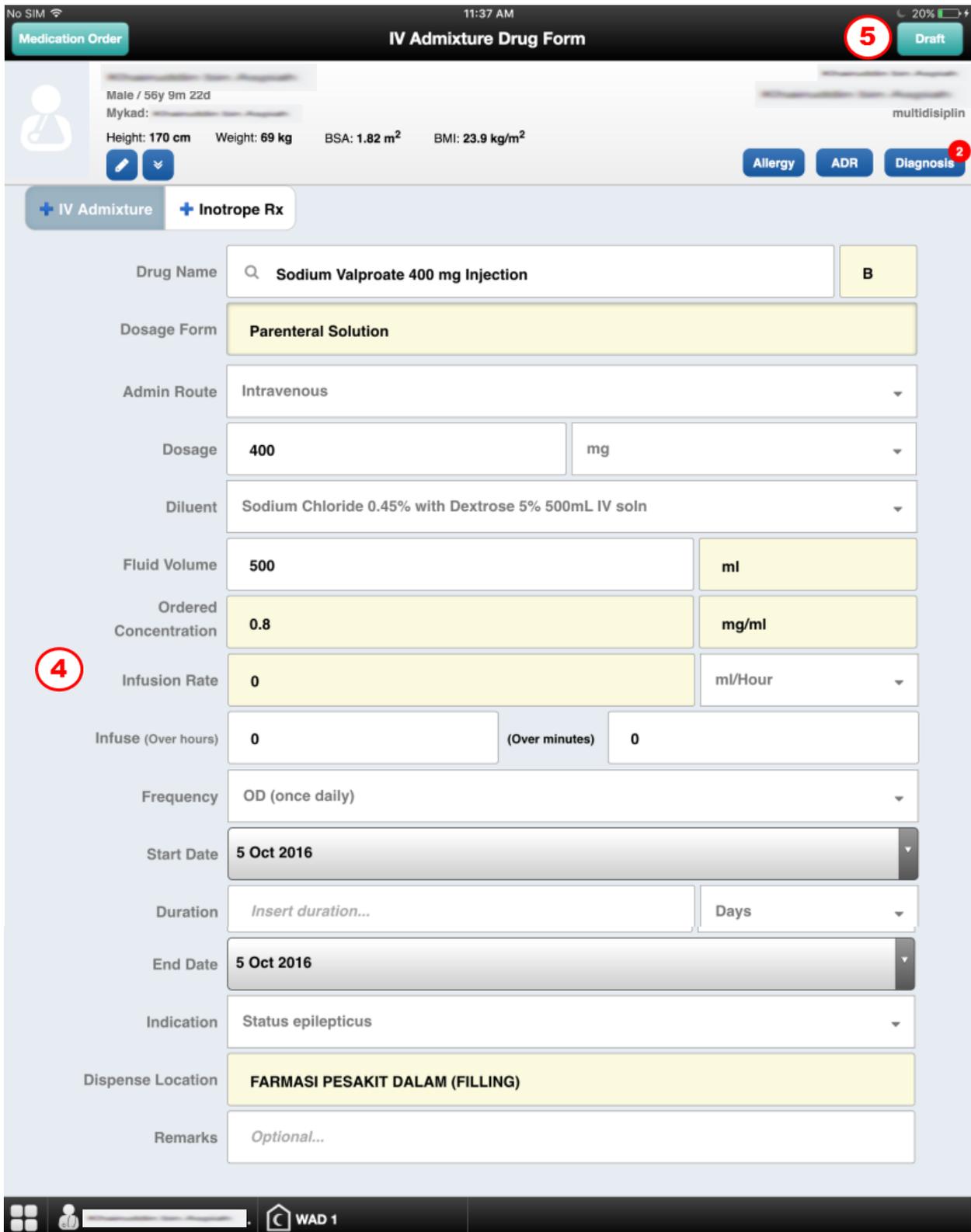
5.0-3 IV Admixture Order Screen

Note

User will have option to prescribe **IV Admixture** or **Inotrope Rx** but by default system will displayed **IVAdmixture screen**

STEP 3

Enter the keyword of **Drug Name** and tap on the selected drug



Medication Order 5 Draft

IV Admixture Drug Form

Male / 56y 9m 22d
Mykad: [redacted] multidisiplin

Height: 170 cm Weight: 69 kg BSA: 1.82 m² BMI: 23.9 kg/m²

Allergy **ADR** **Diagnosis** ²

+ IV Admixture + Inotrope Rx

Drug Name: Sodium Valproate 400 mg Injection B

Dosage Form: Parenteral Solution

Admin Route: Intravenous

Dosage: 400 mg

Diluent: Sodium Chloride 0.45% with Dextrose 5% 500mL IV soln

Fluid Volume: 500 ml

Ordered Concentration: 0.8 mg/ml

4 Infusion Rate: 0 ml/Hour

Infuse (Over hours): 0 (Over minutes): 0

Frequency: OD (once daily)

Start Date: 5 Oct 2016

Duration: Insert duration... Days

End Date: 5 Oct 2016

Indication: Status epilepticus

Dispense Location: FARMASI PESAKIT DALAM (FILLING)

Remarks: Optional...

WAD 1

5.0-4 IV Admixture Order Screen

Note

- **End Date/Time** is defaulted by the system according to duration.
- Information on **IV Admixture** screen will be automatically calculated based on the master setup.
- $Infusion\ Rate = Fluid\ Volume / Infuse\ Over.$

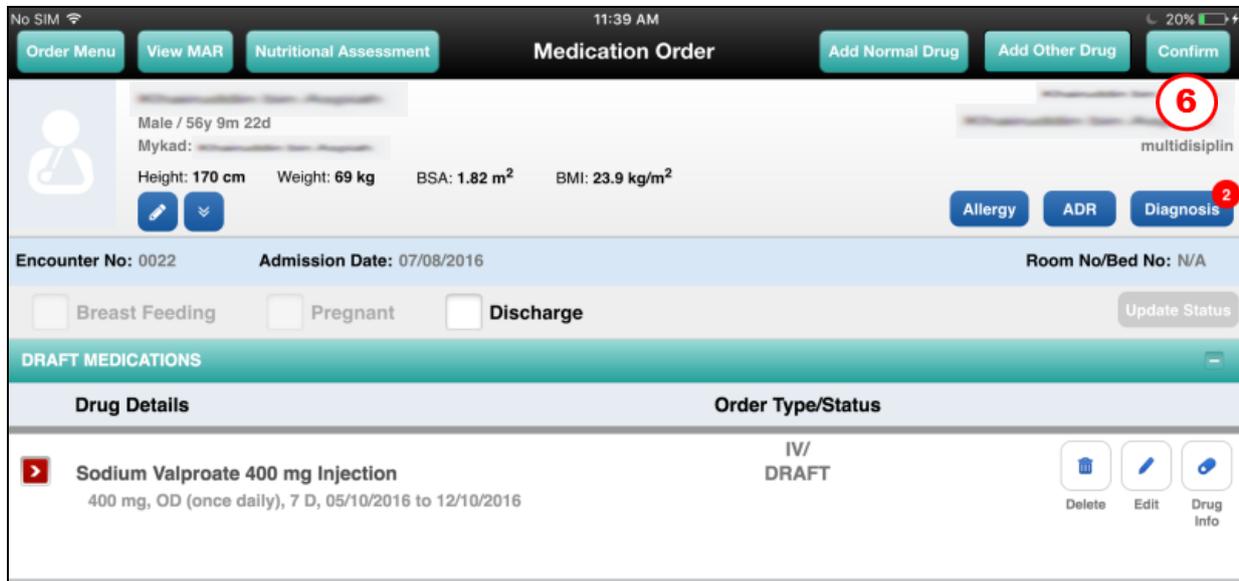
- *Ordered Concentration = Dosage / Fluid Volume.*

STEP 4

Enter all the necessary information

STEP 5

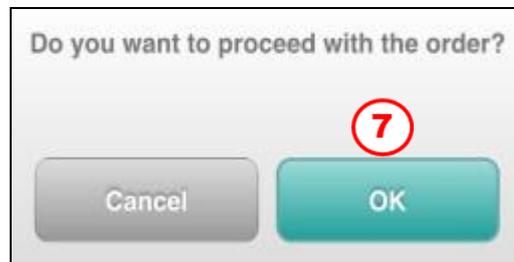
Tap on the  button to save the prescription



5.0-5 IV Admixture Order Screen

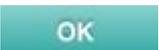
STEP 6

Tap on the  button to add the prescription

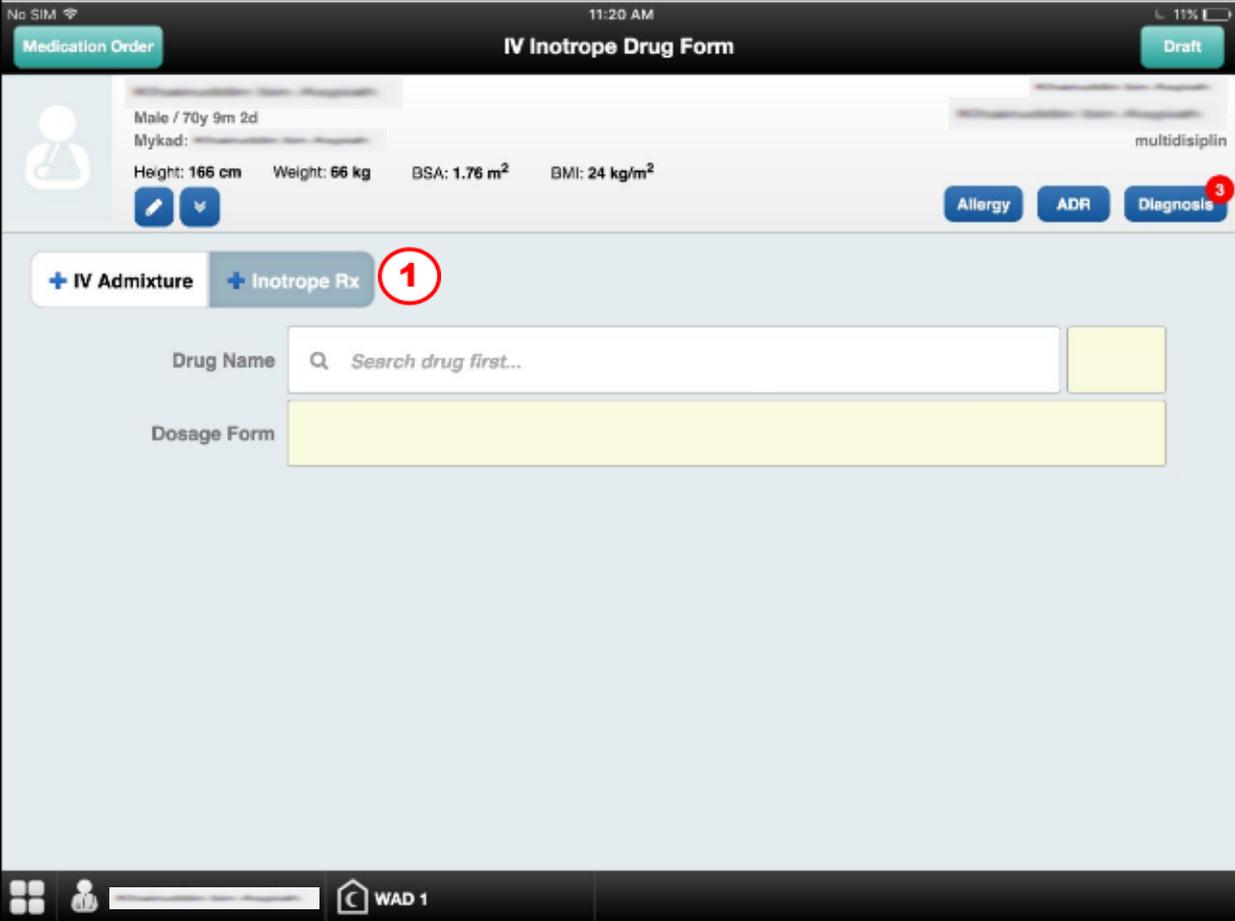


5.0-6 IV Admixture Order Screen

STEP 7

Tap on the  button to proceed with the order

5.2 Inotrope



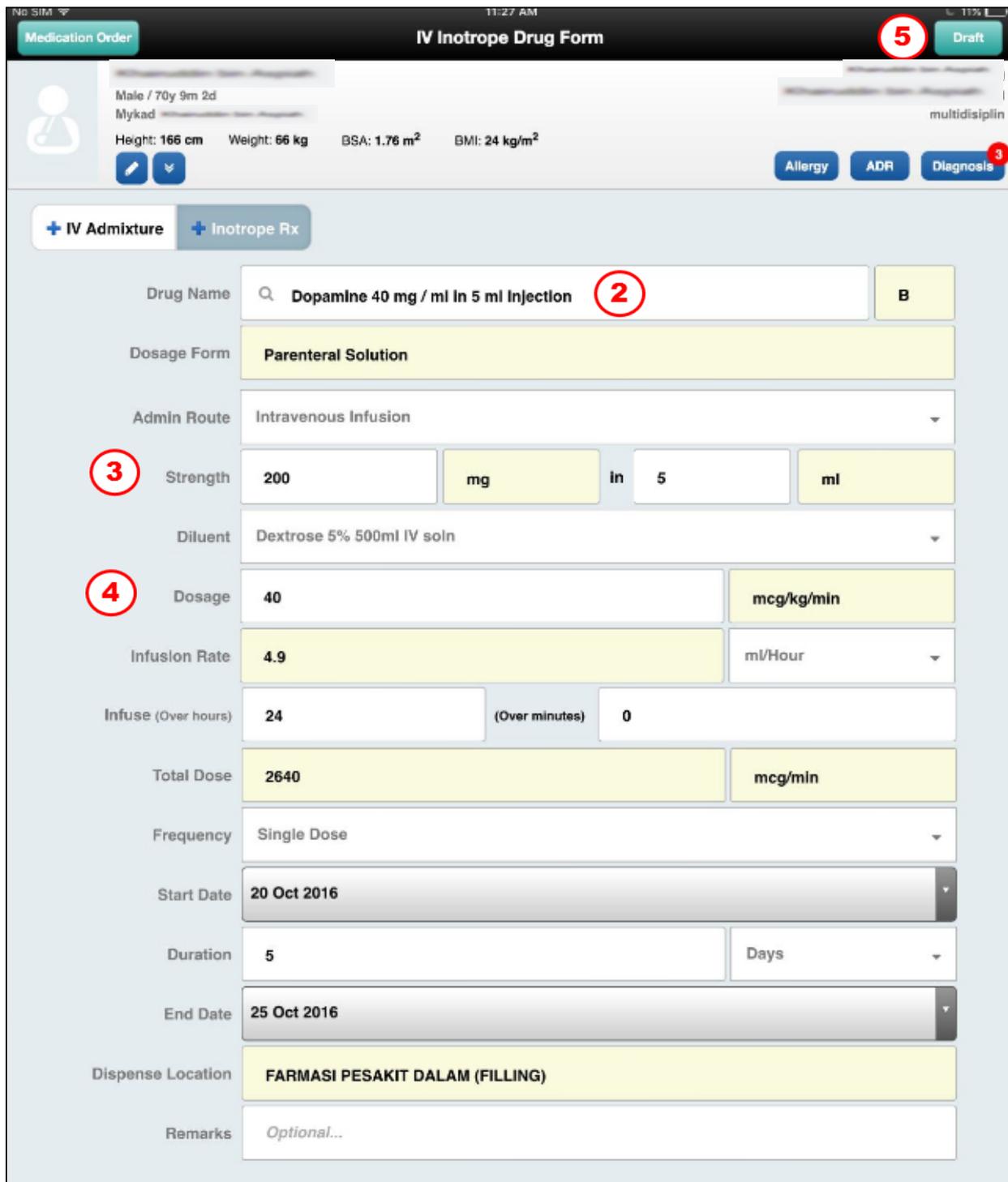
5.2-1 IV Admixture Order Screen

Note

- Repeat **Step 1** until **Step 3** as 3.1.1 record allergy section.
- Repeat **Step 1** until **Step 2** as section 5.1 Iv Admixture.

