






Maternal determinants of preterm birth at the Hospital Provincial Ginecobstétrico Fe del Valle Ramos

Determinantes maternos de parto pretérmino en el Hospital Provincial Ginecobstétrico Fe del Valle Ramos

Determinantes maternos do nascimento prematuro no Hospital Provincial Ginecobstétrico Fe del Valle Ramos

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ABSTRACT

Introduction: preterm birth care is a challenge for public health because it is a cause of neonatal mortality and morbidity. **Objective:** to establish the maternal determinants in pregnant women with preterm birth treated at the Hospital Ginecobstétrico Provincial “Fe del Valle Ramos” in Manzanillo, Granma province, Cuba. **Method:** a cross-sectional descriptive study was carried out in said institution in the period 2018 - 2020, in 123 pregnant women with preterm birth. The variables were studied: maternal age, nutritional evaluation, maternal height and weight gain during pregnancy, obstetric history of preterm birth and previous abortion, chronic diseases, preeclampsia and infections. The percentage was used as the summary unit. **Results:** the age group of 20-24 years of age predominated (30.9%), followed by

those under 20 years of age (28.5%), where 41.5% presented deficient weight as a nutritional evaluation in the uptake. In relation to a history of abortion, 65.9% presented this risk. There was high blood pressure in 39.0% and frequency of vaginal infections in 64.2%. **Conclusions:** the maternal, fetal and placental determinants of preterm birth in pregnant women treated at the Hospital Provincial Ginecobstétrico “Fe del Valle Ramos” do not differ from those found in the global epidemiological context.

Keywords: prematurity; preterm birth; premature membrane rupture



RESUMEN

Introducción: la atención al parto pretérmino es un desafío para la salud pública debido a que es causa de mortalidad y morbilidad neonatal.

Objetivo: establecer los determinantes maternos en las gestantes con parto pretérmino atendidas en el Hospital Provincial Ginecobstétrico “Fe del Valle Ramos” de Manzanillo, provincia Granma, Cuba. **Método:** se realizó un estudio descriptivo transversal, en dicha institución en el periodo comprendido entre el 2018-2020, en 123 gestantes con parto pretérmino. Se estudiaron las variables: edad materna, evaluación nutricional, talla materna, ganancia de peso durante el embarazo, antecedente obstétrico de parto pretérmino y aborto previo, enfermedades crónicas, preeclampsia e infecciones. Se utilizó el porcentaje como unidad de resumen.

Resultados: predominó el grupo de edades de 20-24 años de edad (30,9 %), seguidos de las menores de 20 años (28,5 %), donde el 41,5 % presentó como evaluación nutricional peso deficiente en la captación. En relación al antecedente de aborto el 65,9 % presentó este riesgo. Existió hipertensión arterial en el 39,0 % y frecuencia de infecciones vaginales con el 64,2 %. **Conclusiones:** las determinantes maternas, fetales y placentarias de parto pretérmino en las gestantes atendidas en el Hospital Provincial Ginecobstétrico “Fe del Valle Ramos” no difieren de las encontradas en el contexto epidemiológico mundial.

Palabras clave: prematuridad; parto pretérmino; rotura prematura de membrana

RESUMO

Introdução: a assistência ao parto prematuro representa um desafio para a saúde pública por ser causa de mortalidade e morbidade neonatal. **Objetivo:** estabelecer os determinantes maternos em gestantes com parto prematuro atendidas no Hospital Ginecobstétrico Provincial “Fe del Valle Ramos” de Manzanillo, província de Granma, Cuba.

Método: estudo descritivo transversal foi realizado na referida instituição no período de 2018 a 2020, em 123 gestantes com parto prematuro. Foram estudadas as variáveis: idade materna, avaliação nutricional, altura materna, ganho de peso durante a gravidez, história obstétrica de parto prematuro e aborto anterior, doenças crônicas, pré-eclâmpsia e infecções. A porcentagem foi usada como unidade de resumo.

Resultados: predominou a faixa etária de 20 a 24 anos (30,9%), seguida dos menores de 20 anos (28,5%), onde 41,5% apresentaram peso deficiente conforme avaliação nutricional na ingestão. Em relação ao histórico de aborto, 65,9% apresentavam esse risco. Houve hipertensão arterial em 39,0% e frequência de infecções vaginais em 64,2%. **Conclusões:** os determinantes maternos, fetais e placentários do parto prematuro em gestantes atendidas no Hospital Provincial Ginecobstétrico “Fe del Valle Ramos” não diferem daqueles encontrados no contexto epidemiológico global.

