



## GLOBAL JOURNAL OF MEDICAL RESEARCH: K INTERDISCIPLINARY

Volume 17 Issue 6 Version 1.0 Year 2017

Type: Double Blind Peer Reviewed International Research Journal

Publisher: Global Journals Inc. (USA)

Online ISSN: 2249-4618 & Print ISSN: 0975-5888

# Type II Diabetes in Mauritius: A Qualitative Investigation into Women Patients and Household Support during Pregnancy

By Beebejaun-Muslim Zareen Nishaat

*Mahatma Gandhi Institute*

**Abstract-** The global burden of non-communicable diseases (NCD's) is escalating, principally due to a sharp rise in developing countries experiences of rapid economic transitions from subsistence and agricultural based economies to more technology based economies that are characteristic of sedentary based employment. Lifestyle changes in Mauritius too, with a population of barely 1.3 million inhabitants, have resulted in dramatic increases in the incidence of Type 11diabetes. Diabetes mellitus is a condition in which the body's capacity to utilise glucose, fat and protein is disturbed due to insulin deficiency or insulin resistance. The epidemic is chiefly type II diabetes which along with genetic susceptibility, particularly in certain ethnic groups such as Asians, is brought on by environmental and behavioural factors. Gestational Type 2 Diabetes (GDM) is defined as carbohydrate intolerance that begins or is first recognised during pregnancy. During pregnancy, the women is objectified, feeling a loss of control and an awareness of having an unwell, high risk body. Findings showed that pregnant women with GDM this study as extremely vulnerable. Behaviours of health professionals, such as nurses, midwives and physicians and of relatives, friends and employers influenced the women. An open caring relationship where the individual women is understood and supported, empowered to strive for normal glycaemia, and encouraged to be reconciled with her disease. It also includes informing her partner and other significant persons about her need for support.

**Keywords:** type II diabetes, women patients, household support, pregnancy.

**GJMR-K Classification:** NLMC Code: WQ 248



TYPE II DIABETES IN MAURITIUS A QUALITATIVE INVESTIGATION INTO WOMEN PATIENTS AND HOUSEHOLD SUPPORT DURING PREGNANCY

Strictly as per the compliance and regulations of:



RESEARCH | DIVERSITY | ETHICS

# Type II Diabetes in Mauritius: A Qualitative Investigation into Women Patients and Household Support during Pregnancy

Beebeejaun-Muslum Zareen Nishaat

**Abstract-** The global burden of non-communicable diseases (NCD's) is escalating, principally due to a sharp rise in developing countries experiences of rapid economic transitions from subsistence and agricultural based economies to more technology based economies that are characteristic of sedentary based employment. Lifestyle changes in Mauritius too, with a population of barely 1.3 million inhabitants, have resulted in dramatic increases in the incidence of Type 11diabetes. Diabetes mellitus is a condition in which the body's capacity to utilise glucose, fat and protein is disturbed due to insulin deficiency or insulin resistance. The epidemic is chiefly type II diabetes which along with genetic susceptibility, particularly in certain ethnic groups such as Asians, is brought on by environmental and behavioural factors. Gestational Type 2 Diabetes (GDM) is defined as carbohydrate intolerance that begins or is first recognised during pregnancy. During pregnancy, the women is objectified, feeling a loss of control and an awareness of having an unwell, high risk body. Findings showed that pregnant women with GDM this study as extremely vulnerable. Behaviours of health professionals, such as nurses, midwives and physicians and of relatives, friends and employers influenced the women. An open caring relationship where the individual women is understood and supported, empowered to strive for normal glycaemia, and encouraged to be reconciled with her disease. It also includes informing her partner and other significant persons about her need for support.

**Keywords:** type II diabetes, women patients, household support, pregnancy.

## I. INTRODUCTION

Mauritius is an island situated in the Indian Ocean, with a population of 1.15 million made up of five different ethnic groups: Indian, Creole, Muslim, Chinese and European. World Health Organisation (WHO) reports indicate that Mauritius has one of the highest of non-insulin dependent diabetes in the world. There are a variety of contributing factors for this, some of which include genetic predisposition, rapid change in eating habits (e.g. influx of fast foods) due to rapid industrialization, obesity and lack of exercise.

In the population group of 25 years and over, 12.7% (52,000 individuals) have diabetes and a further 17.5% (83,000 individuals) have impaired glucose

tolerance, whereas in the population group of 45 years and over, 23% (42,000) have diabetes and a further 22% (40,000 individuals) have impaired glucose tolerance (CSO Mauritius Survey,2017).

Over the past 2 decades, the prevalence of diabetes in Mauritius has remained one of the highest in the world with no recent significant improvement. Mauritius ranked 2<sup>nd</sup> in 2002 and 4<sup>th</sup> in the world in 2009 with nearly one in five of its adult population above the age of 30 years being affected. Nearly half of those affected do not know that they have the disease and this adversely influences quality of life, risks of complications as well as morbidity and mortality.

Despite the availability of free health services, over 50% of diabetes patients are poorly controlled and the risk of complications from diabetes such as cardiovascular diseases, renal failure, blindness, peripheral vascular and neurological diseases leading to lower limb amputations, remain very high. Despite continued efforts from the Ministry of Health and Quality of Life (MOH & QOL) to provide easily accessible diabetes care to all patients, the outcome remains poor. Most of the outpatients and primary health care centres are overcrowded and the set-up does not provide optimal care and attention.

## II. THE MAURITIAN FAMILY IN CONTEXT

Before industrialisation, Mauritian women either worked in agricultural fields and/or were engaged in the domestic sphere by assuming responsibility their husbands and children. With the advent of industrialisation and the establishment of the Export Processing Zone (EPZ) greater numbers of women began increasing their levels of education and engaging in more modernised-sedentary types of employment. Over the years, women have emerged from home makers to nation builders and the factors which have promoted labour force participation of women are fertility reduction, increased life expectancy, free education, economic hardships, availability of jobs and wider aspirations beyond the confines of the family and the home. Today women in Mauritius prefer to pursue a career of their own rather than spending long hours of their lives bearing and rearing children. In the pre-industrial era, predominantly agriculture the Mauritian

**Author:** Lecturer (Sociology) Mahatma Gandhi Institute, Moka, Mauritius. e-mail: zaanish@yahoo.com

family was a unit of production whereby the husband, wife and children worked as a team with other members of their extended families. But there is a major shift away from this conventional household structure, which is still evolving from the traditional extended type to a nuclear structure and nucleated families have become child centred where children are given more importance.