STEP 1

Tap on the  tab



Medication Order IV Inotrope Drug Form 5 Draft

Male / 70y 9m 2d
Mykad
Height: 166 cm Weight: 66 kg BSA: 1.76 m² BMI: 24 kg/m²
multidisiplin

Allergy ADR Diagnosis 3

+ IV Admixture + Inotrope Rx

Drug Name B 2

Dosage Form

Admin Route

3 Strength mg in ml

Diluent

4 Dosage mcg/kg/min

Infusion Rate ml/Hour

Infuse (Over hours) (Over minutes)

Total Dose mcg/min

Frequency

Start Date

Duration Days

End Date

Dispense Location

Remarks

5.2-2 IV Admixture Order Screen

STEP 2

Enter the keyword of **Drug Name** and tap on the selected drug

STEP 3

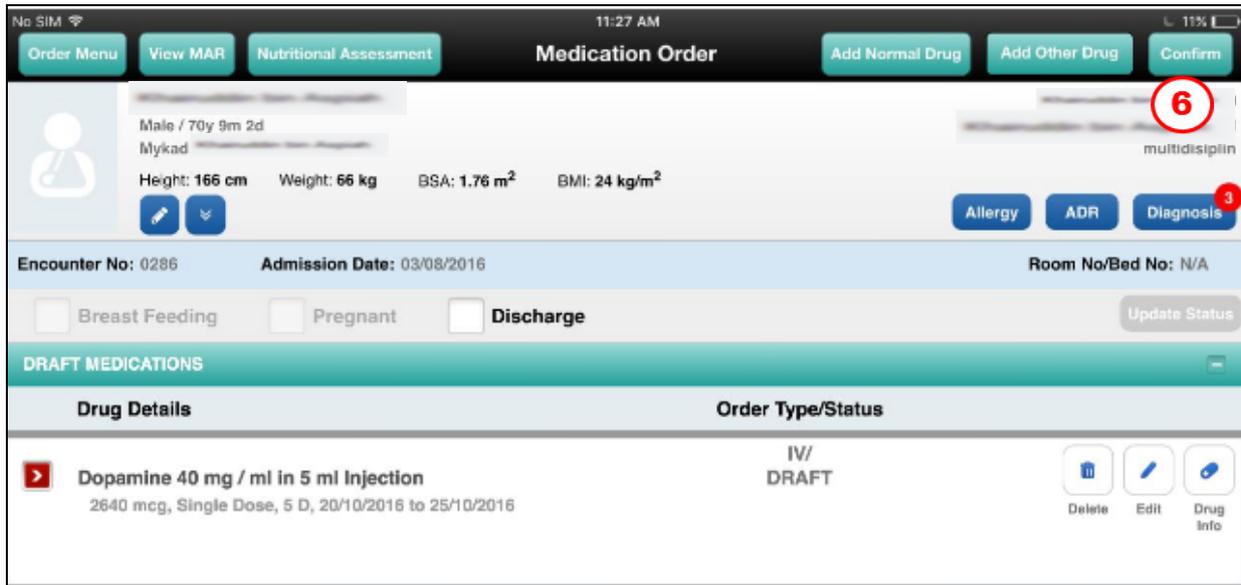
Decide the strength of preparation e.g. 200mg in 50ml

STEP 4

Decide the dose required e.g. mcg/kg/min

STEP 5

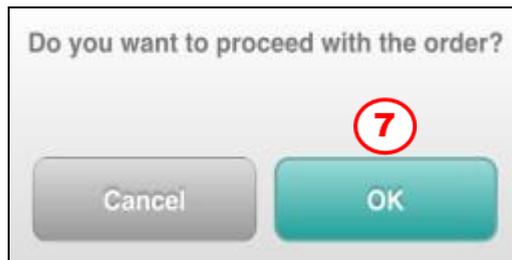
Tap on the **Draft** button to save the prescription



5.2-3 IV Admixture Order Screen

STEP 6

Tap on the **Confirm** button to add the prescription



5.2-4 IV Admixture Order Screen

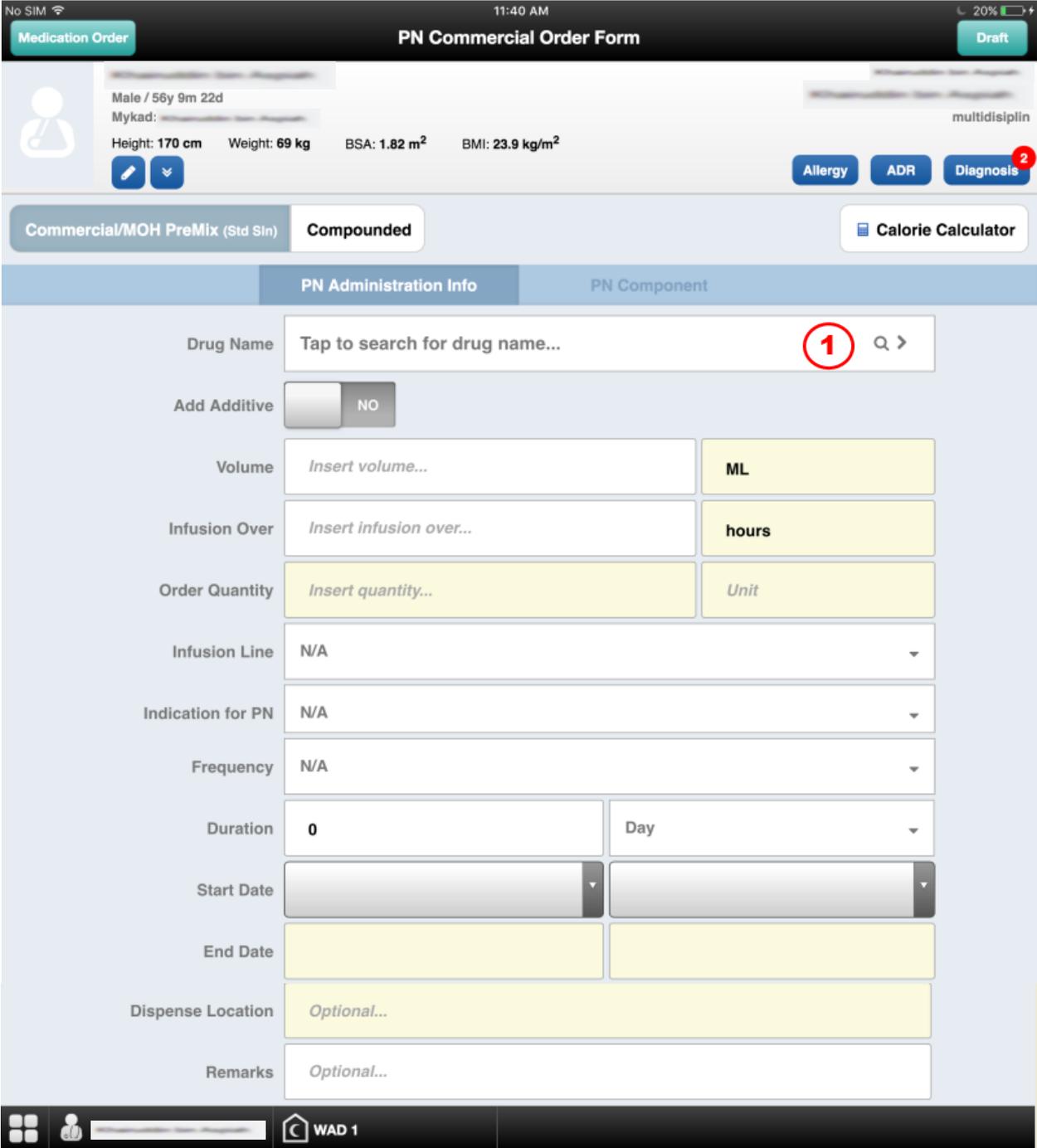
STEP 7

Tap on the **OK** button to proceed with the order

6.0 Parenteral Nutrition (PN)

6.1 Commercial / MOH PreMix

Commercial / MOH Pre Mix (Std. Soln) allow user to order ready made product from manufacturer or facility.



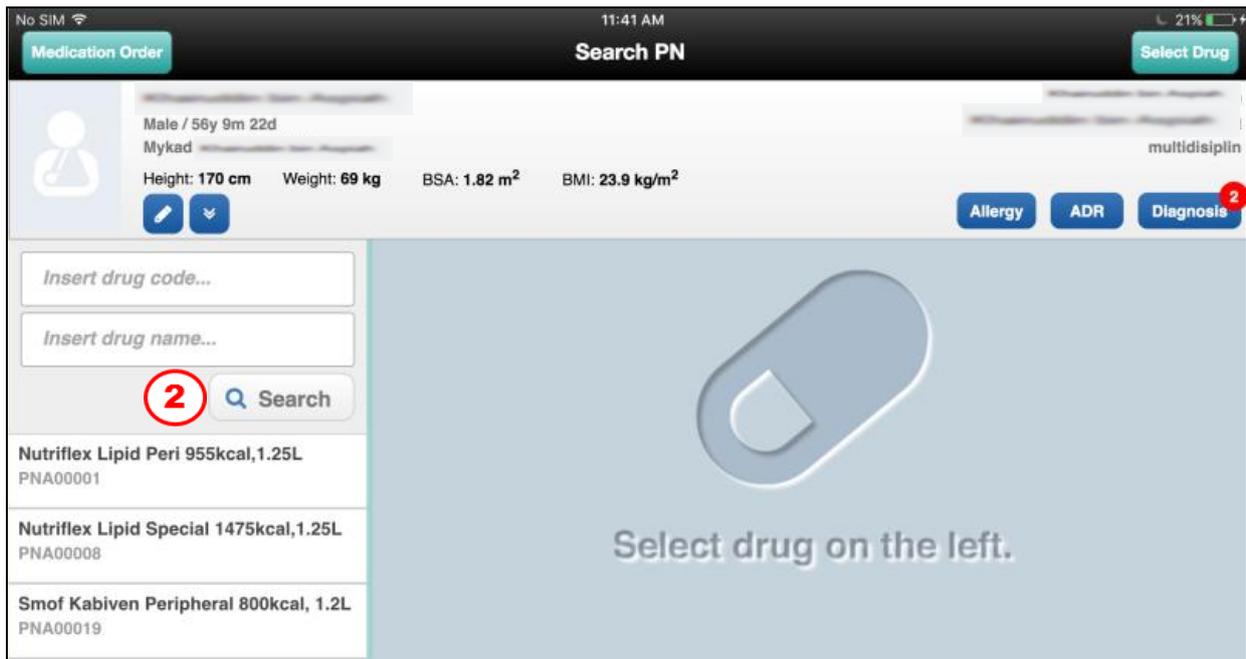
6.1-1 PN Order Screen

Note

Repeat **step 1** until **step 3** as 3.1.1 record allergy section

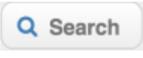
STEP 1

Tap on the **Drug Name** search field



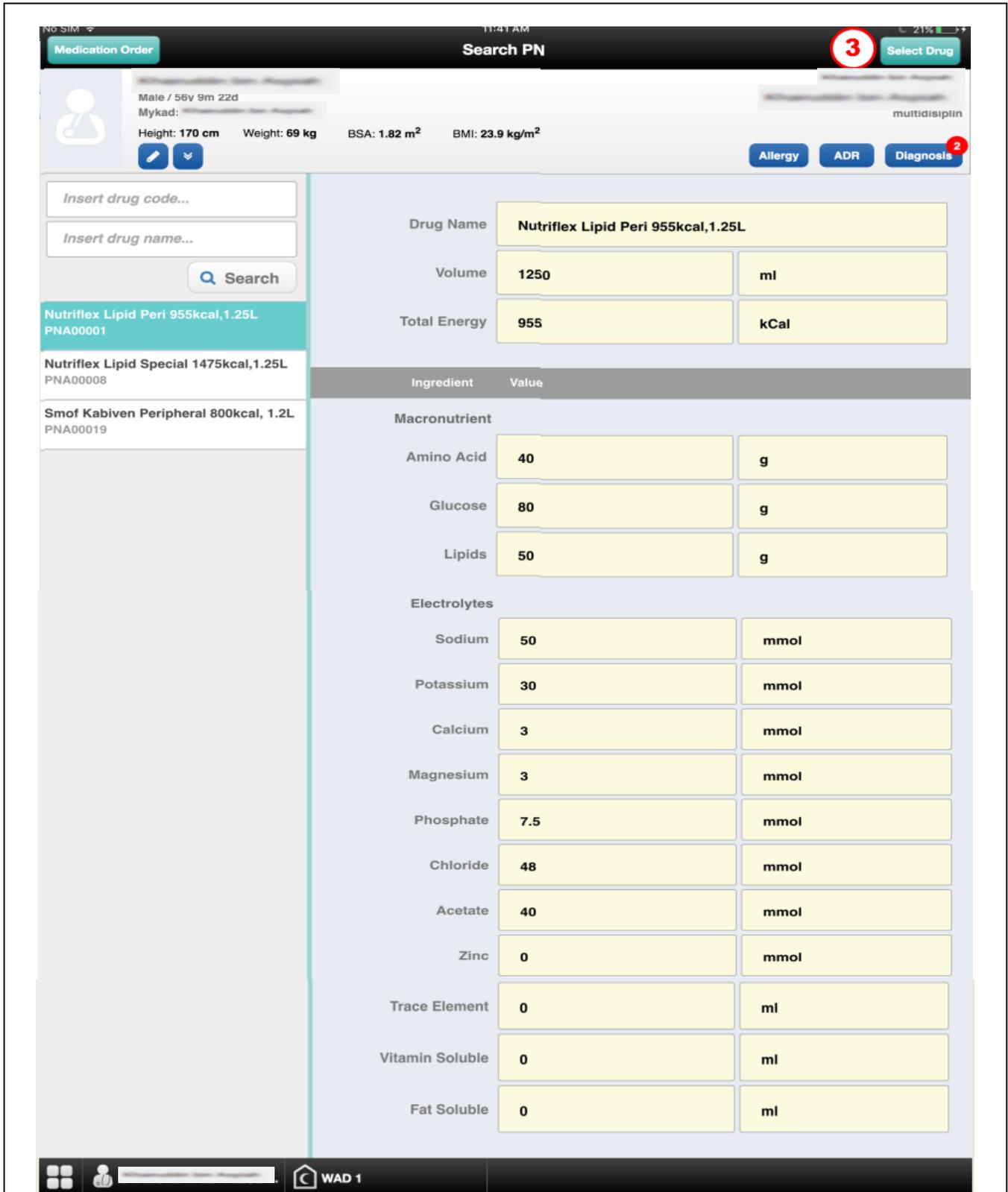
6.1-2 PN Order Screen

STEP 2

Tap on the  button to select drug

Note

- To search for existing product record(s), you may search by criteria as follow:
 - Drug Code
 - Drug Name
- User may tap on the listed commercial drugs to view the component of the PN bag as per Figure 6.1-3



Medication Order Search PN 3 **Select Drug**

Male / 56y 9m 22d
Mykad: [redacted] multidisiplin

Height: 170 cm Weight: 69 kg BSA: 1.82 m² BMI: 23.9 kg/m²

Insert drug code...
Insert drug name...