Palavras-chave: prematuridade; nascimento prematuro; ruptura prematura da membrana

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INTRODUCTION

Given its health and economic implications, preterm birth is a major medico-social problem.⁽¹⁾ In recent years, prematurity has been identified as the main predisposing factor for increased mortality rates in the infant population during the first years of life.⁽²⁾

Preterm birth is defined as a birth that occurs between 22 and 36.6 completed weeks of gestation, regardless of the weight of the newborn.⁽³⁾

The complex problems presented by preterm newborns, specialized care involving multiple invasive procedures (vascular catheterization, endotracheal intubation, parenteral feeding, etc.), hospital-acquired infections, lead to a more comprehensive approach to the prevention and management of these cases.⁽⁴⁾ Thus, prenatal care, including essential interventions to help prevent preterm birth, ultrasound measurements of the foetus and a minimum of 8 check-ups throughout pregnancy to identify and treat other risk factors, has been established as one of the WHO guidelines for several years.⁽⁵⁾

Because preterm birth comprises a very heterogeneous group with different gestational ages, birth weights, risks and morbidity and mortality, it has been necessary to classify them into subgroups: spontaneous preterm birth with intact membranes, spontaneous preterm birth with premature rupture of the membranes (PROM) and iatrogenic preterm birth, which is a medically indicated pregnancy complication that prevents continuation of pregnancy by seriously endangering the life of the mother, the fetus or both.^(6,7)

In recent years there has been a growing interest in risk factors for preterm birth. A history of preterm birth, poor birth weight, low gestational weight gain, vaginal infection, urinary tract infection, multiple pregnancy and smoking are thought to be strongly associated with preterm delivery in pregnant women.^(8,9,10,11)

Premature rupture of membranes (PROM) causes significant neonatal morbidity and mortality, due to its association with preterm delivery, sepsis and pulmonary hypoplasia. With a history of preterm PROM, the risk of recurrence in the next pregnancy has been estimated at 16% to 32%, varying with higher incidence, depending on whether the occurrence was at a younger gestational age (second trimester), compared to 4% of women with PROM but with previous normal pregnancies.⁽⁶⁾

Human foetal growth is a very complex process that is determined over time, where intrinsic and extrinsic factors interact. One of the main prerequisites for successful foetal growth is the existence of an adequate maternal-fetal circulation. Fetal growth restriction and being too small for gestational age are the main causes of adverse perinatal outcomes.⁽¹²⁾



According to clinical and experimental experience, most preterm deliveries are related to four processes: activation of the maternal or fetal hypothalamic-pituitary-adrenal axis; decidual and amniochorionic inflammation; decidual haemorrhage and pathological uterine distension: multiple pregnancies and polyhydramnios. In clinical practice, approximately 40-50 % of preterm births are idiopathic or spontaneous. About 30 % are related to premature rupture of membranes and 25-30 % are attributable to medical indications.⁽⁶⁾

According to WHO estimates, about 15 million babies are born before term worldwide each year. In Africa, a prevalence rate of 10.9 million is reported. In other regions such as Latin America and the Caribbean the prevalence is estimated to be 0.9 million; in Europe and North America 0.5 million.^(13,14)

In Latin American and Caribbean countries, incidence rates are reported with very significant differences between countries in the region, ranging from a low of 5 % in Cuba and 6 % in Chile, to the highest rate of 23 % in Haiti, followed by Guyana with 16 %.⁽¹⁵⁾

In Cuba, the figures for prematurity were stable from 2003 to 2012 at around 5 %, with an increase to 6.6 % from 2012 to the present, with 38 % of the deaths occurring in the last three years. Of these, 66 % were 32 weeks or less of gestational age.⁽¹⁶⁾

Infant mortality rates in Granma province show a variable behaviour with a tendency to decrease.⁽¹⁷⁾ Preterm birth has a negative influence on these indicators due to its presence in the majority of deaths.⁽⁹⁾

During the study, no other research on this subject was found in Granma province, Cuba; for this reason, it was decided to carry out this research, the objective of which was to establish the maternal, foetal and placental determinants in pregnant women with preterm births attended at the "Fe del Valle Ramos" Gynecobstetric Provincial Hospital in Manzanillo, Granma province, Cuba.