Gestational Type 2 Diabetes (GDM) is defined as carbohydrate intolerance that begins or is first recognised during pregnancy (Simmons, 1995). Women with an early diagnosis of GDM in the first half of pregnancy, represent a high risk subgroup with an increased incidence of obstetric complications, recurrent GDM in subsequent pregnancies and future development of diabetes. Other factors that also trigger GDM is obesity and hypertensive disorders in pregnancy. Thus, improving sensibility with diet, exercise and drugs like metformin may reduce risk of diabetes in individuals at high risk of GDM. The latter is an established risk factor for adverse maternal outcomes such as preeclampsia<sup>1</sup> and future T2DM, as well as neonatal outcomes such as macrosomia, hypoglycaemia and birth injuries (Wendland et al 2011, p. 11-92).

Since the purpose was to explain the understanding and perception of Diabetes that is mainly GDM, in-depth interview method was chosen. The participant for the pilot study consisted of an individual (patient) who was seven months pregnant. Only one participant was utilised because the findings revealed enough about the incidents (experiences) and support in a patient's life to warrant the interview guide and conduct further interviews. The data is not part of the work reported here.

The 40 semi-structured interviews were varied in length and were about two to three hours long. In order to directly address the research questions, this study sampled those individuals who were information rich, specifically criterion sampling. This involves "reviewing and studying all cases that meet some reviewing predetermined criterion of importance" (Patton, 2002 p. 238). The criterion for this study was that their participants had to be pregnant around six to eight months and had already been diagnosed with GDM. Almost all the interviews were conducted in the hospitals/health clinics at a time convenient for the respondents. For most of them, this was when they came for their usual check-up or for medication.

### III. MEDICAL CONDITIONS AND SUPPORT

During pregnancy, the women is objectified, feeling a loss of control and an awareness of having an unwell, high risk body (Bhat et al, 2010:91). The pregnant women with GDM also expresses exaggerated

responsibility including constant worry, pressure and self-blame. In order to provide quality care with perinatal support, increased knowledge about life conditions for women with Type II Diabetes Mellitus (T2DM) is required.

With increasing prevalence of diabetes, the occurrence of diabetes-complicated pregnancies is also increasing. Ruggerio et al (1990:442) noted that compliance with medical conditions is especially important for women with gestational diabetes because of the health implications for both the mother and the foetus. The women's struggle to achieve normal blood glucose levels continued no matter under which circumstance, including severe morning sickness or separation from the child's father (Chen et al, 2012:232). The ambivalence was present among respondents when the strict lifestyle in terms of diet mainly, became 'too much' or did not result in satisfactory glucose levels. As Aneeta, a respondent who was interviewed on the 17<sup>th</sup> November 2016 described it:

*"A feeling that this is an unsurmountable situation in checking my blood sugar. How can I cope with thinking about everything I eat?"*

The findings showed that the women expressed a need to explain their ambivalence as respondent Sherine, interviewed on the 2<sup>nd</sup> December 2016 stated when talking about her midwife:

*"She (the midwife) explained what happed in my body etc...., but very little about me as a person, what happens in my head."*

Information provided by care providers could contribute to and increase worry. For instance, a nurse told Naz, a respondent interviewed on the 12<sup>th</sup> November 2016 that:

*"A large baby is not a strong baby, it's a large and fragile baby."*

Women who suffer from gestational diabetes often deliver large babies. One specialist diabetic nurse working in a Southern hospital exaggerated conceptions of how dangerous hyperglycaemia during labour could be for the baby. Emphasis on the increased risks had created feelings of guilt in some women. Shiroze, a respondent interviewed on 20<sup>th</sup> November 2016 expressed her feelings of guilt towards her health and her baby:

*"I think in my 6<sup>th</sup> month, my HbA1C levels would not get down to at least 5.5. And the way they kept talking about that there was very, very, very, major focus on having to lower my levels because it's very dangerous for the baby"*

The women felt prioritised by the care providers during pregnancy compared to ordinary diabetes care, both in terms of access, competence and attention. Professional support entailed an established, trustful and reliable relationship. One respondent who attended

<sup>1</sup> A condition that pregnant women develop. It is marked by high blood pressure and a high level of protein in the urine

both a public hospital and a private clinic appreciated being treated as a mother-to-be in need of specific diabetes-related competence. The increased attention from care providers at the hospital was experienced as related to the baby in the womb, its health was given highest priority and the mother's health. The latter often feels depressed and suffers from anxiety since she keeps worrying about the health of the unborn child.

*"And then that's how it felt, is it just because I am carrying a baby, because otherwise they don't care, or they don't care about me. And it's very like, here you are, you are pregnant and we are focusing on the baby!"*

The respondents noted a generally high level of competence concerning diabetes among the care providers but some had also experienced insufficient professional competence, including either incorrect management or no management at all. Respondent Anjalee expressed,

*"This seemed to increase the feeling of pressure. Faulty to receiving answers to my questions, lead me to act on my own."*

Some respondents mentioned the fact that the hospital staff were not very welcoming. They displayed harsh comments on the patients and would not bother to answer their questions. They found this attitude unpleasant and felt even more discouraged to be hospitalised. Respondent Zoya stated,

*"I have never missed home as I did when I was hospitalised. I was treated merely like an object who had to be medicated and fed. In fact not only me but the other patients in the same ward felt same."*

One respondent had drawn the conclusion that there were no guidelines on treatment of pregnant women with diabetes and another one, Deepika, interviewed on the 11<sup>th</sup> November 2016, had this feeling in connection with hospital treatment of a diabetes-related complication. She was hospitalised for three days was told by the charged nurse,

*"She told me to take my iron tablets with a glass of juice and I told her I can't do that. She went out and checked my glucose levels which was a bit low. She repeated to take some juice and I said I can't do that because my glucose will go over the top. And then she said, Oh, yes, right!"*

The respondents reported that they are constantly worried about the child and its health, however at some point in time, some of them expressed hope. Kaneez, a respondent interviewed on the 5<sup>th</sup> December 2016, expecting her third child noted:

*"I know that I can have healthy children despite having diabetes. I know that I can influence it."*

Despite this hopeful attitude among some respondents, or perhaps for a comforting mind, a feeling

of doubt was more or less simultaneously present. As respondent Pooja said:

*"I read a lot about GDM on the internet, it is often mentioned that something could go wrong for somebody and that somebody will be probably me!"*

The respondents expressed a feeling of being different and outsiders. This feeling was fortified when comparing the experiences with that of pregnant, non-diabetic women. Deepika noted:

*"During my hospital stay, my friends in the same ward could not understand the reason behind pregnant women with GDM going for controls early morning. Being pregnant without diabetes is nothing. Friends complaining about being pregnant without diabetes just don't understand what problems are!"*

Respondent Hemlata, interviewed on the 19<sup>th</sup> December 2016 stated:

*"I had no idea how it would be now that I have been tested GDM positive, how difficult or easy it would be"*

Yuna, another respondent interviewed on the 14<sup>th</sup> of December 2016, was overloaded with work demands needed a certificate from her physician on order to confirm her need for 'normal' working conditions with the necessary breaks. For others, taking sick leave from work was the only solution.