- Nutriflex Lipid Peri 955kcal,1.25L** PNA00001
- Nutriflex Lipid Special 1475kcal,1.25L** PNA00008
- Smof Kabiven Peripheral 800kcal, 1.2L** PNA00019

Drug Name: Nutriflex Lipid Peri 955kcal,1.25L

Volume: 1250 ml

Total Energy: 955 kCal

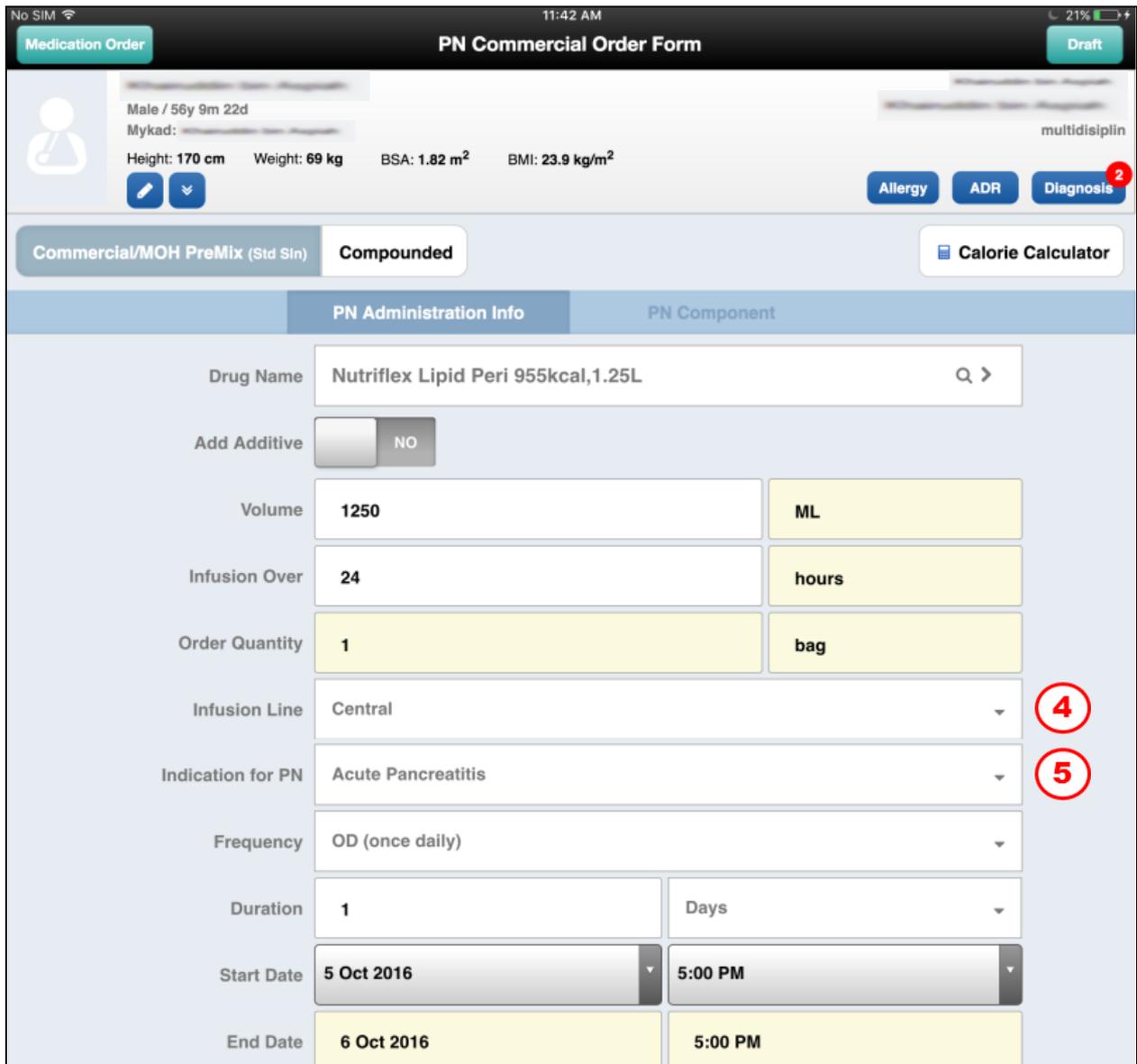
Ingredient	Value	
Macronutrient		
Amino Acid	40	g
Glucose	80	g
Lipids	50	g
Electrolytes		
Sodium	50	mmol
Potassium	30	mmol
Calcium	3	mmol
Magnesium	3	mmol
Phosphate	7.5	mmol
Chloride	48	mmol
Acetate	40	mmol
Zinc	0	mmol
Trace Element	0	ml
Vitamin Soluble	0	ml
Fat Soluble	0	ml

WAD 1

6.1-3 PN Component Screen

STEP 3

Tap on the **Select Drug** button



Medication Order 11:42 AM 21%

PN Commercial Order Form Draft

Male / 56y 9m 22d
Mykad: [redacted] multidisiplin

Height: 170 cm Weight: 69 kg BSA: 1.82 m² BMI: 23.9 kg/m²

Commercial/MOH PreMix (Std Sln) **Compounded** Calorie Calculator

PN Administration Info PN Component

Drug Name: Nutriflex Lipid Peri 955kcal,1.25L Q >

Add Additive: NO

Volume: 1250 ML

Infusion Over: 24 hours

Order Quantity: 1 bag

Infusion Line: Central 4

Indication for PN: Acute Pancreatitis 5

Frequency: OD (once daily)

Duration: 1 Days

Start Date: 5 Oct 2016 5:00 PM

End Date: 6 Oct 2016 5:00 PM

6.1-4 PN Order Screen

Note

- All information will automatically display and base on the information from PN Source Content and PN Constituents Reference Range.
- This field still can be change by the user if applicable.
- Start Date/Time and will be automatically default to current date but still can be change by the user if applicable.
- End Date/Time will be displayed according to duration product given.
- Order Quantity will be automatically displayed and base on the information from PN Source Content and PN Constituents Reference Range.

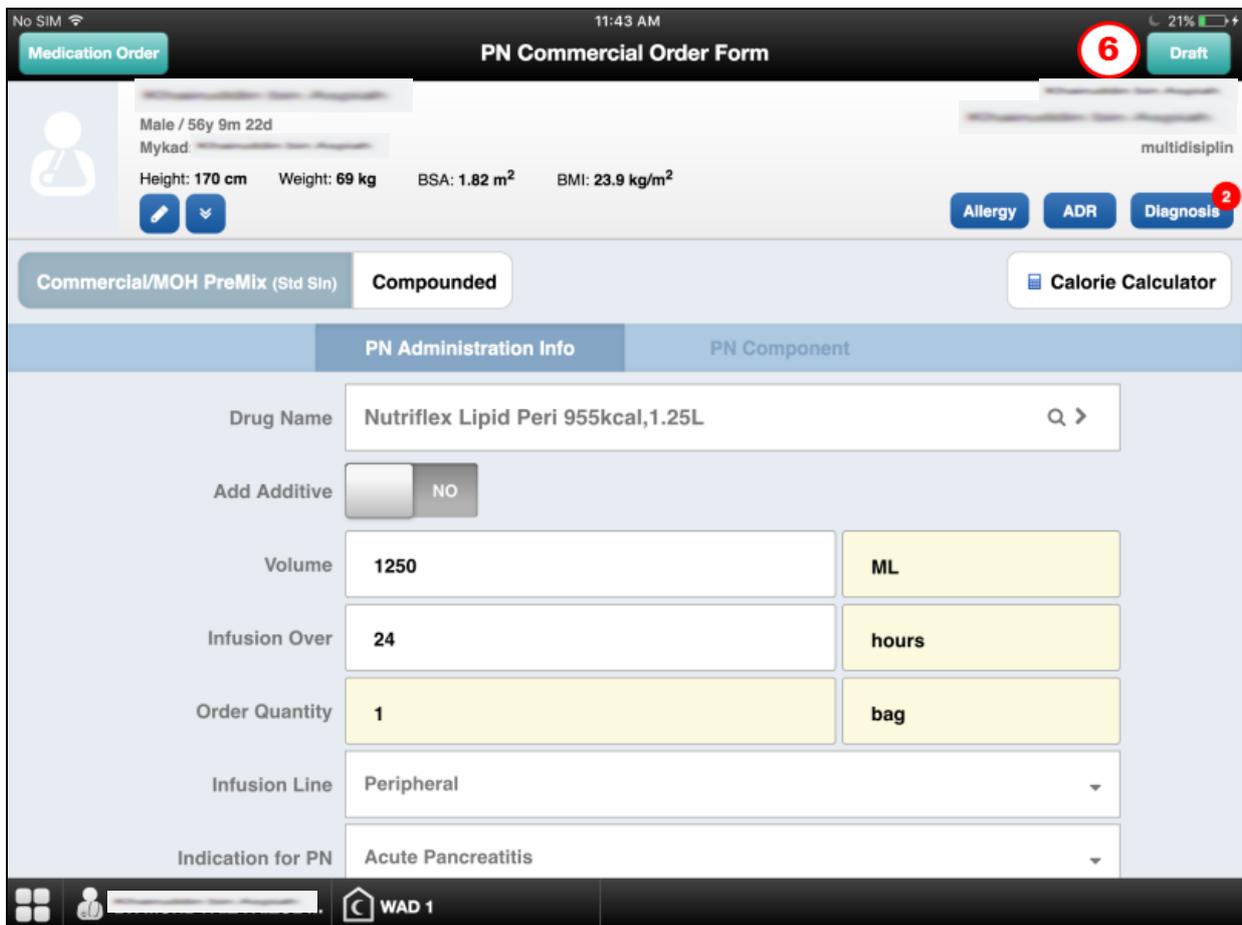
STEP 4

Select **Infusion Line** from drop down menu

- Central
- Peripheral
- Plan for central

STEP 5

Select **Indication for PN** from the dropdown menu

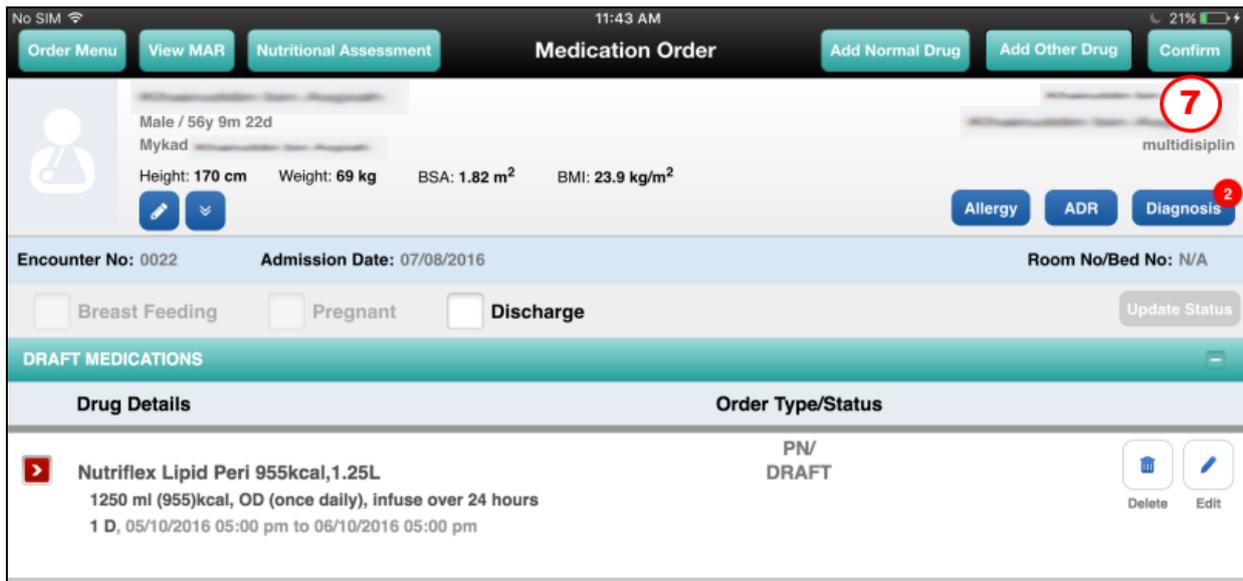


The screenshot shows the 'PN Commercial Order Form' interface. At the top, there is a 'Medication Order' button and a 'Draft' button with a red '6' notification. The patient information section includes: Male / 56y 9m 22d, Mykad, Height: 170 cm, Weight: 69 kg, BSA: 1.82 m², BMI: 23.9 kg/m², and a 'multidisiplin' status. There are buttons for 'Allergy', 'ADR', and 'Diagnosis' (with a red '2' notification). Below this, there are tabs for 'Commercial/MOH PreMix (Std Sin)' and 'Compounded', along with a 'Calorie Calculator' button. The main form is divided into 'PN Administration Info' and 'PN Component' sections. The 'PN Administration Info' section contains: Drug Name (Nutriflex Lipid Peri 955kcal,1.25L), Add Additive (NO), Volume (1250), Infusion Over (24), Order Quantity (1), Infusion Line (Peripheral), and Indication for PN (Acute Pancreatitis). The 'PN Component' section is currently empty. At the bottom, there is a navigation bar with a home icon and 'WAD 1'.

