"CUTANEOUS MANIFESTATIONS IN TYPE 2 DIABETES MELLITUS IN URBAN AREAS OF BELAGAVI - A LONGITUDINAL STUDY"

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KARNATAKA.

Endorsement By The Head Of Department, Principal / Head Of The Institution

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Undertaking

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LIST OF ABBREVIATIONS

AGE : Advanced Glycation End products

NEG : Non-Enzymatic Glycosylation

WHO : World Health Organization

DM : Diabetes Mellitus

FPG : Fasting Plasma Glucose

χ^2 : Pearson's Chi Square Test

BMI : Body Mass Index

JNC : Joint National Committee

SPSS : Statistical Package for Social Sciences

SD : Standard Deviation

OHA : Oral Hypoglycemic Agents

IEC : Information Education Communication

ABSTRACT

Introduction:

Diabetes mellitus is a worldwide problem being the most common metabolic disorder. At present there are more than 422 million diabetics globally and predicted to double in 2030 with a maximum increase in India afflicting up to 79.4 million individuals. Cutaneous signs of diabetes mellitus are extremely valuable to clinicians as some of them may alert the physicians to the diagnosis of diabetes mellitus, as it can be the presenting symptom and reflect the status of glycemic control or may indicate the development of diabetes in due course of time. Thus these cutaneous lesions can often presents as the first warning signals for this metabolic disorder and can be used as a good predictor for evaluating not only the risk of developing diabetes but also treatment success

Objective:

To know the incidence of cutaneous manifestations in type 2 diabetes mellitus in urban areas of Belagavi**.**

Methodology:

Data was be collected from type 2 diabetes mellitus patients attending Diabetes clinic in Urban Health Centre Ashok Nagar and Ram Nagar under field practice area of Department of Community Medicine, Jawaharlal Nehru Medical College, Belagavi. Only after obtaininginformed written consent the diagnosis of diabetes mellitus type 2 is confirmed by verifying the diabetic register, maintained in the Urban Health Centresandmedical records was reviewed for information of duration, medications, and complications of diabetes. Information about socio-demographic profile, general physical examination, systemic and cutaneous examination was recorded using questionnaire validated, predesigned and pretested

proforma. All patients were subjected to detailed history regarding skin complaints, duration of diabetes mellitus type 2, family history and treatment of diabetes mellitus. All cases were subjected to thorough cutaneous and mucosal examination under natural light. They were screened for cutaneous diseases with known or postulated or without a clear pathogenesis as well as with complications and treatment of diabetes mellitus type 2. All patients were called for follow-up monthly till 31th December 2016.

Data analysis:

The data was tabulated and master chart was prepared. Data collected in the questionnaire was coded and entered in Microsoft excel sheet. Data was analysed using Statistical Package for Social Sciences (SPSS), version 21.0 and the incidence of cutaneous manifestations was expressed in terms of percentages. Statistical analysis was done using Pearson's Chi- Square test to find out the association between cutaneous manifestations and risk factors. A probability value (p value) of less than 0.05 was considered as significant.

Results:

Of the 180 study participant, 36.67% were in the age group of 56-65 years and 28.8% were in the age group of 66-75 years forming the majority of the participants. The average age of the study participant was 59.88 ±11.06 (mean ± S.D.) with a range of 27 to 87 years of age. 74.44% were female forming the major portion and 25.56% were male. In this study Muslim and Hindu participant were almost equal with 48.89% and 45.56% respectively, and the remaining 5.56% of the participant were Christians.

Most of the study participant 36.11% were illiterate and 28.89% of them had studied up to Primary school. 83.33% were unemployed and 11.11% were skilled workers. Among the 180 study participant 22 (12.22%) were of Class I, 49 (27.22%) were of Class II, majority

were of Class III with 56 (31.11%) participant. 43 (23.89%) were of Class IV and 10 (5.56%) were of Class V.

Among the 180 study participant the prevalence of cutaneous manifestations was found to be in 88 (48.88%) and 92 (51.11%) did not have any skin lesion at the time of collection of baseline information.