During pregnancy, especially at the beginning, a women's body behaves in a different and more incomprehensible manner. Blood glucose values may be unexplainable and may rapidly decrease or increase to uncontrollable values. Some women maintained a lack of understanding including body reactions during the whole course. Jasmine was a respondent who was interviewed on the 26<sup>th</sup> of November and works as a receptionist. She noted:

*"It makes no difference what one eats because the blood glucose level seems to have a life on its own anyway!"*

Jasmine here means that the blood glucose level during pregnancy is so un-predictory that it seems to work by itself. However, for most women, their body's reactions gradually became increasingly more comprehensible. Housna, interviewed on the 20<sup>th</sup> of November 2016, expressed her satisfaction about testing her glucose levels several times a day and can easily decide what type of food is best for her to consume:

*"I have learned so much about my body that I should have known much earlier. Now, I know quite a lot about differences in the response of blood sugar to different foods."*

Dreams and plans for the child's arrival were rare or absent on several of the women's descriptions. Their decision not to rejoice made it easier to manage the birth of an unhealthy child. As Shima, a respondent

who was interviewed on the 22<sup>nd</sup> of December 2016 noted:

*"I cannot dare to be happy in advance, not before everything is seen to be okay, but only when the baby is born and you can see that it is a healthy baby."*

Meera, a respondent interviewed on the 14<sup>th</sup> November 2016, said that she never dared to rejoice and 'feel pregnant'. She was not used to expressing her deep feelings for others, not even her partner and she was filled with both great worry and great loneliness. She declared:

*"Mentally I have hardly known that I am pregnant. I never really 'entered' into pregnancy like other women do. It was only and mainly blood sugar. Even though I feel it kicks a bit and I can see it on the ultrasound monitor, I find it difficult to think and rejoice about it."*

Many respondents expressed both the need to be responsible for their situation and a need to surrender the responsibility to health professionals. As Bani, interviewed on the 12<sup>th</sup> November 2016 stated:

*"I control the disease. Being able to measure my blood sugar after every meal is a benefit. It gives me control. I feel now I am in complete control of the disease. What would it have been otherwise?"*

In order to obtain all the important goal of giving birth to a healthy child, the woman needed the care of health professionals skilled in diabetes and childrearing. The health's professional knowledge, continuous information, coaching and sensitivity in relation to each women and her needs formed the basis for the women's service of control.

The struggle for optimal blood glucose levels has led to serious hypoglycaemic symptoms for some women, one respondent suffered unconsciousness with seizures and had required help from the ambulance to attain sufficient oxygen levels, while another participant, Deena felt a strong fear of dying:

*"And sometimes in the evening I was like... whether I dare go to bed or not, what if I die in my sleep and my husband doesn't notice anything? That really gives you a lot of anxiety, you don't know how you are going to survive."*

Care organisation during pregnancy differed in the way that no universal routine exists. The number of visits including to different specialists, increased as pregnancy proceeded. This was particularly difficult for respondents who were on sick leave, or who lived far from the care providers. They also expressed the need to share experiences with other pregnant women with diabetes. Some expressed feelings of loneliness as pregnant diabetics. Women were less satisfied with support provided by care providers with limited experience of and knowledge gaps concerning diabetic pregnancies. To be in transition to motherhood requires

a supportive environment, particularly when a mother-to-be is at high risk.

Pregnant women with diabetes are at high risk of complications and are at increased risk of adverse childbirth outcomes, such as foetal congenital abnormalities, obstetrical and neonatal complications (Beckerman, 1985:82). There is a strong relationship between good glycaemic control beginning with planning pregnancy and throughout delivery and labour. Pregnant women at high risk, as in the case of diabetes feel more anxiety, worry and ambivalence than those with low-risk pregnancies (Reiss, 1992:70). However, research on how women with diabetes perceive support received during pregnancy is limited.

#### IV. THE SUPPORTIVE ROLE OF THE FAMILY

Family ties are the foundations of the whole society and should be accorded a primacy over all others. Family obligations refer to the thought that members of the family are obliged to offer assistance to other members, having a sense of duty towards them. Assistance given in the past to genealogical kin was mostly based upon mutual self-interest rather than a sense of obligation to family members (Walker and Best, 2010:75)).

Industrialisation and urbanisation since the nineteenth century had induced radical transformation of household structures and familial responsibilities. Captured within the process of modernisation, families and households witnessed a rise in individualism, which was a significant departure of co-responsibilities but now an important pillar of modern day capitalism. These changes rearranged conventional institutions to points of irreversible social transformation, of which the "family" and "extended households" had fallen victim. Individualism gave rise to nuclear families, comprising of married couples and their biological offsprings. Hence modern society is now made up of various types of social institutions which has now widely replaced the supportive roles once played by families. For instance, with the worldwide emergence of nurseries for baby and infant care, nuclear families now have ways of breaking their reliance upon extended kinship networks.

Social networks, which are the web of social ties that surrounds an individual and social support are seen as two distinct concepts. Social support may be seen as the emotional, instrumental, financial aid that is obtained from one's social network. Support is generally considered as an exchange or transaction between people. As per House's (1981) typology, there are four types of support namely emotional, instrumental, informational and appraisal support. Emotional support means providing care, love and trust to the individual while instrumental support involves providing triangle aid to a person to complete tasks. Giving an individual

advice, suggestions and information required to tackle a problem is what is known as informational support and appraisal support consists of giving constructive feedback on one's performance which might be useful in self-evaluation (Thanacody et al, 2009:69).

Some studies suggest that instrumental support has a greater influence on well-being (Schultz and Parker, 2002:58) whereas others found emotional support to be most important and it has received till now the greatest impact on the recipient of support. House's typology of support is stated here because it encompasses the complexity of social support networks regarding the family. Moreover, this typology is not limited to a list of types of support, but includes dimensions underlying the different types of social support. Social support here is defined as information leading to believe that one is cared and loved, esteemed and a member of a network of mutual obligations. The evidence that supportive interactions among people in crisis from a wide variety of pathological states. It may reduce the amount of medication required, accelerate recovery and facilitate compliance with prescribed medical regimens (Dabney and Gosschalk, 2010: 71).