6.1-5 PN Order Screen

STEP 6

Tap on the  button to save the prescription



6.1-6 PN Order Screen

STEP 7

Tap on the  button to add the prescription



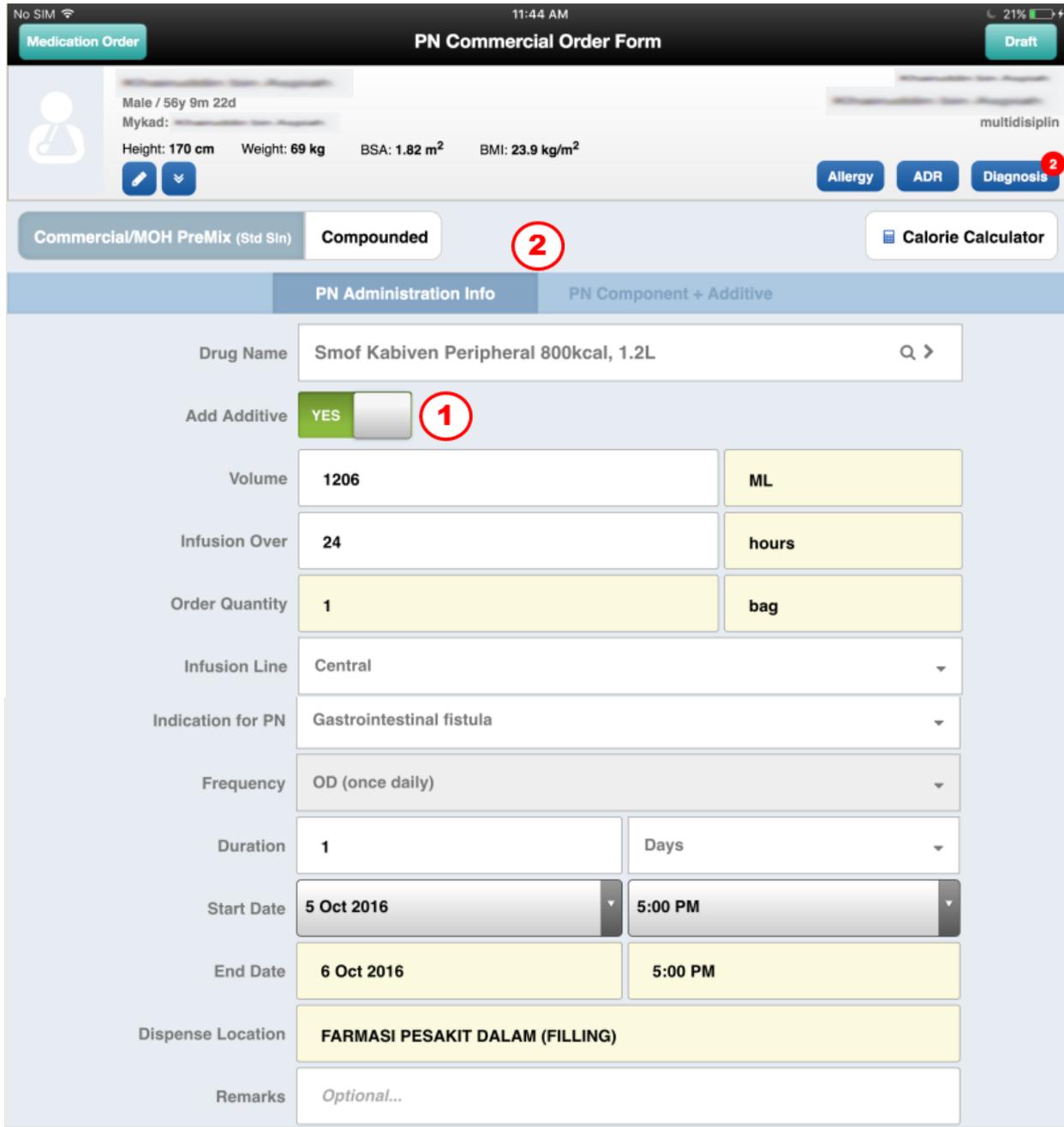
6.1-7 PN Alert Order Screen

STEP 8

Tap on the  button to proceed with the order

6.2 Commercial Add Additive

Commercial / MOH Pre Mix (Std. Soln) allow user to order readymade product with additional PN component.



The screenshot displays the 'PN Commercial Order Form' interface. At the top, there's a 'Medication Order' button and a 'Draft' button. Patient information includes 'Male / 56y 9m 22d', 'Mykad:', 'Height: 170 cm', 'Weight: 69 kg', 'BSA: 1.82 m²', and 'BMI: 23.9 kg/m²'. There are buttons for 'Allergy', 'ADR', and 'Diagnosis' (with a red '2' notification). Below this, there are tabs for 'Commercial/MOH PreMix (Std Soln)' and 'Compounded' (with a red '2' notification), and a 'Calorie Calculator' button. The main form is divided into 'PN Administration Info' and 'PN Component + Additive'. The 'Drug Name' is 'Smof Kabiven Peripheral 800kcal, 1.2L'. The 'Add Additive' toggle is set to 'YES' (with a red '1' notification). Other fields include 'Volume: 1206 ML', 'Infusion Over: 24 hours', 'Order Quantity: 1 bag', 'Infusion Line: Central', 'Indication for PN: Gastrointestinal fistula', 'Frequency: OD (once daily)', 'Duration: 1 Days', 'Start Date: 5 Oct 2016 5:00 PM', 'End Date: 6 Oct 2016 5:00 PM', 'Dispense Location: FARMASI PESAKIT DALAM (FILLING)', and 'Remarks: Optional...'

6.2-1 PN Order Screen

Note

- Repeat **step 1** until **step 3** as 3.1.1 record allergy section
- Repeat **step 1** until **step 3** as 6.3 Commercial / MOH PreMix

STEP 1

Tap on the YES box

STEP 2

Tap on the **PN component + Add Addictive** tab

No SIM
11:47 AM
21%

Medication Order
PN Commercial Order Form
Draft

Male / 56y 9m 22d
Mykad: XXXXXXXXXX

Height: 170 cm Weight: 69 kg BSA: 1.82 m² BMI: 23.9 kg/m²

multidisiplin

Allergy
ADR
Diagnosis 2

Commercial/MOH PreMix (Std Sin)
Compounded
Calorie Calculator

PN Administration Info		PN Component + Additive	
Electrolytes	Requirement Per Day	Per Bag(Per Ordering)	
Sodium(Natrium), Na+	<input type="text" value="40"/> mmol	<input type="text" value="30(30)"/>	mmol
Potassium(Kalium), K+	<input type="text"/> mmol	<input type="text" value="23(23)"/>	mmol
Calcium, Ca ²⁺	<input type="text" value="30"/> mmol	<input type="text" value="1.9(1.90)"/>	mmol
Magnesium, Mg+	<input type="text"/> mmol	<input type="text" value="3.8(3.80)"/>	mmol
Phosphate, (PO ₄) ²⁻	<input type="text"/> mmol	<input type="text" value="9.9(9.90)"/>	mmol
Acetate, CH ₃ COO	<input type="text" value="90"/> mmol	<input type="text" value="79(79)"/>	mmol
Trace Elements	<input type="text"/> ml	<input type="text" value="0(0)"/>	ml
L-Glutamin	<input type="text"/> ml	<input type="text" value="0"/>	ml

Single Vitamin
Multi Vitamin

Vitamin	Standard Content Per Bag	Add Extra Per Bag
Water Soluble	<input type="text"/> ml	<input type="text" value="0(0)"/> ml
Fat Soluble	<input type="text"/> ml	<input type="text" value="0(0)"/> ml

WAD 1

6.2-2 PN Order Screen

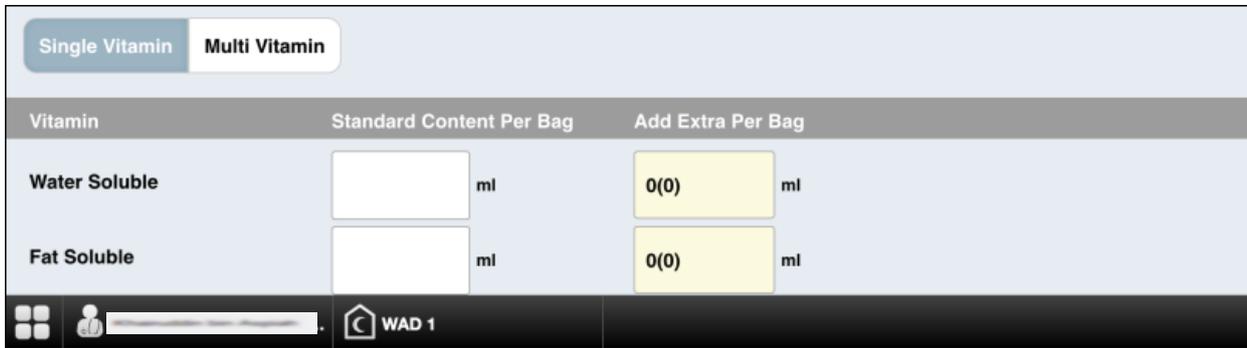
Note

- User need to enter total electrolytes required for patient per day.
- All value must be more than per bag ordering.
- All value in all **Per Bag (Per Ordering)** field will automatically default by system.
- Select Single Vitamin radio button. **Water soluble** and **Fat soluble** field will automatically display as per Figure 6.2-3.

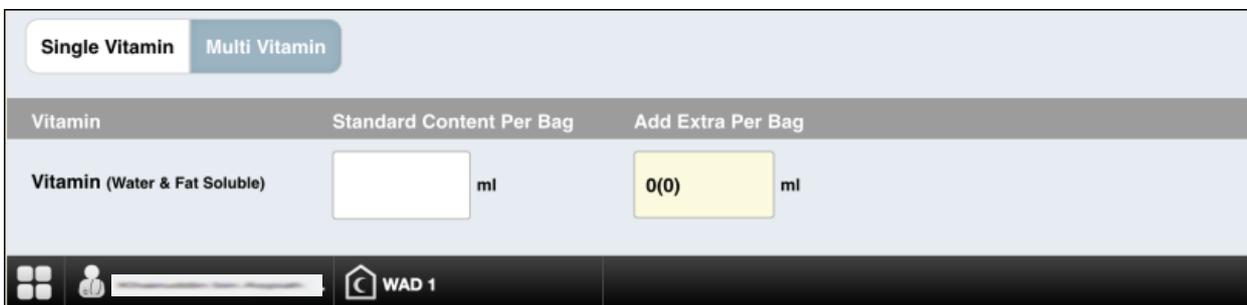
FB_U. MANUAL_MEDICATION_ORDER_MOBILE-9thE

Page 76

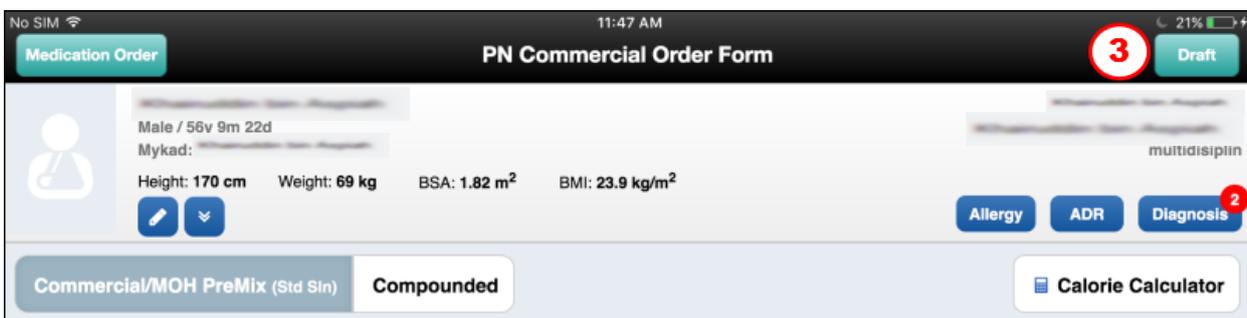
- Select **Multi Vitamin** radio button. **Vitamin(Water and Fat soluble)** field will automatically display as per Figure 3.2-4.
- All value in all **Per Bag (Per Ordering)** field will automatically default by system.



6.2-3 Single Vitamin Screen



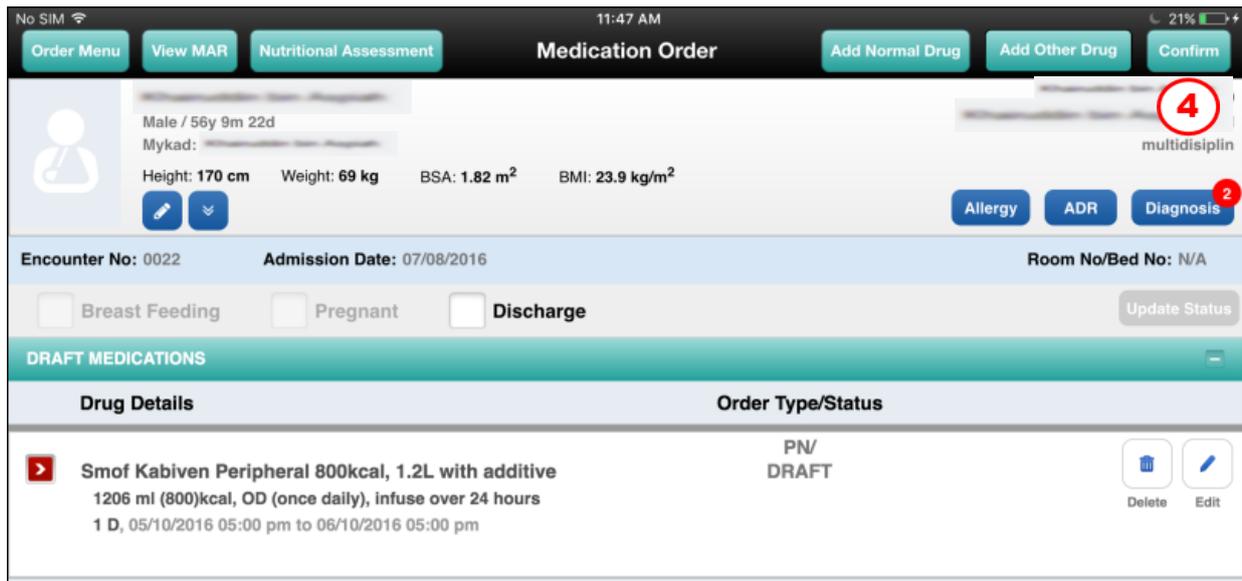
6.2-4 Multi Vitamin Screen



6.2-5 Multi Vitamin Screen

STEP 3

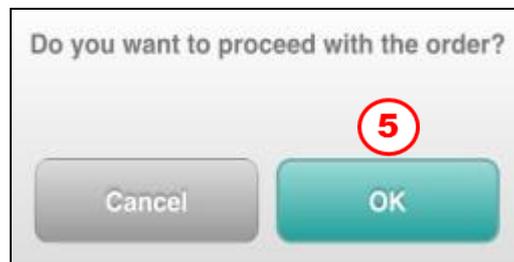
Tap on the **Draft** button to save the prescription