METHOD

An observational, descriptive, cross-sectional study was conducted in a population that consisted of 123 pregnant women with deliveries occurring between 22 and 36.6 weeks of gestation, regardless of the weight of the newborn, between the years 2018-2020.

The following variables were used as maternal determinants: maternal age, nutritional assessment, obstetric history of preterm birth and miscarriage, presence of chronic diseases and presence of infections. Statistical analysis: in relation to the determinants, the percentage was used as the summary unit for the descriptive analysis.

Ethical aspect: this is a descriptive study, in which any intervention on the patient, and therefore any harm that may result from it, was ruled out. Patients' personal data will be evaluated with due discretion.



RESULTS

When establishing the age groups in the study (Table 1) it was observed that the highest number of pregnant women with preterm delivery was found in the 20-24 age group (30.9 %), followed by those under 20 years of age (28.5 %), as well as the group between 25 and 29 years of age (23.6 %). The smallest group affected by this entity was those aged 35 years or older (3.3 %).

Table 1. Patients with preterm birth according to maternal age in years

Maternal age (years)	No.	%
≤ 14	7	5,7
15 - 19	35	28,5
20 - 24	38	30,9
25 - 29	29	23,6
30 - 34	10	8,1
≥35	4	3,3
Total	123	100,0

Of all the pregnant women, 41.5 % were assessed as underweight at intake, 14.6 % were assessed as overweight and 7.3 % as obese; 36.6 % of the patients showed no nutritional disorders, as shown in Table 2.

Table 2. Patients with preterm delivery according to nutritional assessment at intake

Nutritional assessment	No.	%
Poor	51	41,5
Adequate	45	36,6
Overweight	18	14,6
Obese	9	7,3
Total	123	100,0

As can be seen in table 3, 45.5 % of the pregnant women had a history of preterm birth. In relation to the history of abortion, 65.9 % presented this risk.

Table 3. Characterization of pregnant women with preterm labor according to obstetric history

Obstetric history	No.	%
Preterm birth	56	45,5
Abortions	81	65,9

On establishing a history of pregnancy-associated diseases, it was observed (Table 4) that high blood pressure was present in 39.0 %, followed by bronchial asthma (18.7 %), heart disease (9.8 %); the lowest frequency was for diabetes mellitus (2.4 %).



Table 4. Characterization of patients according to pregnancy-associated diseases

Diseases	No.	%
Arterial hypertension	48	39,0
Bronchial asthma	23	18,7
Heart disease	12	9,8
Diabetes mellitus	3	2,4

The frequency of infections in pregnant women with preterm delivery (Table 5) showed a predominance of vaginal infections (64.2 %) and 49.6 % with urinary tract infections.

Table 5. Characterization of patients according to maternal infections during pregnancy

Infections	No	%
Vaginal	79	64.2
Urinary	61	49.6

DISCUSSION

Age is a biodemographic antecedent that allows the identification of risk factors throughout the life cycle of individuals; in the case of women, fertile age is of particular importance. The results of the study are consistent with the study by TaipeHuaman⁽⁴⁾ and Rodríguez Márquez, et al.⁽¹¹⁾

On the other hand, almost a third of the pregnant women were adolescents, which is consistent with the work of Pino Torres⁽¹⁸⁾ and Paniagua.⁽¹⁹⁾ The study also observed that of all the pregnant women who presented preterm delivery, few cases were aged 35 years and older, a result that is within the range determined by TaipeHuaman⁽⁴⁾ and Lozada Arellano.⁽⁷⁾

Maternal underweight has been established as an indicator of risk of preterm birth, due to the greater possibility of intrauterine growth retardation, a condition that increases the risk of termination of pregnancy by medical indication, and increases the possibility of acquiring infections, both foetal and maternal.⁽²⁰⁾

The results of this series correspond to those obtained by Cuban authors such as ReturetaMilán⁽²⁰⁾ and other international authors, such as Díaz Pérez, et al.⁽²¹⁾ In contrast to the findings of Vázquez Rodríguez,⁽²²⁾ who observed a predominance of overweight and obese patients.