*'Pregnancy is not just hard on the back but it is hard on the soul. Stress and anxiety, ups and downs often come together.'* said one respondent, Kirtee, expecting her second child was interviewed on the 14<sup>th</sup> November 2016. She stated that she finds it very difficult to manage her household duties, elder son and her job during this pregnancy as she is experiencing more complications as compared to her first pregnancy.

More than 70% of all pregnant women experience nausea and vomiting during pregnancy and most of them report that these early pregnancy symptoms cause them to change their daily activities. O'Brian and Naber (1992:65) found that women report changes in family, social or occupational functioning as a result of first trimester symptoms. Nausea and vomiting can impose substantial lifestyle limitations on pregnant women that can have short and long term consequences for them and their families. Women reported that recumbent rest or dietary alterations provided relief.

Respondents argued the need for support in cooking. The first trimester of pregnancy is usually accompanied by vomiting and nausea which prevents the woman from even entering the kitchen. The very smell of food makes them nauseous. Respondent Shaina, interviewed on the 19<sup>th</sup> November 2016 narrated that she has to cook every day for her husband and her two kids,

*"Every morning I had to prepare for lunch and dinner. Every five minutes interval I felt the need to vomit. This is very unpleasant and finally I do not even want to see the food!"*

Caregivers should recognise and validate the need for pregnant women to make changes in lifestyle that will enable them to achieve comfort. A longitudinal study was conducted to investigate the changes in the division of household labour and emotional support and practical support received by new mothers during first post-partum (first year after delivery) year. Women assumed primary responsibility for the majority of household tasks studied and they perceived declines over time in their husband's participation in household chores. Women's satisfaction with their husband's contribution was significantly related to their own mental health, delivery type (caesarean section), job status (bring at home job-related documents vs back at work) and husband's participation in child care and certain household chores (house cleaning, grocery, shopping, cooking, washing clothes and dishes, household repairs, car maintenance and garbage removal). Overall these findings showed diminishing levels of emotional and practical support for women at a time when the need for support was greater.

## V. SPOUSAL SUPPORT

In Mauritius where the people are mainly of Indian origin, and where life was largely of the agrarian cum indentured labour type in the nineteenth and early twentieth centuries, family structures were largely of the extended or joint patterns. Significant changes to the social fabric in Mauritius began taking place in the latter part of the twentieth century. There is a considerable variation in people's experiences of support among kin. Much of this depends upon their living arrangements, class backgrounds and inter-personal relationships. Against this varied social tapestry it would therefore be pertinent to ask: "Does people's experiences vary in relation to their social and economic positions"? A major issue here is how reliable is support between kin. There is a sense in which family relationships are regarded as providing structures of support, which are reliable but not everyone, for a range of reasons, is able to draw upon such support. The concept of exchange has often been used to describe support in families and this can be an expression of mutual self-interest. Emotional and moral support in the family comprises of mostly talking, giving advice and helping others in trying to make them feel better in their lives.

In many developing societies, family relationships remain vital as units of mutual economic and emotional support (Aruna and Reddy, 2001). Throughout the world, the value placed on the emotional quality of marital bonds is increasing. For instance, Brown et al, (2002:34) argued that in India, a husband's relationship to his mother is seen as traditionally more important than his relationship with his wife. Ultimately, communication and support between spouses were limited. However, there is now a reverse trend among



urban middle-class couples, Indian husbands and wives now engage in much more sustained interaction and develop close interpersonal ties in India. This type of behaviour is very common in Mauritius where a large section of the population follow the Asiatic culture. Sons are brought up like little 'kings' in many households and when they get married they expect the same treatment from their wives.

As Anjalee said,

*"You see, what is worst here is that my husband, despite having an illegal relationship, had support from his parents. I was blamed not to be attractive enough (... you know... sexy and appealing...) and that's why he had an affair!"*

The sexual division of domestic tasks at home has somewhat weakened as the employment of wives and mothers has increased. Nevertheless, in most families, the wife still carries the major responsibility for housework. It has been found that gender integration of paid work increases husband's participation in domestic work, which contributes to wife's marital happiness. Many respondents related that benefitting emotional support from their husband leaves them happy and this strengthens their relationship. As Rachelle pointed out,

*"When the doctor diagnosed me with gestational diabetes, my husband was very worried and immediately asked about the procedures to follow, like diet and medications. He takes care of me very well and does my shopping for diabetic food."*

Another respondent Deepika, interviewed on the 12<sup>th</sup> of November 2016, appreciated her husband's determination in helping her maintaining a good no sugar diet. She said:

*"I was amazingly surprised to see my husband on the same diet as me! He said that this is also his part sacrifice to have a healthy baby. Since I am enduring so much pain and health complications, he can do this small effort for me."*

The implications of numerous types of support varies with the changing needs of women as they move from pregnancy to labour. During pregnancy, emotional and tangible support provided by the spouses and others is related to the expectant mother's well-being.

In addition, informational support in the form of pre-natal classes related to maternal physical complications is essential to improve physical and mental health after delivery. Mothers who have the support of a companion can benefit from emotional support and practical help in terms of child care and housework. Some respondents mentioned about the prenatal classes to both first time to-be mothers and fathers being offered by some private clinics. Respondent Shariffa, a teacher, noted,

*"Since last month (6 month pregnant), I have been attending free prenatal classes in the private clinic where*

*I go for treatment. This is truly an important aspect that we need to consider especially for first time moms and fathers. Unfortunately, prenatal classes is not given in public hospitals and thus it is not accessible to the mass of the population."*

Support from the child's father was believed to be an important element in the women's sense of control. Participants believe the father should be at hand and listen. Respondent Rachelle, interviewed on the 14<sup>th</sup> December 2016 noted:

*"Support is being there. When I am worried, then he says everything is okay, it will be okay."*

The partner's lack of involvement in the disease is interpreted by the respondents as lack of commitment for the child. Respondent Shaina, interviewed on the 15<sup>th</sup> November 2016, reported:

*"Some days, he does not even look at my chart of glucose levels or does not even ask about my health. Then I get super frustrated because it is his child too. If he cares and sees what my glucose values are, then he cares for the child too."*

Moreover, due to the risk of low blood glucose levels and insulin, some of the women were totally dependent on support from others. They might even have been obliged to never sleep alone during the night. If in such a situation, the partner chooses his own interests such as work or travelling, a deep sense of disappointment, loneliness and even violation occurred in some of the women. As Nadine, a respondent interviewed on the 17<sup>th</sup> December 2016 noted:

*"It is difficult enough at this age not to be able to stay alone. Being dependent is not an easy thing, you know."*

In the absence of conventional conjugal relationships, the respondents who live in single parent households find it difficult to juggle between responsibilities due to the lack of a partner. Kurline, a single parent interviewed on the 15<sup>th</sup> of November 2016, related the pain she undergoes every day such as financial problems and difficulties. Her partner with whom she was in co-habitation, deserted her when she was four months pregnant. She is still an undergraduate student and does not have any permanent job. She manages with seasonal and part time employment and has just moved to her mother's place who is a divorcee and lives alone. Kurline's main worry is her future child, she stated:

*"My child is my priority for the time being. Despite the fact that Amar (her partner) has left, I want to become the mother of his child since I love him a lot. I will do everything to have a healthy baby. I attend my check-ups regularly and my mother helps me financially. Unfortunately, I had to take a break from my studies which I will resume after the birth of my baby."*

*"Relationships play a vital role in affirming one's sense of meaning and providing social support"* (Reiss

et al, 2000:487). The respondents agreed that support is important and they always need someone to listen to their problems, feelings and illnesses. One of the respondents Anjalee, a single-parent, during her interview on the 14<sup>th</sup> December 2016, related her grief,

*"I did not know that I was three months pregnant when we parted ways. Now, I feel very lonely. I have just moved to my mother's place, and things are not the same. I loved my husband very much and I do not understand why he betrayed me. Yes, he had an extra marital affair and now he prefers to live with her. That's why we got separated. I ask God why this has happened and why me?!"*

Thus, the support and concern of a partner during pregnancy can have positive consequences for the mother's desire to carry out their pregnancy. And the lack of support can be destructive for both the expecting mother and future child. To increase their commitment to the pregnancy and childbirth, partners should be more included in the prenatal care process.

## VI. PARENTAL SUPPORT AND INTER-PERSONAL DYNAMICS

Relationships between adult children and their parents are complex and consist of several independent dimensions, such as love, respect and tradition (Reiss, 1992:254). If these dimensions are well balanced, parents and children would be engaged in more interaction and the relationship would not be based under obligation but rather on mutual respect which is the essence of a long lasting relationship. With regards to the relationships with their parents, almost all the 40 respondents stated that they are in good terms with their parents or parent. 9 out of 40 respondents were in very good terms with their parents and 4 respondents had very good relationships with both their parents and in-laws. Moreover, emotional support which is referred by the researcher here as 'support provided to relieve oneself from any particular anxiety or distress and can range from mere listening to giving advice'.

The middle-class family usually hold a background which transmits a different 'cultural capital' to their children, teaching them to express their individuality and imagination more freely (Kohn, 1997:45). The respondents reported that they generally had no problems to manage their end of month expenses but sometimes they receive financial help from their parents.

## VII. MOTHER-DAUGHTER RELATIONSHIPS

### a) Support from parents: Mother/Father

All interviewees are actually facing some form of emotional distress through a difficult pregnancy and they hold different views about support received from their parents, mostly from their mothers. The

respondents showed more proximity to their mothers as compared to their fathers. They advanced that they feel so close to their mothers and they feel that this maternal bond is eternal. Almost all respondents live far away from their maternal house but they still consider themselves as a member there. They admit that they feel free to go there anytime and are confident about receiving the support they need. As Shaina, a respondent living in a rural area was interviewed on the 14<sup>th</sup> of November 2016. She denotes,

*"My mother has always considered me as a friend, during my adolescence my best friend was my mother... until now it is the same. I can relate my problems, pregnancy complications, and even my financial problems".*

Drisha, who is 22 years and in her first pregnancy and works as a receptionist, narrated that she usually receive financial support from her mother, aged 59 and who is still working as a teacher,

*"My mother still earns a good salary and she voluntarily helps me out whenever I am struggling with financial issues. She also buys me clothes and shoes and I do not have to bother about shopping!"*

Moreover, parents are most willing to help in cases of serious or even illnesses. The respondents agree that:

*"Sickness brings closeness in the family."*

Respondent Tania, a first time to-be mom, aged 21 years was interviewed on the 11<sup>th</sup> November 2016. She was eight months pregnant and reported that since her first three weeks of her pregnancy, she kept vomiting continuously and could not even stand on her feet. She had to stay at her mother's place for these eight months and was very grateful to her mother who had got out of her way to help her. She said:

*"My mother is a real gem. Despite having so many responsibilities at home, she still looked after me so well. She prepared all kinds of food for me every day and I could not even eat one of these meals properly due to continuous vomiting. Both my mother and father would accompany me to the hospital for my check-ups. My father would buy my stuffs and dietetic food regularly."*

In addition to the nuclear family units, improved health and life expectancy have added to the complexity of arranging each family vis-a-vis kin and friendship support systems. In addition, the wave of married women with young children returning back to their workplace has challenged the assumption of dependency by wives and has worried those men to continue patriarchal authority. Family support systems, the ways in which family members provide mutually beneficial, reciprocal support were investigated and brought to the attention of academics about three decades ago. Some parents with traditional family members continue with providing support to their grown



children at a critical juncture such as helping them to buy a house or to start a business (Biswas, 2006:92). Respondent Medha, interviewed on the 13<sup>th</sup> of November 2016 stated,

*"My father gave me his lump sum to construct my house after my wedding. He has always helped me in difficult times and today also when I am not well both my mother and father help me a lot in managing my sickness and household."*

Respondent Shariffa who works as a clerical officer and was interviewed on the 16<sup>th</sup> of November 2016 mentioned about receiving a car as a gift from her mother after her wedding. This mode of transport facilitates her greatly and she is still thankful to her mother for that. Another respondent, Neha who was interviewed on the 11<sup>th</sup> of November 2016 proudly said that as soon as she started having morning sickness and was not feeling well, her mother came to stay with her. The latter helped her fulfilling her domestic responsibilities, accompanying her to the hospital and also provided emotional support to Neha. She stated:

*"The presence of my mother itself was a means of encouragement for me. She always uplift my mood, encourages me whenever I am down and helps me in every single way..."*

**b) Lack of parental support: Mother**

Based on the findings in this study, women rely a lot on instrumental support during pregnancy since they are in a difficult situation not being able to stand on their feet and accomplish their daily duties. Most respondents are agreeable to the fact they need someone to help them in daily activities, however they, especially those living in nuclear families, complain that is not always available. As respondent Kaneez, interviewed on the 12<sup>th</sup> December 2016 conveyed,