6.2-6 Order Screen

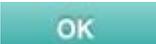
STEP 4

Tap on the  button to add the prescription



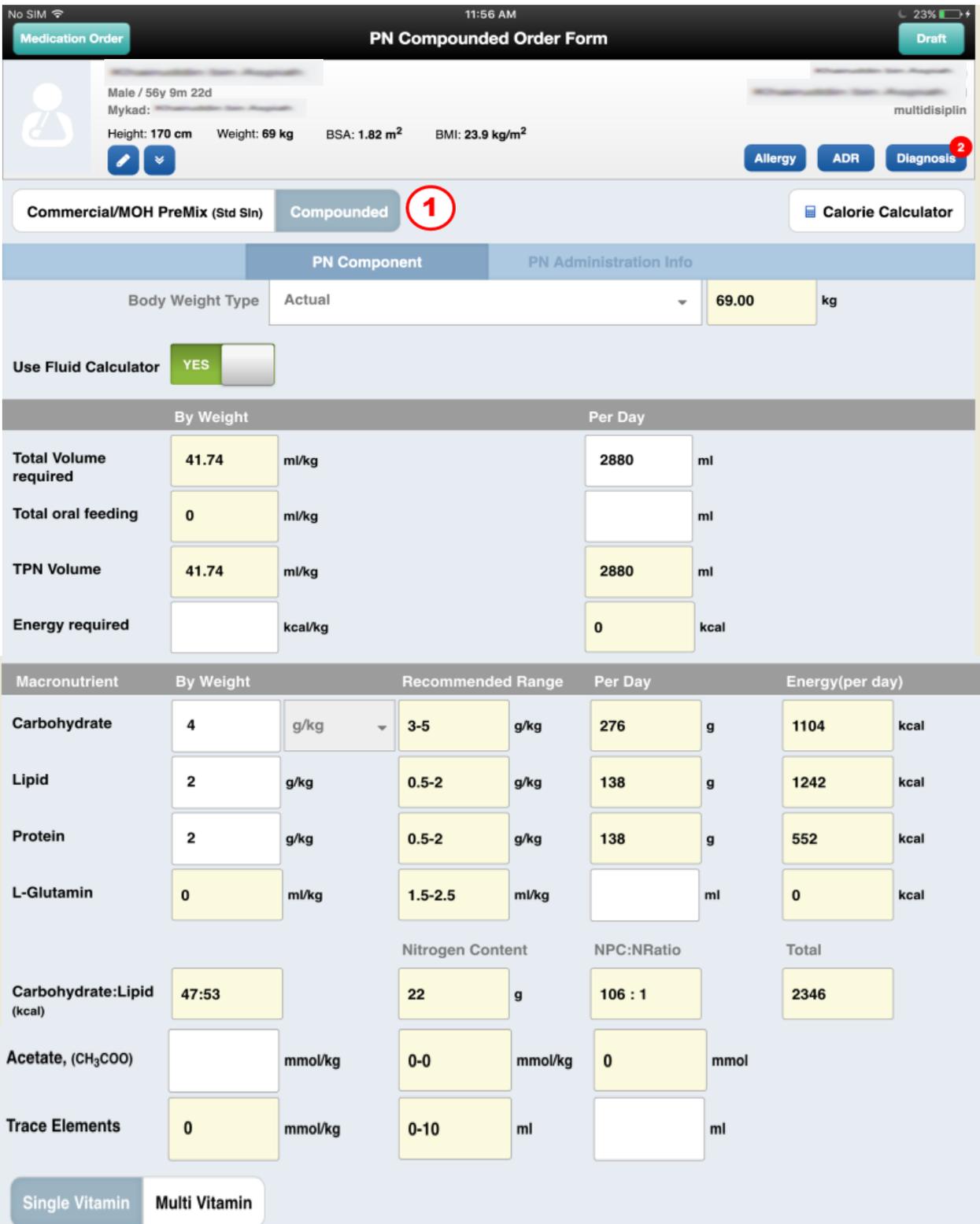
6.2-7 PN Alert Order Screen

STEP 5

Tap on the  button to proceed with the order

6.3 PN Compounded

PN Compounded allow user to order PN readymade product with customized patient requirement.



Medication Order 11:56 AM 23%

PN Compounded Order Form Draft

Male / 56y 9m 22d
Mykad: [redacted] multidisiplin

Height: 170 cm Weight: 69 kg BSA: 1.82 m² BMI: 23.9 kg/m²

[Allergy] [ADR] [Diagnosis ²]

Commercial/MOH PreMix (Std Sln) **Compounded** 1 Calorie Calculator

PN Component		PN Administration Info		
Body Weight Type	Actual	69.00	kg	
Use Fluid Calculator	YES			
By Weight		Per Day		
Total Volume required	41.74 ml/kg	2880	ml	
Total oral feeding	0 ml/kg		ml	
TPN Volume	41.74 ml/kg	2880	ml	
Energy required		0	kcal	
Macronutrient	By Weight	Recommended Range	Per Day	Energy(per day)
Carbohydrate	4 g/kg	3-5 g/kg	276 g	1104 kcal
Lipid	2 g/kg	0.5-2 g/kg	138 g	1242 kcal
Protein	2 g/kg	0.5-2 g/kg	138 g	552 kcal
L-Glutamin	0 ml/kg	1.5-2.5 ml/kg		0 kcal
	Nitrogen Content	NPC:NRatio	Total	
Carbohydrate:Lipid (kcal)	47:53	22 g	106 : 1	2346
Acetate, (CH ₃ COO)		0-0 mmol/kg	0	mmol
Trace Elements	0 mmol/kg	0-10 ml		ml

[Single Vitamin] [Multi Vitamin]

6.3-1 PN Order Screen

Note

- Repeat **step 1** until **step 3** as 3.1.1 record allergy section
- Repeat **step 1** until **step 3** as 6.3 Commercial / MOH PreMix

STEP 1

Tap on the **Compounded** button

Electrolytes	By Weight	Recommended Range	Per Day
Sodium(Natrium), Na ⁺	1 mmol/kg	1-2 mmol/kg	69 mmol
Potassium(Kalium), K ⁺	1.5 mmol/kg	0.7-1.5 mmol/kg	103.5 mmol
Calcium, Ca ²⁺	0.1 mmol/kg	0.1-0.15 mmol/kg	6.9 mmol
Magnesium, Mg ⁺	0.15 mmol/kg	0.05-0.15 mmol/kg	10.35 mmol
Phosphate, (PO ₄) ²⁻	1 mmol/kg	0.7-1.5 mmol/kg	69 mmol
Chloride, Cl ⁻	1.3 mmol/kg	1.3-2 mmol/kg	89.7 mmol
Acetate, (CH ₃ COO)	mmol/kg	0-0 mmol/kg	0 mmol
Trace Elements	0 mmol/kg	0-10 ml	ml

Single Vitamin Multi Vitamin

6.3-2 PN Order Screen

Note

- All entered value must between the **Recommended Range (per kg)**.
- All value **Per day** and **Energy(per day)** will automatically calculate and display.
- L-Gutamin is an optional function. Value of **By weight** and **Energy(per day)** will automatically display.
- Value of **Carbohydrate:Lipid(kcal) Content, Nitrogen and NPC:Ratio** will automatically calculate and display. Value **By Weight** will automatically calculate and display after enter the **Trace elements Per day** value
- All entered value must between the **Recommended Range (per kg)**.
- **Chloride ,Cl⁻** and **Acetate (CH₃COO)** is optional function.
- All value **Per day** will automatically calculate and display.
- Enter value of the **Trace elements Per day**. Value **By Weight** will be automatically calculated and displayed after enter the **Trace elements Per day** value.

6.3-3 PN Order Screen

STEP 2

Tap on the  button to save the prescription

6.3-4 PN Order Screen

STEP 3

Tap on the  button to add the prescription



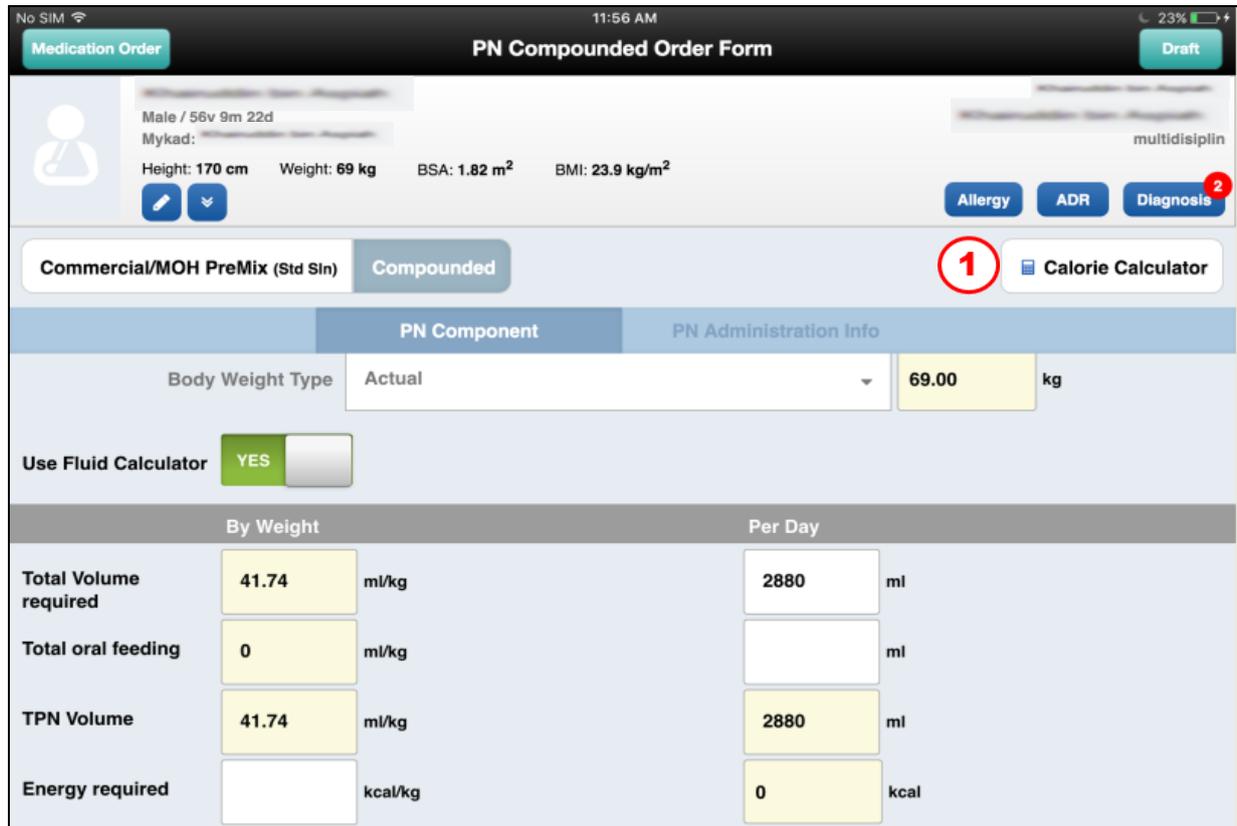
6.3-5 PN Alert Order Screen

STEP 4

Tap on the  button to proceed with the order

6.4 Calorie calculator

Calorie calculator allow user to calculate patient’s calorie requirement. This value will out as a guideline for user to order the required TPN order for patient.



By Weight		Per Day	
Total Volume required	41.74 ml/kg	2880	ml
Total oral feeding	0 ml/kg		ml
TPN Volume	41.74 ml/kg	2880	ml
Energy required		0	kcal

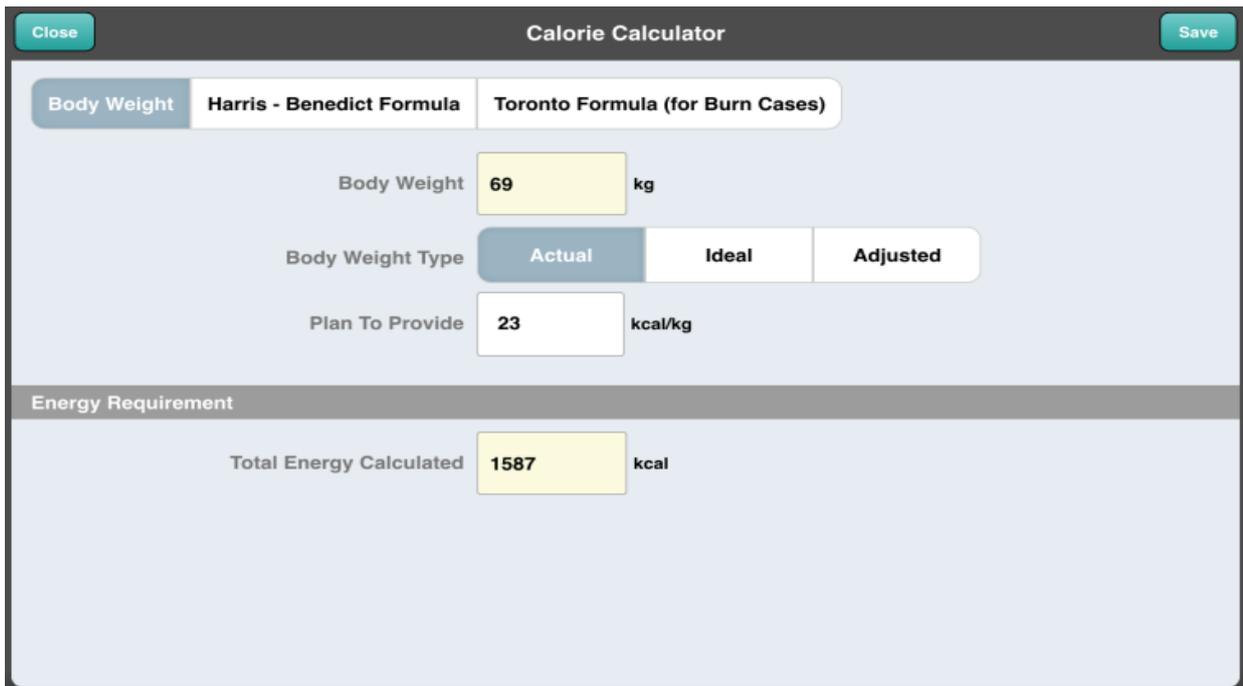
6.4-1 PN Order Screen

STEP 1

Tap on the  button

Note

Calorie Calculator screen will be displayed as per Figure 6.4-2



Close Calorie Calculator Save

Body Weight Harris - Benedict Formula Toronto Formula (for Burn Cases)

Body Weight 69 kg

Body Weight Type Actual Ideal Adjusted

Plan To Provide 23 kcal/kg

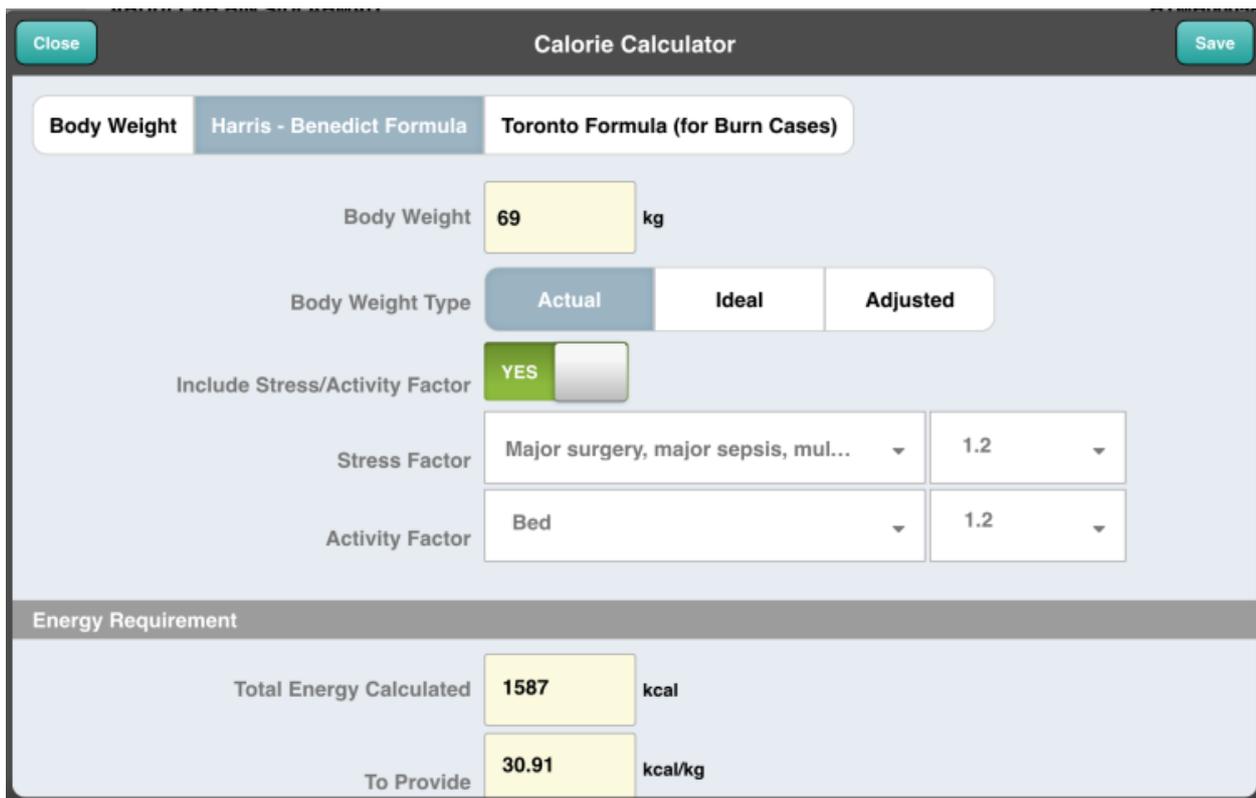
Energy Requirement

Total Energy Calculated 1587 kcal

6.4-2 PN calculator Screen

Note

- There are 3 calculator in the system :
 - Body weight
 - Harris-Benedict Formula
 - Toronto Formula(for burn cases)
- User have to select either one of the following **Body Weight** radio button:
 - Actual Body Weight
 - Ideal
 - Adjusted
- **Body Weight** value will automatically displayed base on the information from patient profile
- Enter the amount in **Plan To Provide** (kCal/kg).
- **Total Energy Calculated** will automatically calculate and display as per Figure 6.4-2.
- Tap on the  button to save record.
- Tap on the  button to close the screen.