In terms of nutritional status, maternal eating disorders, such as overeating and malnutrition, can have a significant impact on the outcome of pregnancy, both for the mother and for the foetus and newborn.⁽¹⁵⁾



Existing literature suggests that patients with a history of spontaneous preterm birth have a recurrence risk of 20 % before 37 weeks, which increases with the number of previous spontaneous preterm births and gestational age.⁽²³⁾ According to Abad Chamorro,⁽²⁴⁾ a history of preterm birth is the most powerful risk factor for predicting a new preterm birth.

In this research this obstetric history was present in almost half of the study population, a result that Garay Salazar⁽²⁾ also found in his research. Carnero Cabrera,⁽²⁵⁾ on the other hand, found that more than half had a previous preterm birth. With regard to history of abortion, the result coincides with that presented by ReturetaMilán⁽²⁰⁾ who also found this frequency in patients with preterm delivery in his research.

Hypertensive disorders have been described as one of the most frequent medical complications; they are associated with increased maternal and perinatal mortality rates. The results of the study have reinforced this view, similar to that found by Carnero Cabrera.⁽²⁵⁾

The results in relation to bronchial asthma coincide with those reported by Retureta⁽²⁰⁾ in his study. Ortega Reyes, et al⁽²⁶⁾ state that when bronchial asthma occurs in its moderate or severe forms, placental flow is reduced, which leads to a decrease in nutrients and oxygen to the foetus and therefore to foetal growth retardation and low birth weight.

Both pre-pregnancy and gestational diabetes mellitus complicate pregnancies by causing premature delivery, either due to cervical incompetence, amniotic fluid alterations and foetal macrosomia; in this study, 4.1 % of the patients with a history of the disease presented preterm delivery, results similar to those obtained by Ramos González,⁽²⁷⁾ who found 2.6 % of diabetic patients with preterm delivery.

Infections are among the maternal determinants most related to preterm delivery, responsible for 40 %, as they cause rupture of the ovarian membranes. Bacterial vaginosis is one of the most widespread infections in the general population of women, its frequency varies between 25 and 35%, and in asymptomatic patients the frequency is approximately 50%, with similar prevalence in pregnant women.⁽²³⁾

Urinary tract infection is highly correlated with preterm delivery, as described by Pino Torre, et al,⁽¹⁸⁾ who reported results similar to those obtained in this study.

CONCLUSIONS

The maternal, foetal and placental determinants of preterm birth in pregnant women attended at the Provincial Gynecobstetrics Hospital "Fe del Valle Ramos" do not differ from those found in the world epidemiological context. Maternal determinants are established as the presence of a history of preterm birth and miscarriage, low birth weight at pregnancy, vaginal infections, urinary tract infections and chronic diseases associated with pregnancy,