*"While I needed someone to stay permanently with me and provide me a helping hand in cooking, washing dishes, laundry and look after my kid, I was very disappointed to notice that not even my mum was ready to help me! Thus my husband appointed a permanent maid who would help me and it really worked. I felt very relieved since my pregnancy was a high risk one and I was to it to carry out my domestic responsibilities."*

Respondent Rachelle, interviewed in the 14<sup>th</sup> December 2016 mentioned that she had no one to help her and she has to gather courage to manage with her pregnancy and household duties,

*"I am really unwell but I try to cook for my family, drop my daughter to school and attend duty every day. I don't know how long I will be able to do this but am trying my best"*

Women reported less positive feelings during their pregnancy as they said that they are doing much more of the housework and childcare than they had

expected. Respondent Drisha, interviewed on the 20<sup>th</sup> November 2016 related,

*"I expected to receive help from my mother and husband while pregnant. They know about my health complications but they rarely come to provide support. Especially my mother who keeps herself busy with other priorities!"*

An interviewee Jasmine, interviewed on the 19<sup>th</sup> November 2016 relates that she is not in good terms with her mother who does not understand her. She prefers to seek support from her aunt who is her best friend. The respondents admitted that they always welcome help from their parents and feel discouraged whenever they do not receive support in difficult times. As Shirine, a respondent interviewed on the 21<sup>st</sup> December 2016 told in her interview,

*"I am very sad and feel so distressed to be in this situation. My mother once told me that I am now married and that her responsibilities towards me is over. She has done enough for me in the past and up to me now to continue my life ahead. This always comes to my mind whenever I am facing any kind of difficulty in my career, raising my child or lately my pregnancy. I hesitate to ask for help and it is my husband who always call her repeatedly to come and help us." My mother-in-law works as confidential secretary at the Ministry and she is very formal type, you know, she seldom phones to ask about my health."*

## **VIII. IN-LAWS/DAUGHTER-IN-LAW RELATIONSHIPS**

**a) Support from in-laws**

Respondent Deena who works as a clerical officer and was interviewed on the 16<sup>th</sup> December 2016, described how her mother in law saw her stressful situation and came to help her voluntarily,

*"Despite the fact that we live far from her house, when my mother in law saw my plight she voluntarily came to stay with us. She helps me in everything including household tasks and even wakes up at night to feed my elder son. I am really thankful to her for her determination in helping us. After all she is helping her grandchildren!"*

Listening to people's sufferings is also a very important tool in providing support. Housna, a respondent who lives in a rural extended family and was interviewed on the 23<sup>rd</sup> November 2016 states,

*"My mother-in-law is very supportive you know and my father-in-law is even more caring. He is always anxious about my health and keeps asking about my state. He drives me to my appointments and drops my child to school every day."*

Another respondent Drisha related how her in-laws would provide support during her pregnancy. She works as a nurse and during her night shifts her father-

in-law would bring her some hot home-made snacks and tea. She related:

*"You know, the way my in-laws take care of me, I really don't miss my mother that much. She left this world when I was still a kid and since then, I have been yearning for a mother. Since I have come in this family (in-laws), they look after me as their own daughter and this is very reassuring."*

In addition, Mehnaz, a respondent interviewed on the 12<sup>th</sup> of November 2016 stated:

*"When I was around 5 months pregnant, my husband fell ill with strong fits and seizures. He was very stressed due to work overload and many loans that we had lent to build our house. Seeing our plight and especially that of my husband, my mother-in-law who was deputy-head teacher in a primary school, resigned to take care of us. She was very worried about the health of her son and my future child. She gave assistance to our whole family without complaining. For me she is God sent, you know... she is helping us in our difficult times."*

*b) Lack of support from in-laws*

The balance of roles between husband and wife is one of the most important dimensions differentiating the family system of one society from another and from differentiating societies from each other (Barnett, 2004:160). Husbands in joint households and living in patriarchal societies have greater power in terms of rights and freedom than their wives. Power in the Indian family system is primarily derived from one's position in the kinship network rather than from individual characteristics and achievements. This is because of the presumed greater attachment to traditional roles of those joint households where the availability of adult relatives of the husband on whom he can depend for advice and help and as allies in case of conflict with the wife (Baker et al, 2008:881). As respondent Nasreen, who was interviewed on the 14<sup>th</sup> November 2016 said:

*"Since my husband is two years younger than me, my mother-in-law did not approve this relationship. Till today this is the same. Though I live in the same house, she makes me feel inferior, as if I am an animal! My husband always has the last word and I am like his puppet. I feel very lonely and at times I want to return to my mother's place. I am 7 months pregnant and in a very bad state. I am very worried about my future child due to my pregnancy complications. I pray that he is not diabetic like me..."*

Another respondent Hemlata, who was interviewed on the 18<sup>th</sup> November 2016 talked about how her mother in law would disregard her pregnancy and her state of health,

*"I am in a very bad state and you know I still can't cook for my family. I feel nauseous. My mother in law does not care. She sends food only for my husband and my child."*

*I feel this is very inhumane on her part. And my husband is also very busy, he does not have time to listen to me!"*

Respondent Rehana, who is 8 months pregnant and was interviewed on the 16<sup>th</sup> November 2016, mentioned,

*"I live in the house of my father-in-law who is a sick person. Since my mother-in-law is no more, I have to cater for all his needs such as food, wash his clothes and so on. These days I am myself not well and I can't really manage on my own. I really need help in my daily activities but my husband does not really believe so. He says he will help me but he does not."*

According to the role theory, while the cumulative demands of various roles can result in role strain, available resources may prevent or reduce it (Gatrell, 2007:65). Indeed, it has been recognised that factors such as supportive relationships at home and work have an important bearing on the other extent to which role multiplicity maybe detrimental to an individual's well-being (Dillaway and Paré, 2008:460). Very often when women get back from work in the evening, they has to turn herself into a 'housewife' and get busy in the kitchen or around the house. This becomes even difficult to manage during a high risk pregnancy. Respondent Zabeen, expecting her second child was interviewed on the 19<sup>th</sup> of November. She said,

*"Once I am home, I have to look after the kid and cook food at the same time. Sometimes I feel very tired and want to rest a bit but this is not possible due to all my responsibilities and commitments."*

The meaning of parental support varied for the respondents. For some of them, parental support is more of providing guidance, recommending and comprehension rather than material support. Whereas for others (Drisha, Rachelle, Kaneez), parental support is more in the form of material (financial) support. Respondent Mehnaz mentioned that help came to her before she even asked for it. Her mother-in-law is very cooperative and helps her in both household chores and looking after her baby. However, on her side, Deepika revealed that she would never ask for help from her parents since she would not want them to be anxious, although she knew that the latter would provide the essential support to her.