6.4-3 PN calculator Screen

Note

PN Calculator : Harris-Benedict Formula

- Select **Harris – Benedict Formula** from **PN Calculator** dropdown box.
- Select the **Include Stress/Activity Factor** checkbox.
- **Stress Factor, Activity Factor and To Provide** will display after selected the **Include Stress/ Activity Factor** checkbox.
- User have to select the type of **Stress Factor** from the dropdown box:
 - Long Bone Fracture.
 - Maintenance.
 - Major surgery, major sepsis, multipletrauma, tumour with treatment (surgery, chemotherapy or radiotherapy)(anabolic state).
 - Routine sugery, minor infection.
 - Tumour without treatment
- Value of the **Stress Factor** will automatically calculate by system.
- From the dropdown box user have to select type of **Activity Factor** list which are:
 - Bed
 - In Bed but mobile
 - Mobile

Note

- Value of the **Activity Factor** will automatically calculate by system.
- Amount of **Total Energy Calculated** and **To Provide** will automatically calculate after selected the **Activity Factor** as per Figure 6.4-3.
- Tap on the  button to save record.
- Tap on the  button to close the screen.



The screenshot displays the 'Calorie Calculator' application. At the top, there are 'Close' and 'Save' buttons. Below the title, three formula options are shown: 'Body Weight', 'Harris - Benedict Formula', and 'Toronto Formula (for Burn Cases)'. The 'Toronto Formula' is currently selected. The input fields are as follows:

Field	Value	Unit
Body Weight	68.4	kg
Body Weight Type	Actual	
Burn Surface Area	20	%
Body Temperature	37.6	°C
Post Burn Days	1	Days
Calorie intake	150	kcal
Activity Factor	Bed	1.1

6.4-4 PN calculator Screen

Note

PN Calculator : Toronto Formula

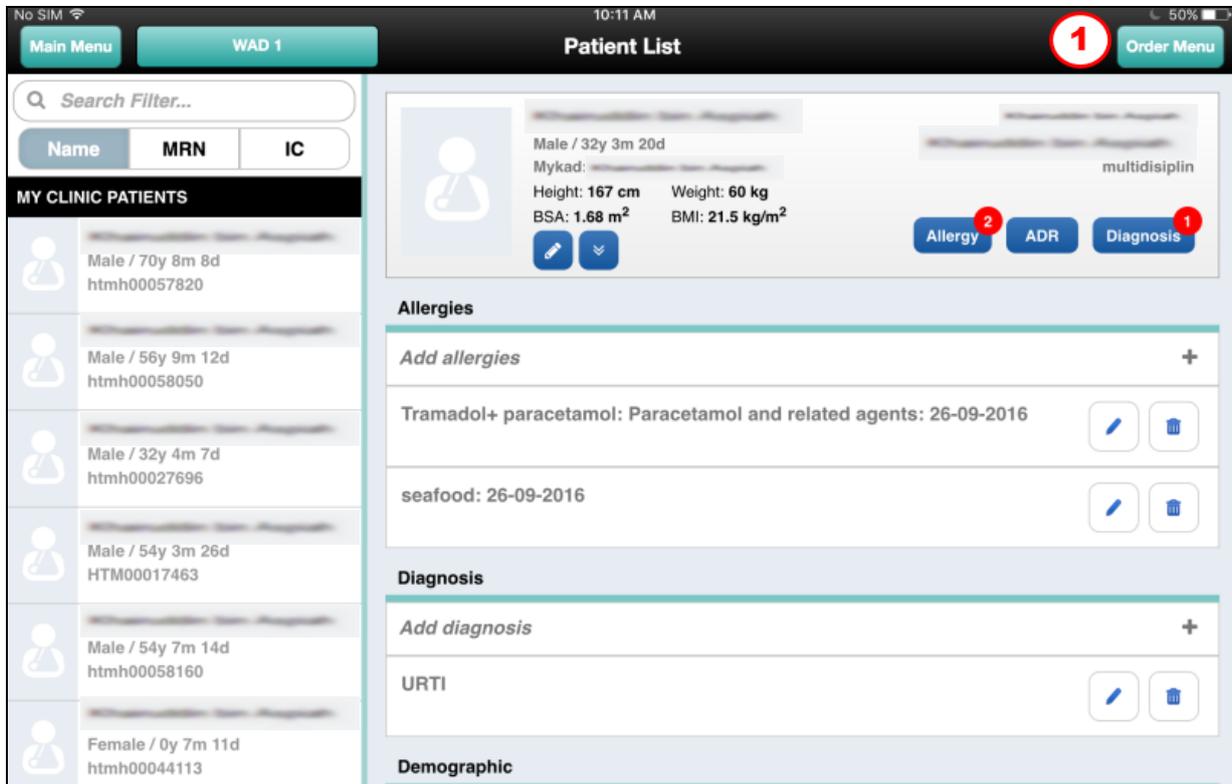
- Select **Toronto Formula (for Burn Cases)** from **PN Calculator** dropdown box.
- Enter all field below:
 - Burn Surface Area
 - Body Temperature
 - Post Burn Days
 - Calorie Intake
- User have to select type of **Activity Factor** from the dropdown box:
 - Bed
 - In Bed but mobile
 - Mobile



- Value of the **Activity Factor** will automatically calculate by system.
- Total Energy Calculated and To Provide will automatically calculate after selected the Activity Factoras per Figure 6.4-4
- Tap on the  button to save record.
- Tap on the  button to close the screen.

7.0 Cytotoxic Drug Reconstitution

Cytotoxic Drug is any drug that has toxic on cells; commonly used in chemotherapy to inhibit the proliferation of cancerous cells. CDR Drug ordered as regimen through CDR Order module by prescriber .Regimen is a group of CDR drugs. Each drug within a regimen is indicated to be taken on which day/time within the cycle duration. CDR regimen will be set by HQ in Regimen Master setup. CDR Regimen Category master setup also will be done by HQ



The screenshot displays the 'Patient List' interface. At the top, there are navigation buttons for 'Main Menu', 'WAD 1', and 'Order Menu'. A search filter is available. The left sidebar lists 'MY CLINIC PATIENTS' with columns for Name, MRN, and IC. The main area shows a patient profile for a 32-year-old male. Key details include: Height: 167 cm, Weight: 60 kg, BSA: 1.68 m², and BMI: 21.5 kg/m². The 'Allergies' section lists 'Tramadol+ paracetamol: Paracetamol and related agents: 26-09-2016' and 'seafood: 26-09-2016'. The 'Diagnosis' section shows 'URTI'. Red callouts 1, 2, and 3 are placed over the 'Order Menu', 'Allergy', and 'Diagnosis' buttons respectively.

