



An Improvised Strategy To Improve Glycaemic Control

Among Diabetic Women Of Reproductive Age At Health Clinics In Perlis

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PP -11

1. SELECTION OF OPPORTUNITIES FOR IMPROVEMENT

INTRODUCTION

- Reproductive aged women with pre-existing diabetes should have good glycaemic control before conceiving in order to avoid maternal and fetal adverse event¹.
- Our aim is to empower diabetic women to have good glycaemic control by having good preventive measures before patient embark into pregnancy.

NO	PROBLEMS	SMART RATING
1	High percentage of late booker in pregnant women > 25 weeks POG	75
2	Low pap smear coverage among reproductive age women	79
3	High percentage of anaemic pregnant women in late trimester	85
4	High percentage of absent endocervical cell in pap smear results	73
5	Low Percentage Of Good Glycaemic Control Among Diabetic Women In Pre-pregnancy Care (PPC) Program	96

PROBLEM STATEMENT

- Perlis has the second highest prevalence of diabetes mellitus in Malaysia: 32.6% (NHMS 2019).
- 2.5% pregnancy in Perlis complicated with pre-existing diabetes (compared to national incidence at 2.0% from 6th Report of National Obstetric Registry 2018-2020).
- An audit in August 2020 among 64 diabetic women registered in Pre-Pregnancy Care (PPC) program at health clinics in Perlis shown 75.4% had poor glycaemic control (HbA1c > 6.5%)

2. KEY MEASURES FOR IMPROVEMENT

GENERAL OBJECTIVE

To **improve percentage of diabetic women** with good glycaemic control in reproductive age group registered in Pre-Pregnancy Care (PPC) program.

SPECIFIC OBJECTIVE

- 1) To **verify the prevalence** of diabetic women of reproductive age group with good glycaemic control with HbA1c ≤ 6.5%.
- 2) To **identify contributing factors** for low percentage of diabetic women of reproductive age group with good glycaemic control.
- 3) To **implement remedial measures** to improve glycaemic control in diabetic women of reproductive age group.
- 4) To **evaluate the effectiveness** of remedial measures.

INDICATOR AND STANDARD

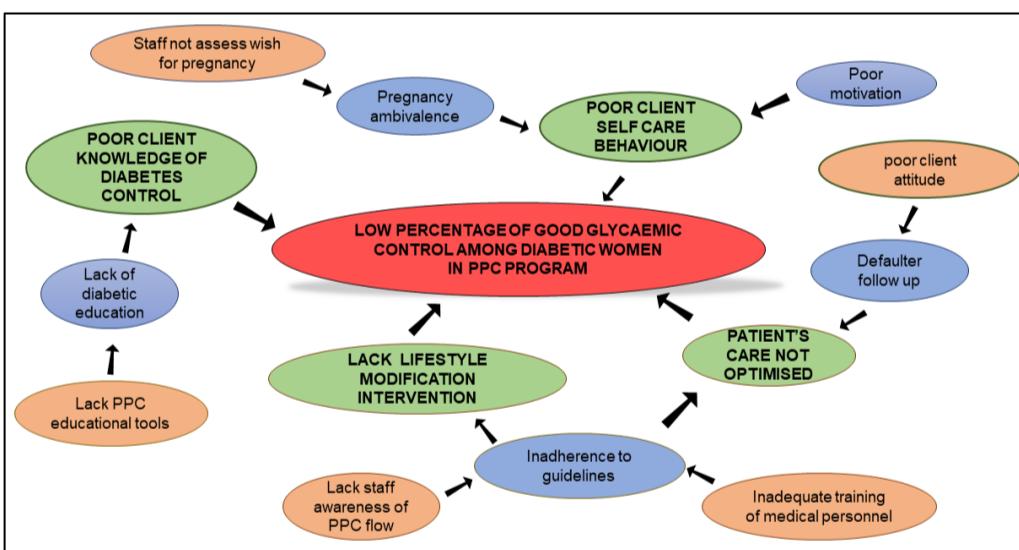
Percentage of diabetic women with good glycaemic control in reproductive age group registered in PPC program

$$\frac{\text{Number of diabetic women reproductive age group registered in PPC program with HbA1c} \leq 6.5\%}{\text{Number of diabetic women in PPC program}} \times 100\%$$