177 total subject were followed up for a total of 10 month. 3 study participant were accounted to loss to follow up. 1 was due to death and other 2 were due to change in residence. These study participant contributed to 6, 8 and 9 months of follow up. This amounting to 1793 months, which is 99.61% of follow up. And the attrition rate was 0.38%.So, the cumulative incidence was found to be 0.4777 or 47.77 per 100 Diabetics and incidence rate was found to 0.0479 per Diabetics – Years.

Conclusion:

Dermatological manifestations were highly prevalent causing considerable morbidity although the true burden is difficult to define. The most common lesion noted were Xerosis during the winter months and Tinea paedis during the monsoon season. The incidence newer lesions was low owing the chronicity of the diabetes mellitus. However there are cutaneous markers such as Acanthosis nigricans and skin tag which are considered precursors for the development of diabetes mellitus.

Key words: Type 2 Diabetes mellitus, Cutaneous manifestations, Urban area, Incidence

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INTRODUCTION

Diabetes mellitus is a worldwide problem being the most common metabolic disorder. At present there are more than 422 million diabetics globally and predicted to double in 2030 with a maximum increase in India afflicting up to 79.4 million individuals. [1,2]

In consequence to insulin resistance in type 2 diabetes mellitus, the elevated blood glucose levels results in metabolic, vascular, neurological and immunological abnormalities. By virtue of micro-vascular involvement, any system or organ can be affected, the skin is no exception. [3] Skin being the largest and the most easily accessible organ, is window to the internal body.

Cutaneous signs of diabetes mellitus are extremely valuable to clinicians as some of them may alert the physicians to the diagnosis of diabetes mellitus, as it can be the presenting symptom and reflect the status of glycemic control [4] or may indicate the development of diabetes in due course of time. Thus these cutaneous lesions can often presents as the first warning signals for this metabolic disorder and can be used as a good predictor for evaluating not only the risk of developing diabetes but also treatment success. [5]

Without a tight glycemic control, mucocutaneous conditions have the vulnerability to be recalcitrant. If these trivial skin problems are not addressed adequately it can lead to major and even fatal complications due to aggravated and uncontrolled diabetic status. Therefore, appropriate treatment of skin manifestation becomes important for control of diabetes mellitus and while treating the skin manifestation, control of diabetes mellitus becomes vital. [6]

Some diabetes associated skin conditions are a direct result of the related metabolic changes such as hyperglycemia and hyperlipidemia. However the mechanisms for other diabetes associated skin conditions remain unidentified. Hyperglycemia leads to non-enzymatic glycosylation (NEG) of various structural and regulatory proteins, including collagen. Although NEG occurs normally with aging, the process is greatly accelerated in diabetes. NEG leads to the formation of advanced glycation end products (AGEs) that are responsible for decrease in both acid solubility and enzymatic digestion of cutaneous collagen. Disorders such as diabetic thick skin and limited joint mobility are thought to result directly from accumulation of AGEs. Studies show that the degree of cutaneous AGEs correlates strongly with retinopathy, nephropathy and other microvascular complications of diabetes as well. [7]

Chronicity of diabetes plays a big role in cutaneous manifestations. A strict glycemic control reduces the microvascular diseases. [8] It may have a beneficial effect on a subset of skin-related, diabetes associated disorders. It is also noted that individuals with type 2 diabetes mellitus are more likely than those with type 1 diabetes to develop cutaneous lesions. [9]

Its prevalence is increasing in the present scenario of a sedentary lifestyle in the general population. The association of certain skin disease with diabetes is not well recognized with an incidence rate ranging from 11.4to 91.2%. [10, 3]

Though cutaneous manifestations of diabetes are well known and considered common, systematic surveys of the cutaneous findings in patients with diabetes mellitus are sparse. Although several reports suggest that some of the skin manifestations in diabetic patients may reflect the degree of long-term control of the

disease and are associated with other diabetes complications, no confirmative data is available. [11]

A study of the cutaneous manifestations in patients with diabetes may enlighten us on the various manifestations and help in early diagnosis of diabetics. Thus permitting an effective management. This study will provide knowledge on the problem statement of diabetes with skin lesions and the types of lesions. While all other devastating complications of diabetes have been extensively studied, the aspect of dermatological complications is relatively unexplored. Filling up of this lacunae will aid in the comprehensive treatment of a patient with diabetes.