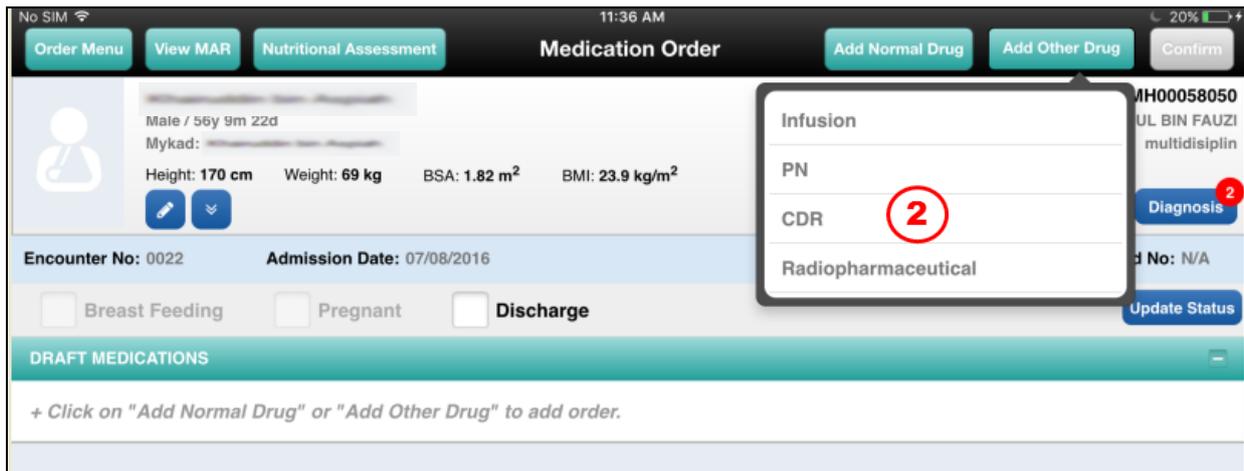
7.0-1 Order Screen

Note

Repeat **step 1** until **step 3** as 3.1.1 record allergy section

STEP 1

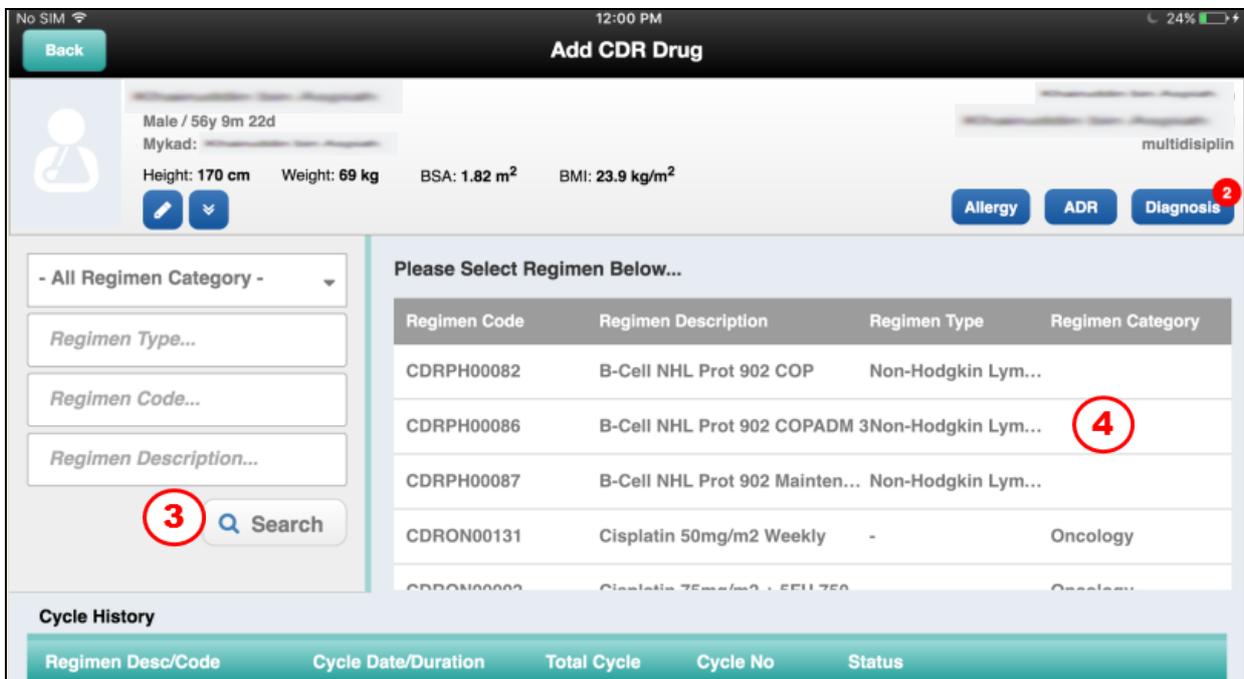
Tap on the 



7.0-2 Order Screen

STEP 2

Tap on the **CDR** menu



7.0-3 CDR Order Screen

STEP 2

Tap on the **CDR** menu

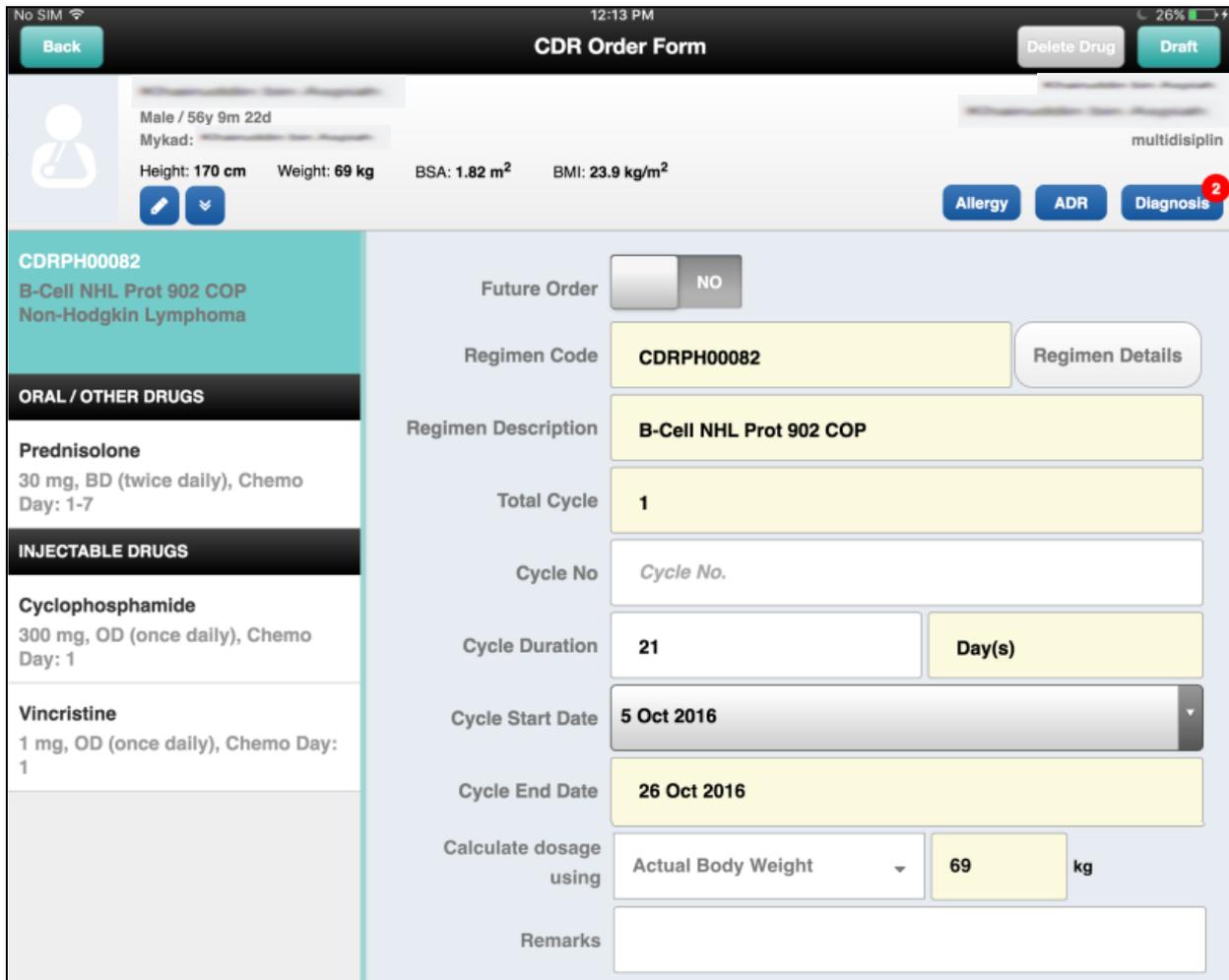
STEP 3

Tap on the **Search** button to search regimen based on :

- Regimen Category
 - a) Hematology
 - b) Oncology
 - c) Paediatric
 - d) others
- Regimen Type
- Regimen Code
- Regimen Description

STEP 4

Tap on the selected regimen



The screenshot displays the 'CDR Order Form' interface. At the top, there are 'Back', 'Delete Drug', and 'Draft' buttons. The patient information section includes a profile icon, gender/age (Male / 56y 9m 22d), Mykad, height (170 cm), weight (69 kg), BSA (1.82 m²), and BMI (23.9 kg/m²). There are also buttons for 'Allergy', 'ADR', and 'Diagnosis' (with a red notification bubble). The main content area is divided into two columns. The left column lists drugs under 'ORAL / OTHER DRUGS' (Prednisolone 30 mg, BD twice daily, Chemo Day: 1-7) and 'INJECTABLE DRUGS' (Cyclophosphamide 300 mg, OD once daily, Chemo Day: 1; Vincristine 1 mg, OD once daily, Chemo Day: 1). The right column contains regimen details: 'Future Order' (NO), 'Regimen Code' (CDRPH00082), 'Regimen Description' (B-Cell NHL Prot 902 COP), 'Total Cycle' (1), 'Cycle No.' (Cycle No.), 'Cycle Duration' (21 Day(s)), 'Cycle Start Date' (5 Oct 2016), 'Cycle End Date' (26 Oct 2016), 'Calculate dosage using' (Actual Body Weight, 69 kg), and a 'Remarks' field.

7.0-4 CDR Order Screen

Note

- CDR prescription consist of **Oral/Other Drugs** and **Injectable Drugs**
- Future Order for those regimen that doctor have been confirmed for patient on upcoming visits
- Regimen Code need to be setup first in Regimen Master by HQ:
 - a) CDR Regimen Category
 - b) Regimen Master
- No. Of Cycle is number of times the regimen suggested to be taken.
- Cycle Duration is a time indication of a regimen. Within cycle duration of a regimen, no other regimen should be started.
- System will be automatically calculated cycle end date based on cycle start date and cycle duration
- Select Calculate Dose Using from dropdown box:
 - Actual Body Weight
 - Adjusted Body Weight
 - Ideal Body Weight

- System will be automatically calculated the weight (kg) according to Calculate Dosage Using selected. It will give effect on Total Dose if user selects Dosage by per kg.
- Click on the **Regimen Details** button to display regimen details as per Figure 7.0-5.

Close

Regimen Code: **CDRPH00082**

Category: **undefined**

Cycle Duration: **21**

Regimen Description: **B-Cell NHL Prot 902 COP**

Remarks:

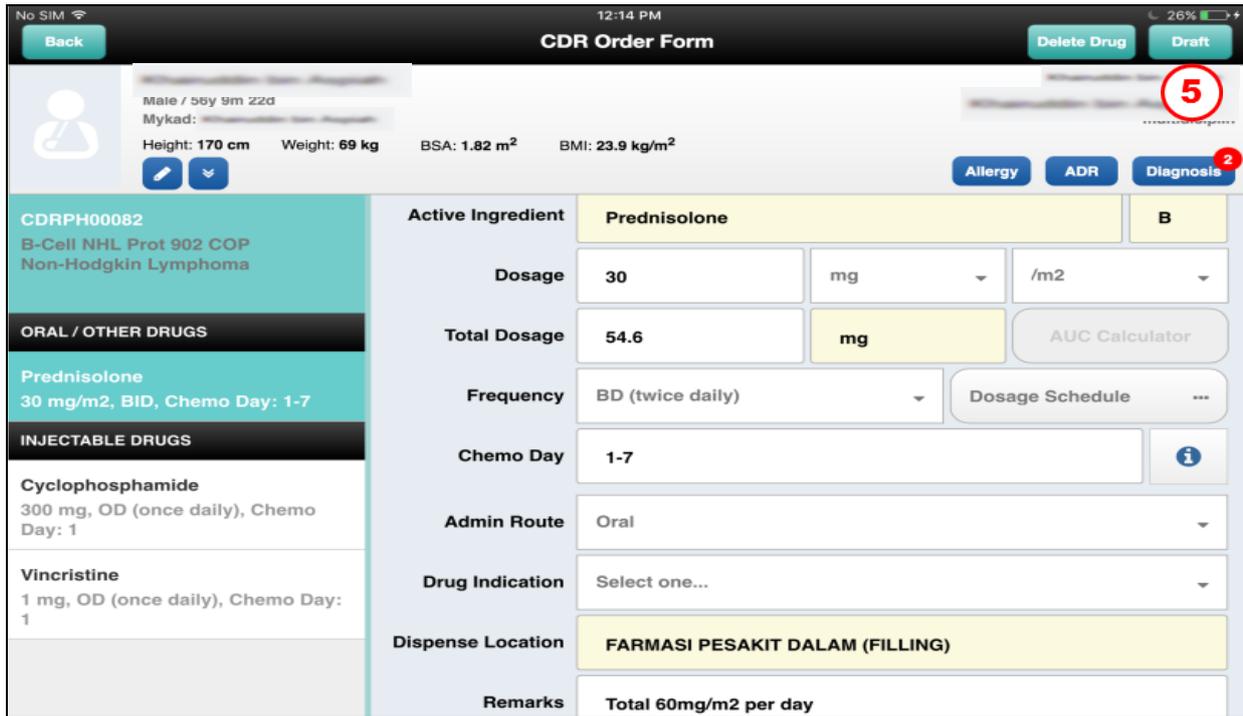
Active Ingredient	Dosage	Admin Route	Frequency	Chemo Days	Status
Prednisolone	30 mg	Oral	BD (twice daily)	1-7	Active
Cyclophosphamide	300 mg	Intravenous Slow Bolus	OD (once daily)	1	Active
Vincristine	1 mg	Intravenous Slow Bolus	OD (once daily)	1	Active

7.0-5 CDR Regimen Order Screen

Note

- System will be displayed prescriptions based on regimen code selected in CDR Regimen Details.
- System will be displayed Regimen Drug Details based on Regimen Code selected.
- User able to edit or update Regimen Drug Details:
 - Dosage
 - Total Dose
 - Frequency
 - Chemo Day
 - Admin Route
 - Drug Indication
 - Infuse Over
 - Diluent
 - Diluent Volume
 - Infusion Rate
- If select Dosage milligram or milliliter and 'kg' or '/m2' from dropdown menu, Total Dose will be displayed based on Calculate Dose Using selected previously in CDR Regimen Details.
- For Dose Schedule, user able to edit Date and Time dose to be taken.
- To delete not related drugs for that prescription, click on **Delete Drug** button as per Figure 7.0-6. System will be deleted selected drug and that drug will not be flow for dispensing. Otherwise all drugs will flow to dispensing.

- User may tap on the  to view chemo starting day e.g. chemo day 1 8 until 12

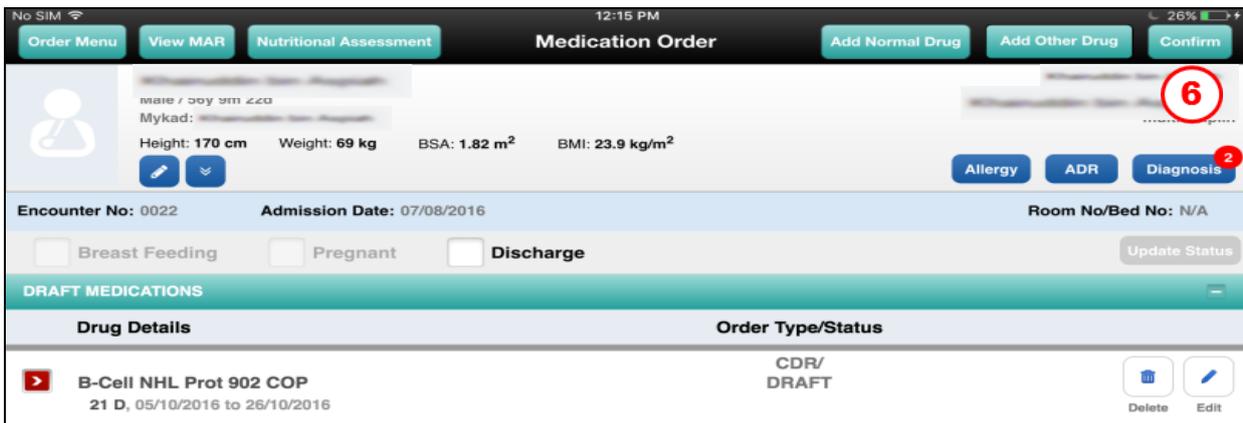


The screenshot shows the 'CDR Order Form' interface. At the top right, there are 'Delete Drug' and 'Draft' buttons. A red circle with the number '5' highlights the 'Draft' button. The patient information section includes 'Male / 56y 9m 22d', 'Mykad: [redacted]', 'Height: 170 cm', 'Weight: 69 kg', 'BSA: 1.82 m²', and 'BMI: 23.9 kg/m²'. There are 'Allergy', 'ADR', and 'Diagnosis' buttons, with a red circle and '2' next to 'Diagnosis'. The main form area is divided into two columns. The left column lists drugs: 'CDRPH00082 B-Cell NHL Prot 902 COP Non-Hodgkin Lymphoma', 'ORAL / OTHER DRUGS' (containing 'Prednisolone 30 mg/m2, BID, Chemo Day: 1-7'), and 'INJECTABLE DRUGS' (containing 'Cyclophosphamide 300 mg, OD (once daily), Chemo Day: 1' and 'Vincristine 1 mg, OD (once daily), Chemo Day: 1'). The right column contains fields for 'Active Ingredient' (Prednisolone), 'Dosage' (30 mg /m2), 'Total Dosage' (54.6 mg), 'Frequency' (BD (twice daily)), 'Chemo Day' (1-7), 'Admin Route' (Oral), 'Drug Indication' (Select one...), 'Dispense Location' (FARMASI PESAKIT DALAM (FILLING)), and 'Remarks' (Total 60mg/m2 per day). An 'AUC Calculator' button is also present. A red circle with '2' is next to the 'Diagnosis' button.

7.0-6 CDR Order Screen

STEP 5

Tap on the  button to save the regimen

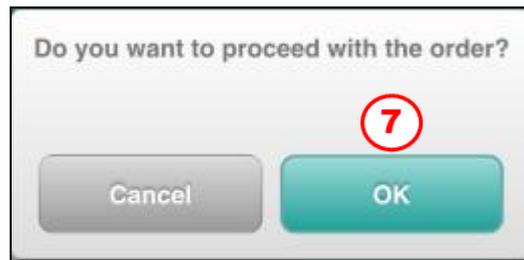


The screenshot shows the 'Medication Order' screen. At the top right, there are 'Add Normal Drug', 'Add Other Drug', and 'Confirm' buttons. A red circle with the number '6' highlights the 'Confirm' button. The patient information section is identical to the previous screen. Below this, there are fields for 'Encounter No: 0022', 'Admission Date: 07/08/2016', and 'Room No/Bed No: N/A'. There are checkboxes for 'Breast Feeding', 'Pregnant', and 'Discharge', and an 'Update Status' button. The 'DRAFT MEDICATIONS' section has a minus sign. Below this is a table with columns 'Drug Details' and 'Order Type/Status'. The table contains one entry: 'B-Cell NHL Prot 902 COP' with '21 D, 05/10/2016 to 26/10/2016' and 'CDR/ DRAFT'. There are 'Delete' and 'Edit' buttons for this entry. A red circle with '2' is next to the 'Diagnosis' button.