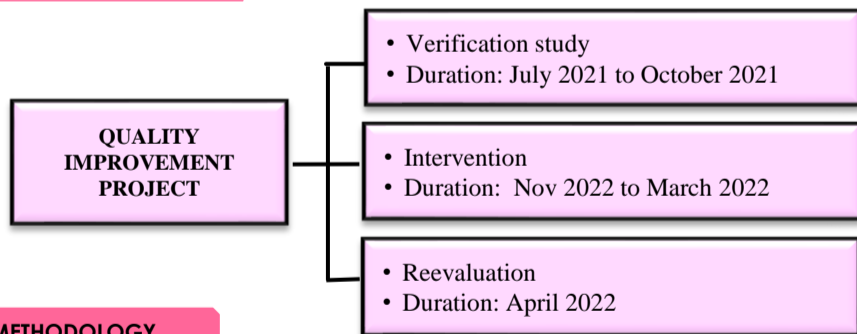
Standard: ≥ 35%²

3. PROCESS OF GATHERING INFORMATION

CAUSE-EFFECT DIAGRAM



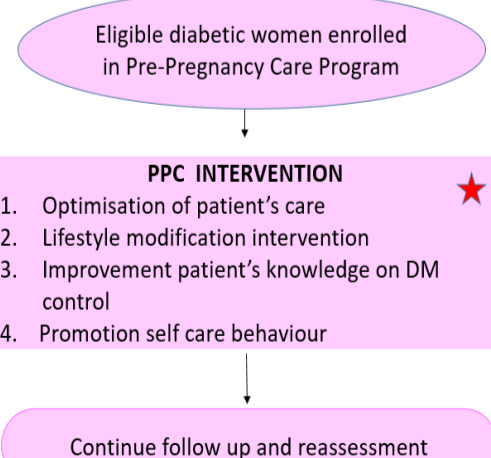
STUDY TIMELINE



METHODOLOGY

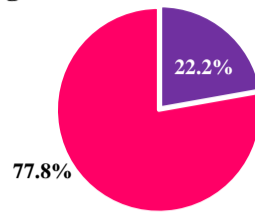
- **Study design**
Cross sectional study
- **Sampling method**
Universal sampling
- **Sites of study**
12 health clinics under PKD Perlis
- **Study instruments**
 - Audit forms³ of patient's diabetic records.
 - Knowledge, Attitude and Practice (KAP) Questionnaires
- **Exclusion criteria for KAP Questionnaire**
 - **Patients:** Diabetic women aged < 18 or > 50 years old, who underwent hysterectomy, bilateral tubal ligation, attained menopause or from outside operational area
 - **Medical personnel:** not involve in the process of care under PPC program.

PROCESS OF CARE OPTIMISING DIABETIC CONTROL FOR PPC CLIENTS



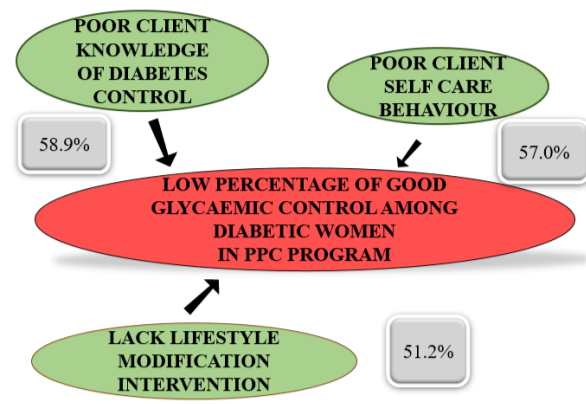
4. ANALYSIS AND INTERPRETATION

HbA1c Readings of Diabetic Women Registered under PPC Program



■ HbA1c ≤ 6.5% ■ HbA1c > 6.5%

22.2% of diabetic women registered under PPC program has good glycaemic control. (n=257)



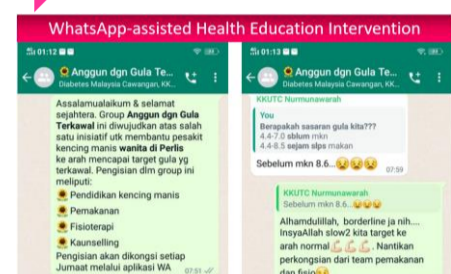
5. STRATEGY FOR CHANGE

PATIENT FACTOR

Module *Anggun dengan Gula Terkawal*

- Educational platform via WhatsApp group between patient and Multidisciplinary Team.
- Self Monitoring Blood Glucose Program –partnership with Persatuan Diabetes Malaysia, Perlis branch.