REFERENCES

1. Montero Aguilera A, Ferrer Montoya R, Paz Delfin D, Pérez Dajaruch M, Díaz Fonseca Y. Riesgos maternos asociados a la prematuridad. Multimed [Internet]. 2019 [cited 12 Dec 2023]; 23(5):1155-73. Available in: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1028-48182019000501155&lng=es
2. Garay Salazar ER. Factores maternos relacionados con la prematuridad, servicio de neonatología del Hospital Regional Hermilio Valdizán Medrano de Huánuco 2018 [Tesis de Grado]. Perú: Universidad de Huánuco; 2018.
3. Retureta Milán SE, Casas Rodríguez L, Posada Fernández P, Retureta Milán ME, Roque Morgado M, Ramírez Leiva E. Escala de riesgo obstétrico de parto prematuro para gestantes en el primer nivel de atención a la salud. MediCiego [Internet]. 2020 [cited 12 Dec 2023]; 26(2). Available in: <http://www.revmediciego.sld.cu/index.php/mediciego/article/view/1392>
4. Taipe Huaman A. Factores de riesgo asociado a parto pretérmino en gestantes del Servicio Gineco-Obstetricia del Hospital Regional de Ayacucho enero - junio 2018 [Tesis de Grado]. Perú: Universidad Nacional del Altiplano; 2018.
5. Recomendaciones de la OMS sobre atención prenatal para una experiencia positiva del embarazo. www.who.int. Organización Mundial de Salud; 2016. [citado 12 Dic 2023]. Available in: <https://www.who.int/es/publications/i/item/WHO-RHR-16.12>
6. Di Marco I, Asprea I. Recomendaciones para la prevención, diagnóstico y tratamiento de la Amenaza de Parto Pretérmino, Atención del Parto Pretérmino Espontáneo y Rotura Prematura de Membranas. Argentina: Ministerio de Salud Pública, Dirección Nacional de Maternidad e Infancia; 2015.
7. Lozada Arellano HA. Factores de riesgo para parto pretérmino en gestantes del Hospital Nuestra Señora de las Mercedes de Paita – 2017 [Tesis de Grado]. Perú: Universidad Nacional de Piura; 2018. [cited 12 Dec 2023]. Available in: https://www.academia.edu/signup?a_id=100515836
8. Retureta Milán SE, Rojas Álvarez LM, Retureta Milán ME. Factores de riesgo de parto prematuro en gestantes del Municipio Ciego de Ávila. Medisur [Internet]. 2015 [cited 12 Dec 2023]; 13(4):517-25. Available in: <http://www.medigraphic.com/cgi-bin/new/resumen.cgi?IDARTICULO=60653>
9. Rosales Rondón IY, Ríos Hernández Y, Benavides Treto A, Peña Rivero Y, Hernández Selema Y. Parto pretérmino en gestantes atendidas en el Hospital Fe del Valle Ramos. 2017. En: XVIII Congreso de la Sociedad Cubana de Enfermería. Enfermería 2019. La Habana, 2019. La Habana: Sociedad Cubana de Enfermería; 2019. [cited 12 Dec 2023]. Available in: <http://www.enfermeria2019.sld.cu/index.php/enfermeria/2019/paper/view/42/82>
10. Quispe Chambilla CC. Factores de riesgo asociados al parto pretérmino en el Hospital Nacional Guillermo Almenara Irigoyen de Lima julio – diciembre 2016 [Tesis de Grado]. Perú: Universidad Nacional Jorge Basadre Grohmann –Tacna; 2017.
11. Rodríguez Márquez A, Hernández Barrio E, Villafuerte Reinante J, Mesa Montero Z, Hernández Cabrera Y, López Rodríguez del Rey AM. Factores de riesgo asociados al parto pretérmino. Cienfuegos 2012. Medisur [Internet]. 2019 [cited 12 Dec 2023]; (4):505-13. Available in:



- <http://www.medisur.sld.cu/index.php/medisur/article/view/4214>
12. Velastegui Ayala E, González Andrade F. Alta concordancia en la evaluación clínica versus ultrasonido para estimar el peso fetal cuando se compara con el peso al nacer en recién nacidos a término. Rev Ecu Ped [Internet]. 2021 [cited 12 Sep 2023]; 22(2):1-7. Available in: <http://docs.bvsalud.org/biblioref/2021/08/1284499/a12-alta-concordancia-en-peso-al-nacer-ao.pdf>
 13. Mendoza Tascón LA, Claros Benítez DI, Osorio Ruíz MÁ, Mendoza Tascón LI, Peñaranda Ospina CB, Carrillo Bejarano JH, et al. Epidemiología de la prematuridad y sus determinantes, en una población de mujeres adolescentes y adultas de Colombia. Rev Chil Obst Gin [Internet]. 2016 [cited 12 Dic 2023]; 81(5):372-80. Available in: http://scielo.conicyt.cl/scielo.php?script=sci_arttext&pid=S0717-75262016000500005&lng=es
 14. WHO. Preterm birth [Internet]. WHO; 2017 [cited 12 Dec 2023]. Available in: <http://www.who.int/mediacentre/factsheets/fs363/en/>
 15. Ministerio de Salud. Manual de recomendaciones en el embarazo y parto prematuro. Montevideo: Ministerio de Salud; 2019 [cited 12 May 2023]. Available in: https://iris.paho.org/bitstream/handle/10665.2/53940/9789974860247_spa.pdf?sequence=1&isAllowed=y
 16. Peñalver Cruz A, Ortuzar Chirino AA, Dueñas Díaz DV, Cruz Hernández J, Caravia Bernardo F. Guías de actuación en las afecciones obstétricas frecuentes. La Habana: Editorial Ciencias Médicas; 2017.
 17. Dirección de Registros Médicos y Estadísticas de Salud. Anuario estadístico de salud 2017 [Internet]. La Habana: Ministerio de Salud Pública; 2018 [cited 12 May 2023]. Available in: <http://files.sld.cu/dne/files/2018/04/Anuario-Electronico-Espa%C3%B1ol-2017-ed-2018.pdf>
 18. Pino Torre A, Yaranga Rodríguez M. Factores de riesgo asociados y parto pretérmino en gestantes atendidas en el Hospital Regional Zacarías Correa Valdivia Huancavelica 2018 [Tesis de Licenciatura en Enfermería]. Huancavelica, Perú: Universidad Nacional de Huancavelica; 2018. [cited 12 May 2023]. Available in: <https://apirepositorio.unh.edu.pe/server/api/core/bitstreams/03b2d8ba-8488-4d9a-ac67-95a5238c2cec/content>
 19. Paniagua Cristales GDC. Factores de riesgo biopsicosociales maternas y complicaciones perinatales asociados a parto pretérmino en Hospital Nacional de la Mujer de junio-diciembre 2018 [Tesis de Grado]. San Salvador: Universidad de El Salvador; 2019.
 20. Retureta Milán ME. Escala de riesgo de parto prematuro para las gestantes en la Atención Primaria de Salud [Tesis de Doctorado]. Ciego de Avila: Universidad de Ciencias Médicas de Camagüey; 2017. Available in: <https://tesis.sld.cu/index.php?ID=335&P=FullRecord>
 21. Díaz Pérez DM, Retureta Milán SE, Vega Lorenzo Y, Martínez Lorenzo FY, Hidalgo Ávila M, Pulido Hernández I. Factores de riesgo asociados al parto prematuro en el Policlínico Norte de Ciego de Ávila. 2011-2012. Mediciego [Internet]. 2015 [cited 12 Dec 2023]; 21(3). Available in: <https://revmediciego.sld.cu/index.php/mediciego/article/view/458/865>
 22. Vásquez Rodríguez MC. Prevalencia de Amenaza de Parto Pretérmino y Factores Asociados, Hospital Vicente Corral Moscoso, 2018 [Tesis de Maestría]. Ecuador: Universidad de Cuenca; 2019. Available in:



<http://dspace.ucuenca.edu.ec/handle/123456789/31943>

23. Instituto Mexicano del Seguro Social. Prevención, diagnóstico y tratamiento del parto pretérmino. Guía de Evidencias y Recomendaciones: guía de práctica clínica [Internet]. México: IMSS; 2017. [cited 12 Dec 2023]. Available in: <http://www.imss.gob.mx/profesionales-salud/gpc>
24. Abad Chamorro I. Modelo predictivo de parto prematuro basado en factores de riesgo [Tesis de Maestría]. España: Universidad de Oviedo; 2016. [cited 12 dic 2023]. Available in: <https://digibuo.uniovi.es/dspace/handle/10651/37574>
25. Carnero Cabrera YX. Factores de riesgo del parto pretérmino en gestantes atendidas en el Instituto Nacional Materno Perinatal, en el periodo enero – junio del 2015 [Tesis de Licenciatura]. San Marcos: Universidad Nacional Mayor de San Marcos; 2016. [cited 12 dec 2023]. Available in: <https://cybertesis.unmsm.edu.pe/handle/20500.12672/4712>
26. Ortega Reyes VÁ, Ocampo Moreira PO, Ortega Reyes MD, Villamar Beltrán VA. Factores de riesgo de parto pretérmino en pacientes menores de 25 años en el hospital básico de Baba, 2019. RECIAMUC [Internet]. 2020 [cited 12 Dec 2023]; 4(4). Available in: <http://reciamuc.com/index.php/RECIAMUC/article/view/559/873>
27. Ramos Gonzales PL. Factores de riesgo asociados al parto pretérmino, Hospital Nacional Hipólito Unanue, enero – julio 2018 [Tesis de Licenciatura]. Perú: Facultad de Medicina “Hipólito Unanue”; 2019. [cited 12 Dec 2023]. Available in: https://repositorio.unfv.edu.pe/bitstream/handle/20.500.13084/3039/UNFV_RAMOS_GONZALES_PAMELA_LIZ_TITULO_PROFESION_AL_2019.pdf?sequence=1&isAllowed=y

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