7.0-7 CDR Order Screen

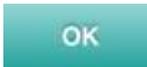
STEP 6

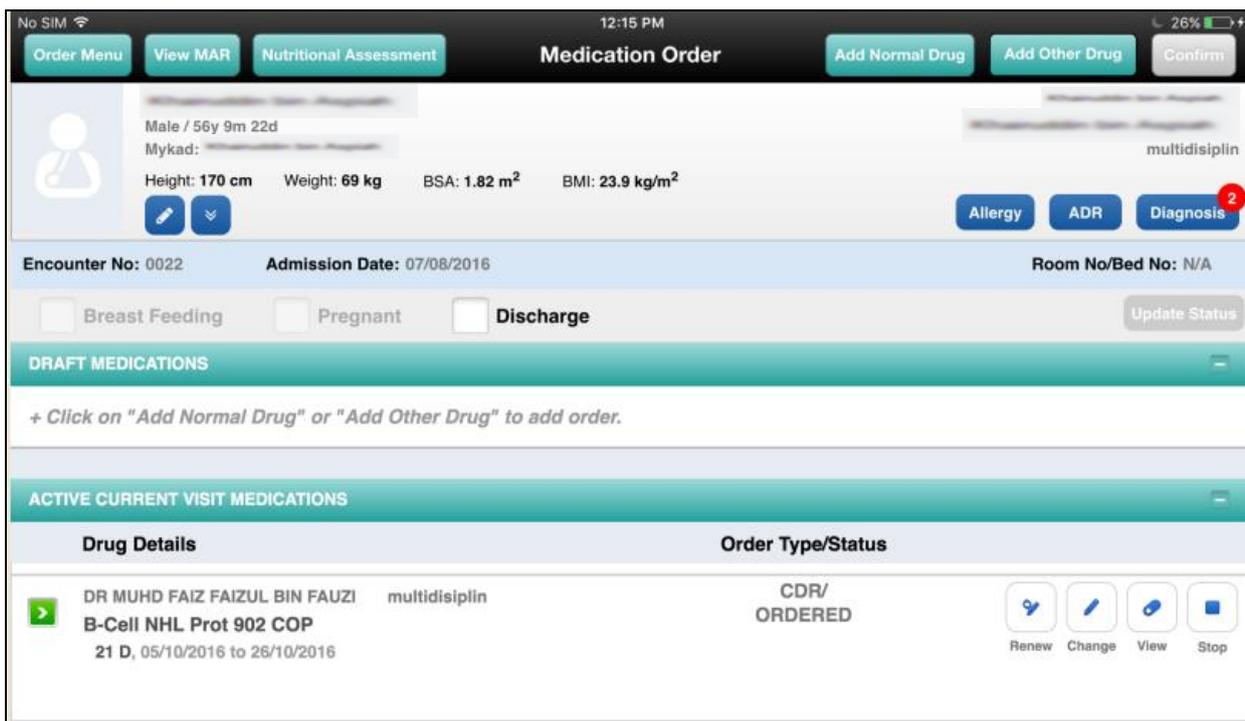
Tap on the  button to add the regimen in the prescription



7.0-7 CDR Alert Message

STEP 7

Tap on the  button to send the prescription to pharmacy

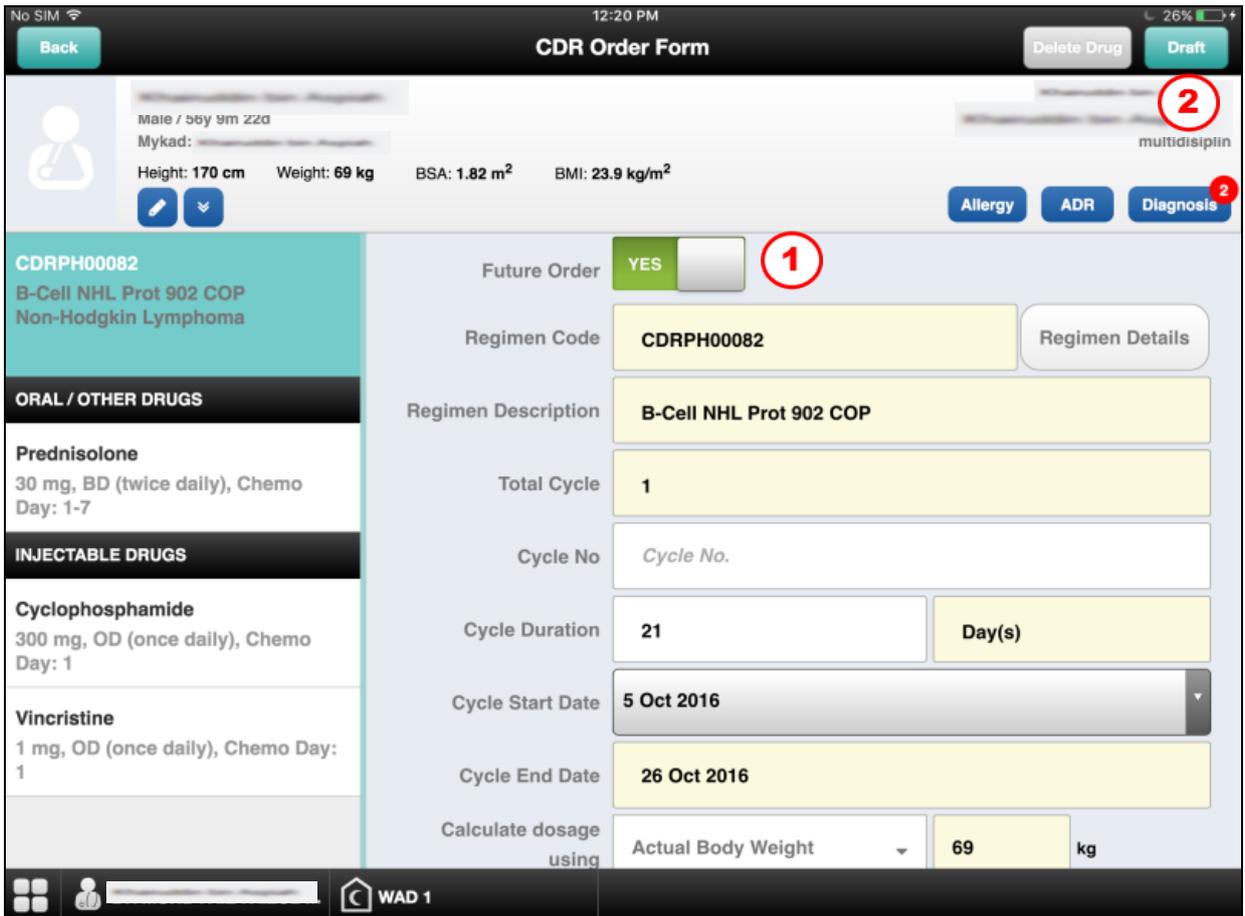


7.0-8 CDR Order Screen

Note

Confirmed prescription will be displayed as per Figure 7.0-8

7.1 CDR Future Order



The screenshot displays the 'CDR Order Form' interface. At the top, there are 'Back', 'Delete Drug', and 'Draft' buttons. The patient information section includes a profile icon, name, Mykad, height (170 cm), weight (69 kg), BSA (1.82 m²), and BMI (23.9 kg/m²). There are also buttons for 'Allergy', 'ADR', and 'Diagnosis'. The drug details section shows 'CDRPH00082 B-Cell NHL Prot 902 COP Non-Hodgkin Lymphoma'. Below this, there are sections for 'ORAL / OTHER DRUGS' (Prednisolone) and 'INJECTABLE DRUGS' (Cyclophosphamide, Vincristine). The order configuration section includes a 'Future Order' toggle set to 'YES', 'Regimen Code' (CDRPH00082), 'Regimen Description' (B-Cell NHL Prot 902 COP), 'Total Cycle' (1), 'Cycle No.' (Cycle No.), 'Cycle Duration' (21 Day(s)), 'Cycle Start Date' (5 Oct 2016), and 'Cycle End Date' (26 Oct 2016). The 'Calculate dosage using' section is set to 'Actual Body Weight' with a value of 69 kg. Red circles with numbers 1 and 2 highlight the 'Future Order' toggle and the 'Draft' button, respectively.

7.1-1 CDR Order Screen

Note

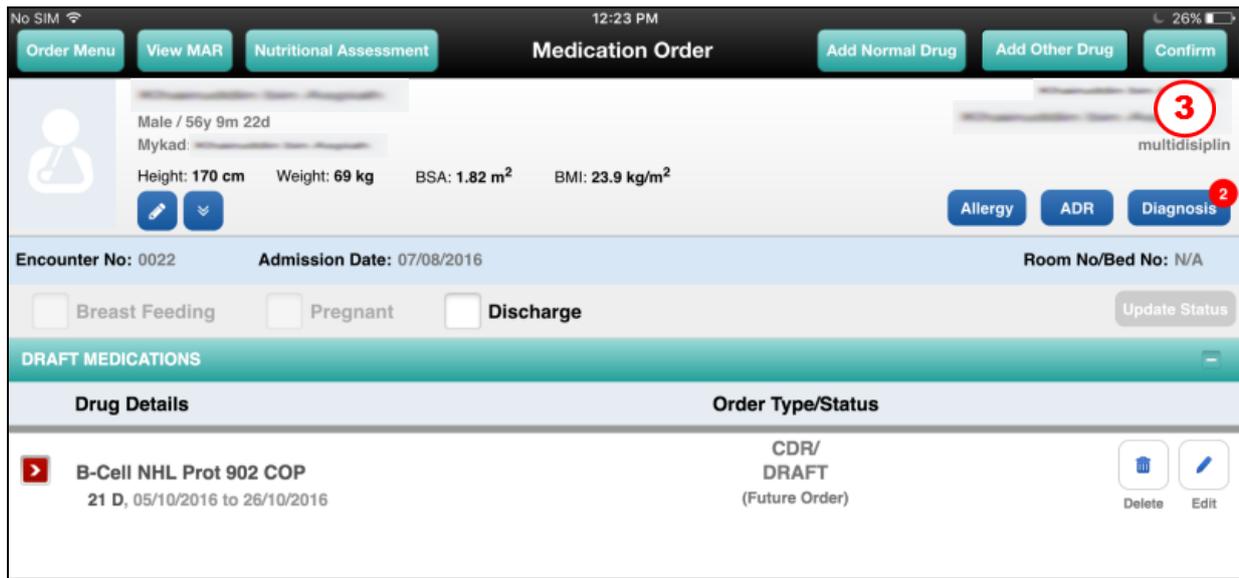
Repeat **step 1** until **step 4** as section 7.0 Cytotoxic Drug Reconstitution

STEP 1

Tap on the **Future Order**  button

STEP 2

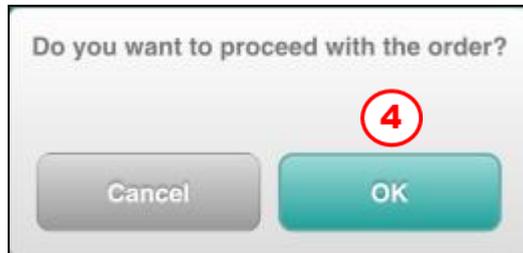
Tap on the  button to save the regimen



7.1-2 CDR Order Screen

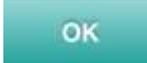
STEP 3

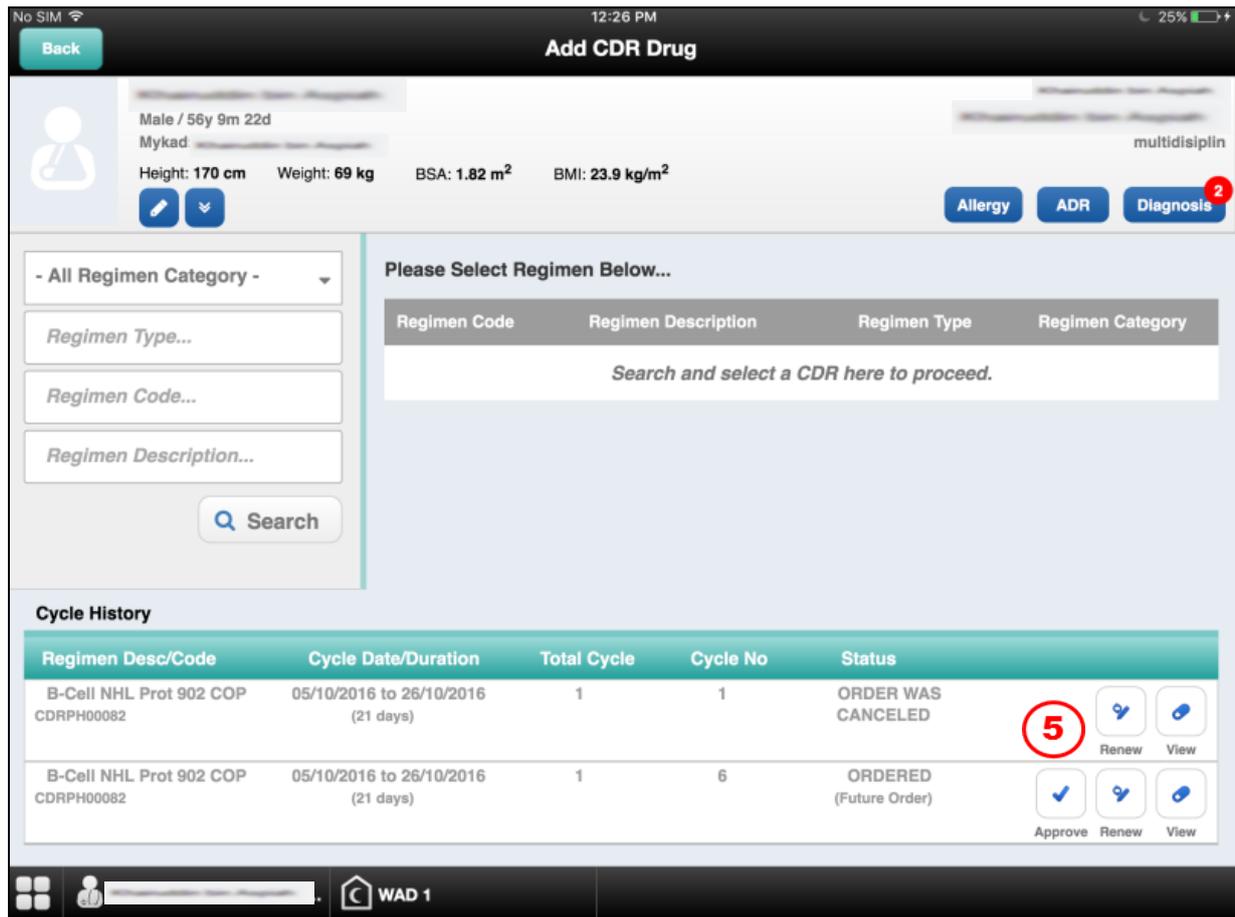
Tap on the  button to add the regimen in the prescription



7.1-3 CDR Alert Message

STEP 4

Tap on the  button to send the prescription to pharmacy



7.1-4 CDR Order Screen

STEP 5

Tap on the  button to approve future order

8.0 Acronyms

Abbreviation	Definition
PhIS	Pharmacy Information System
CPS	Clinical Pharmacy System
OM	Order Management
MRN	Medical Record Number
TDM	Clinical Pharmacokinetics Services
ADR & DAC	Adverse Drug Reaction and Drug Allergic Card
MTAC	Medication Therapy Adherence Clinic
MOH	Ministry Of Health
CDR	Cytotoxic Drug Reconstitution
TDM	Therapeutic Drug Monitoring
PN	Parenteral Nutrition

9.0 Links to Clinical Modules

No	Module	PDF Links	No	Module	PDF Links
1	Inpatient	Click Here	12	CDR Dispensing	Click Here
2	CDR Order	Click Here	13	Methadone Dispensing	Click Here
3	TDM Order	Click Here	14	PN Dispensing	Click Here
4	PN Order	Click Here	15	Order Management	Click Here
5	IV Order	Click Here	16	Patient Management	Click Here
6	Prepacking	Click Here	17	Radiopharmaceuticals	Click Here
7	Galenical	Click Here	18	Outpatient	Click Here
8	MTAC	Click Here	19	Special Drug Request	Click Here
9	ADR & DAC	Click Here	20	MAR	Click Here
10	Medication Counselling	Click Here	21	DICE	Click Here
11	Ward Pharmacy	Click Here	22		