Respondent Saina narrated,

*"We decided to construct our own house before getting married. Once we have moved, I started to feel pressure because we had to manage everything on our own. No one to support us. The tension is more today because I am sick and pregnant, no one to cook my food, look after my kid. It is very tough to handle."*

*c) Support from social networks and non-genealogical kin: Friends*

Families can provide an opportunity for stability and indirect exchange as normative options (Hansen et

al, 1993: 90). The individually mobile nuclear family may attenuate extended family ties during periods of stress in the movement between social positions. Families today create their own relatives as needed. Friends are called to fill in missing or non-functioning kin. Many respondents reported having friends who really care and mean a lot to them even more than their families. Respondent Priscilla, who was interviewed on the 30<sup>th</sup> of November 2016 said she prefers to meet friends and rely on them for support since she does not have any in-laws in Mauritius. Her husband is a Chinese native whom she met when she was studying in China. They got married and he came to settle in Mauritius and works as a tourist guide. Consequently, Priscilla does not have any in-laws in Mauritius to support and help her whenever when she is in difficulty. She says that only her mother takes care of her and provides support to both of them. She stated:

*"These days my mother is not well. She is having some gastric problems. I usually rely on my mother to help me but now she cannot since she is bed ridden. Thus, we rely on my husband's friends and their wives for support and they have now become more than family. My husband's friends are also Chinese who have married Mauritians and settled here. So we have formed a small group of 'good' and reliable friends and help each other as much as possible."*

Another respondent Zabeen, was interviewed on the 17<sup>th</sup> of November 2016 reported,

*"I live in the same house of my in-laws but upstairs. They are very nosy and keep a track of everything I do. But they are never ready to help me. They just want to know my whereabouts and gossip around. My mother-in-law always pretends to be very tired and sick whenever she finds that I need help! Thus, I prefer to call my friends especially my best friend who is always ready to help me."*

Another respondent, Tania who was rejected by her parents because she married her husband, whom they did not approve the relationship. The couple now live far away from their parents as the husband's family is also not too friendly but more sarcastic and ironical. They prefer to rely on a group of common friends. She was interviewed on the 12<sup>th</sup> of December 2016 and stated:

*"We are like a small family. There is no gossip, jealousy or hatred but only mutual respect, understanding and love. Most of our friends have the same plight as ours that is some of them have either been rejected by their parents or others are not in good terms with their parents/in-laws. We always help each other without hesitation and our unity is our plus factor!"*

Moreover, relating to the sensitivity of the issue that is a pregnancy with health complications like diabetes, some respondents mentioned that they feel

more comfortable to relate personal issues to a friend rather than to their parent/mother-in-law. Respondent Sarah, interviewed on the 11<sup>th</sup> December 2016 stated she preferred to discuss about her health issues with her colleague at work who is also her best friend. She stated:

*"Poonam, my best friend at work is my confident. It is very easy for me to relate my personal problems as she is very understanding and is a mother of three children."*

Another respondent Deepika mentioned:

*"Discussing my health issues with my school friend, Anna gives me some relief. We still entertain good friendship since our school days. I think we have an eternal friendship bond. We both understand each other so well. Anna comes to see me almost every day, helps me around the house and sometimes even cooks for me and my husband! No doubt I will also help her in the same way one day if she is experiencing some difficulties in life."*

Comparing the findings with research among pregnant mothers without diabetes reveals interesting differences. Living with diabetes is described as a transformational experience. In the present findings, the need to live a normal life, like other pregnant women was obvious. Women with Type II gestational diabetes (GDM) had difficulty in daring to hope. Thoughts and plans for the future and the child's arrival were rare and absent. This behaviour seemed to be a kind of defence against the threat of sorrow and uncertainty about an unhealthy child. This study's findings make it clear that life for pregnant women with GDM, as for all humans is based on relationships (0). Life is intersubjective ( ) and thus social support is of great importance. Shared control includes a woman's need and desire to take responsibility and to be coached or supported by health professionals, relatives and employers. Women are involuntarily controlled when health professionals act as a controlling factor, relatives deny support or increase worry.

Pregnant women with GDM is found through this study as extremely vulnerable. Behaviours of health professionals, such as nurses, midwives and physicians and of relatives, friends and employers influenced the women. The latter should encourage her to master the disease and the overall goal should be to support the pregnant women to live a life that is best suited for both the child's health and her own well-being. This includes an open caring relationship where the individual women is understood and supported, empowered to strive for normal glycaemia, and encouraged to be reconciled with her disease. It also includes informing her partner and other significant persons about her need for support.