-Improves diabetic knowledge
-Improves self care behaviour



MEDICAL PERSONNEL FACTOR

- Educational kits : Flip chart and Leaflet in hard copy and soft copy (QR code) regarding diabetes, pregnancy and contraception.
- Consultation reminder checklist for doctors and paramedics to counsel patient.
- Tagging system-to identify patient under Pre-pregnancy Care program.
- Training of staff to improve awareness of PPC flow in clinics and improve PPC services.

Promotes lifestyle modification intervention

Educational kit: Flip chart/Leaflet/QR code

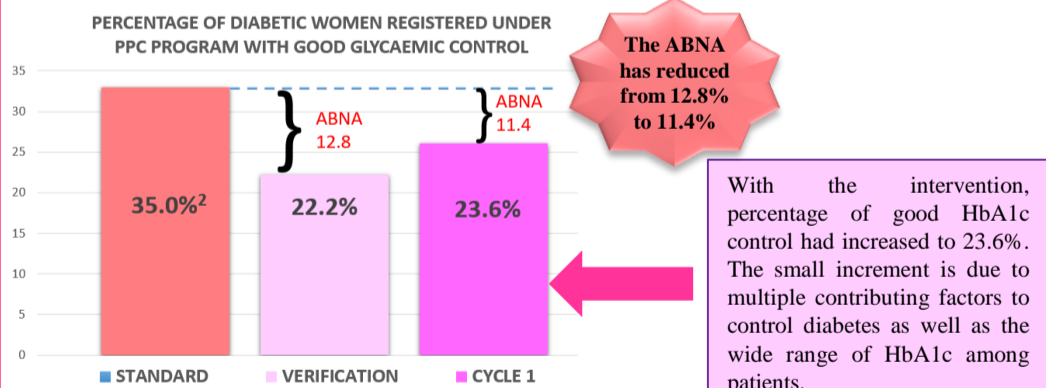


6. EFFECTS OF CHANGE

MODEL OF GOOD CARE OPTIMISING DM CONTROL FOR PPC CLIENTS

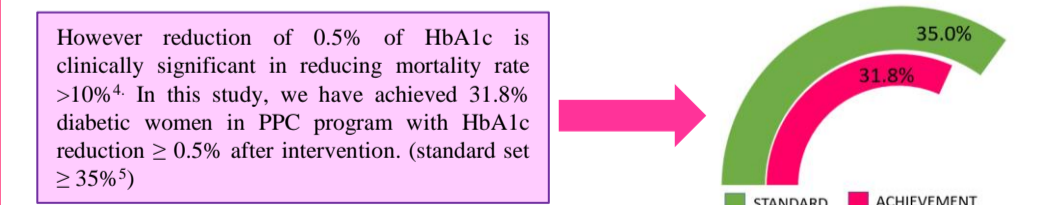
STEP	PROCESS OF CARE	CRITERIA	STANDARD	PRE	CYCLE 1
1.	Optimisation Of Patient's Care	Good staff awareness of PPC service	100%	98.9%	99.2%
		Staff awareness of PPC flowchart	100%	61.4%	69.5%
		Adherence to follow up	100%	52.3%	86.3%
2.	Lifestyle Modification Intervention	Lifestyle modification intervention given	100%	48.8%	55.2%
3.	Improvement Of Patient's Diabetic Knowledge	Diabetes education given by staff	100%	94.6%	95.2%
		Good patient knowledge regarding diabetes	70%	41.1%	52.6%
4.	Promotion Of Self Care Behaviour	Assess patient wish for pregnancy	100%	73.1%	84.7%
		Good self care behaviour among diabetic patient	75%	43.0%	66.8%

ACHIEVABLE BENEFIT NOT ACHIEVED (ABNA)



With the intervention, percentage of good HbA1c control had increased to 23.6%. The small increment is due to multiple contributing factors to control diabetes as well as the wide range of HbA1c among patients.

Percentage of Diabetic Women in PPC Program with HbA1c Reduction ≥ 0.5%



IMPACT OF THE PROJECT:

- This project can help diabetic women towards safe pregnancy. It can empower patient to make better health choices after improvement of knowledge regarding diabetes and pregnancy.
- With Module *Anggun dengan Gula Terkawal*, it has saved patient's time and transportation cost to receive intervention especially regarding consultation with multidisciplinary team.

7. NEXT STEP

1. This intervention can be continued in all health clinics in Perlis with the support of PKD and JKN.
2. Module *Anggun dengan Gula Terkawal* will also be shared with nearest state for duplication.
3. We will continue with Cycle 2: creation of a diabetic module for reproductive age women involving multidisciplinary team, not limited to knowledge session but also practical session to promote 7 self-care behaviours⁶ in order to achieve good glycaemic control.

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