## REFERENCES REFERENCIAS

1. Ambady, R., Snehalatha, C., Samith Shetty, A., & Nanditha, A. (2013). Primary prevention of Type 2 diabetes in South Asians—challenges and the way forward. *Diabetic Medicine*, 30(1), 26-34.
2. American Diabetes Association. (2002). The prevention or delay of type 2 diabetes. *Diabetes Care*, 25(4), 742-749.
3. Baker (2015) the trends in Diabetes and Cardio Vascular disease Risk in Mauritius, The Mauritius Non Communicable disease survey, Heart Diabetes Institute.
4. Barnett R. Women and multiple roles: myths and reality. *Harv Rev Psychiatry*. 2004;12:158–164. [PubMed].
5. Ben-Haroush, A., Yoge, Y., & Hod, M. (2004). Epidemiology of gestational diabetes mellitus and its association with Type 2 diabetes. *Diabetic Medicine*, 21(2), 103-113.
6. Benyshek, D. C., Martin, J. F., & Johnston, C. S. (2001). A reconsideration of the origins of the type 2 diabetes epidemic among Native Americans and the implications for intervention policy. *Medical Anthropology*, 20(1), 25-64.
7. Berg, M. (2005). Pregnancy and Diabetes: How Women Handle the Challenges. *The Journal of Perinatal Education*, 14(3), 23–32. <http://doi.org/10.1624/105812405X575552>
8. Bhat, M., Ramesha, K.N., Sarma, S.P., Sangeetha Menon, S.C. and Kumar, G., 2010. Determinants of gestational diabetes mellitus: A case control study in a district tertiary care hospital in south India. *International journal of diabetes in developing countries*, 30(2), p.91.
9. Biswas, R. T. (2006). Risk factors and pregnancy outcomes among gestational diabetic mothers. *Brazil. BMC pregnancy and childbirth*, 11(1), 92.
10. Callister, L.C. and Birkhead, A., 2002. Acculturation and perinatal outcomes in Mexican immigrant childbearing women: an integrative review. *The Journal of perinatal & neonatal nursing*, 16(3), pp. 22-38.
11. Carr, D.B., Utzschneider, K.M., Hull, R.L., Tong, J., Wallace, T.M., Kodama, K., Shofer, Change, L., & Work, W. (2010). Speaker abstracts. In *UK ConsensUsConferenCe on* (Vol. 40, No. 17, pp. 40-6).
12. Chen, L., Magliano, D. J., & Zimmet, P. Z. (2012). The worldwide epidemiology of type 2 diabetes mellitus—present and future perspectives. *Nature Reviews Endocrinology*, 8(4), 228-236.
13. Childress, S. (2013). A meta-summary of qualitative findings on the lived experience among culturally diverse domestic violence survivors. *Issues in mental health nursing*, 34(9), 693-705.
14. Crouter, A. C. (1984). Spillover from family to work: The neglected side of the work-family interface. *Human relations*, 37(6), 425-441.
15. Dabelea, D., Knowler, W.C. and Pettitt, D.J., 2000. Effect of diabetes in pregnancy on offspring: follow-up research in the Pima Indians. *Journal of maternal-fetal medicine*, 9(1), pp.83-88.
16. Dabney, B., & Gosschalk, A. (2010). Diabetes in rural America: a literature review. *Rural Healthy People*, 57-72. *Diabetes Care* 1990 Apr; 13(4): 441-443.
17. Elsenbruch, S., Benson, S., Rücke, M., Rose, M., Dudenhausen, J., Pincus-Knackstedt, M. K., ... & Arck, P. C. (2007). Social support during pregnancy: effects on maternal depressive symptoms, smoking and pregnancy outcome. *Human reproduction*, 22(3), 869-877.
18. Evans, M.K. and O'Brien, B., 2005. Gestational diabetes: the meaning of an at-risk pregnancy. *Qualitative Health Research*, 15(1), pp.66-81.
19. Finn S. Helping Women Find Everyday Solutions. *Journal Of Women's Health & Gender-Based Medicine*. 2000;9:951–954. [PubMed]
20. Gatrell C. Secrets and lies: Breastfeeding and professional paid work. *SocSci Med*. 2007;65(2):393–404. [PubMed]
21. Glezer H. Mothers in the workforce. *Fam Matters*. 1988;21:30–34. (ABSTRACT) [PubMed]
22. Greenberger E., O' Neill R. Maternal employment and perceptions of young children: Bronfenbrenner et al. revisited. *Child Dev*. 1992;63:431–488. [PubMed]
23. Hanna-Leena Melender, R. M. (2002). Experiences of fears associated with pregnancy and childbirth: a study of 329 pregnant women. *Birth*, 29(2), 101-111.
24. Hansen D., Høgdall C.K., Vestermark V., Birch M., Plenov G. Utilization of the right to maternity leave and resumption of work after delivery. A longitudinal prospective study [Article in Danish] (abstract only) UgeskrLaeger. 1993;155(2):89–92. [PubMed]
25. Kieffer, E. C., Willis, S. K., Arellano, N., & Guzman, R. (2002). Perspectives of pregnant and postpartum Latino women on diabetes, physical activity, and health. *Health Education & Behavior*, 29(5), 542-556.
26. Magliano, D. (2012). All-cause cancer mortality over 15 years in multi-ethnic Mauritius Diabetes Care Ministry of Health and Quality of Life (2006): Annual Health Statistics, Port Louis Mauritius Ministry of Health and Quality of Life, National Plan of Action for Nutrition 2009-2010.
27. Perreault, L., Ma, Y., Dagogo-Jack, S., Horton, E., Marrero, D., Crandall, J., & Barrett-Connor, E. (2008). Sex differences in diabetes risk and the effect of intensive lifestyle modification in the Diabetes Prevention Program. *Diabetes Care*, 31(7), 1416-1421.



28. Perveen, S., Otho, M.S., Siddiqi, M.N., Hatcher, J. and Rafique, G., 2010. Association of depression with newly diagnosed type 2 diabetes among adults aged between 25 to 60 years in Karachi, Pakistan. *Diabetology & metabolic syndrome*, 2(1), p.1.
29. Repetti, R. L., & Wood, J. (1997). Effects of daily stress at work on mothers' interactions with preschoolers. *Journal of Family Psychology*, 11 (1), 90.
30. Rosenberg, M., & Lawrence, A. (2000). *Review of primary prevention of type 2 diabetes in Western Australia*. Department of Public Health, University of Western Australia.
31. Ruggiero, L., Spirito, A., Bond, A., Coustan, D. and McGarvey, S., 1990. Impact of social support and stress on compliance in women with gestational diabetes. *Diabetes Care*, 13(4), pp.441-443.
32. Seguin, L., Potvin, L., Denis, M. S., & Loiselle, J. (1995). Chronic stressors, social support, Singh, R., Shaw, J., & Zimmet, P. (2004). Epidemiology of childhood type 2 diabetes in the developing world. *Pediatric diabetes*, 5(3), 154-168.
33. Söderberg, S., Zimmet, P., Tuomilehto, J., Chitson, P., Gareeboo, H., Alberti, K. G. M. M., & Solet, J. L., Baroux, N., Pochet, M., Benoit-Cattin, T., De Montera, A. M., Sissoko, D., ... & Songer, T. J., & Zimmet, P. Z. (1995). Epidemiology of type II diabetes. *Pharmacoeconomics*, 8(1), 1-11.
34. Thornton, P.L., Kieffer, E.C., Salabarría-Peña, Y., Odoms-Young, A., Willis, S.K., Kim, H. and Salinas, M.A., 2006. Weight, diet, and physical activity-related beliefs and practices among pregnant and postpartum Latino women: the role of social support. *Maternal and child health journal*, 10(1), pp.95-104.
35. Ventura, J. N. (1987). The stresses of parenthood re-examined. *Family Relations*, 26-29.
36. Wendland, E. M., Duncan, B. B., Mengue, S. S., & Schmidt, M. I. (2011). Lesser than diabetes hyperglycemia in pregnancy is related to perinatal mortality. Winwood, P. C., Winefield, A. H., & Lushington, K. (2006). Work-related fatigue and recovery: the contribution of age, domestic responsibilities and shift work. *Journal of Advanced Nursing*, 56(4), 438-449.