OBJECTIVE

To know the incidence of cutaneous manifestations in type 2 diabetes mellitus in urban areas of Belagavi**.**

REVIEW OF LITERATURE

Diabetes prevalence has been rising more rapidly in middle- and low-income countries with a global prevalence of 4.7% in 1980 to 8.5% in 2014 and the national prevalence of 8.7%.Diabetes is a major cause of blindness, kidney failure, heart attacks, stroke and lower limb amputation. In 2015, an estimated 1.6 million deaths were directly caused by diabetes. World Health Organization projects that diabetes will be the seventh leading cause of death in 2030. [12] To address this high end burden, World Health Organization's World Health Day Theme in 2016 was "Beat Diabetes".

Skin changes are exhibited as a consequence of chronic metabolic derangements or defective interaction of insulin with its receptors. Most of these dermatological lesions are already present when the metabolic derangements manifest itself clinically. Certain diabetes associated skin changes permit conclusions as to the individual risk of possibly life threatening complications like myocardial infarction, renal failure, arterial hypertension, ischemia of brain. [13]

Non-enzymatic glycosylation plays a central role in the pathogenesis of these changes. Chronic hyperglycemia gradually leads to chemically irreversible formation of glucose protein complexes (Advanced glycosylation end products). One such glycosylation product is HbA1c.Its level can be utilized as a nutritional dependant parameter reflecting the degree of blood glucose control. [13]

Glycosylation collagen results in increased intermolecular linkage of structural proteins and consequently a decrease in their enzymatic degradation. This disturbed balance between collagen synthesis and degradation leads to

accumulation of collagen, resulting in scleroderma like conditions. These are known as limited joint mobility i.e. diabetic cheiropathy or diabetic scleroderma. [13]

Literature on this area is vast. Most of the study conducted were of the study design, cross-sectional study. Very few studies have conducted with longitudinal study design. A follow-up study is needed as cutaneous lesions can develop anytime during the course of type 2 diabetes mellitus.

A longitudinal observational study was conducted on patients having diabetes with skin complaints attending Skin out-patient department or admitted in wards for any reason in Sir Sayajirao General Medical College and Hospital, Vadodara, Gujarat, India. A total of 300 patients were included in the study. Detailed history, clinical examination and relevant investigations were done to diagnose the mucocutaneous disorders, diabetes and diabetic complications. Mucocutaneous manifestations as presenting feature of diabetes were observed in 21.67% cases. 166 (55.3%) patients presented with single cutaneous manifestation, while more than one finding were seen in 134 (44.7%) patients. Infections were most common in 119 (39.66%) cases, followed by acanthosis nigricans in 46 (15.33%) cases. [6]

A total of 100 diabetic patients with cutaneous manifestations, attending skin OPD at Civil Hospital, Belgaum, Karnataka, India and Karnatak Lingayat Education Society's Hospital and Medical Research Centre, were randomly selected. The study was conducted over a period of 22 months from March 1995 to December 1996. Fungal infections were common cutaneous manifestation followed by bacterial infections and generalized pruritus. Those patients who were

on oral hypoglycaemic drugs, insulin therapy found to have photodermatitis and localized lipoatrophy. The common associated skin diseases with diabetes mellitus were fungal infection (38%) and viral infections (2%). Unexplained generalized pruritus was observed in (17%) cases, followed by pruritus ani is (3%) and prurigo simplex in (1%). Cutaneous markers of diabetes i.e. acrochordons were observed in 17% cases. The other manifestations observed were lichen planus (6%), PLE (3%), psoriasis (3%), vitiligo (2%), Kyrle disease (2%), infected eczema (2%), scabies (2%), lichen simplex chronicus (2%) and pemphigus vulgaris (1%). [14]

A cross sectional study was conducted among those attending the out-patient departments of Dermatology and Medicine of Bhagat Phool Singh Government Medical College, Khanpur Kalan, District Sonepat, Haryana. It was found that among the 200 (100 controlled and 100 uncontrolled) patients with the diagnosis of diabetes mellitus type 2, 49% had cutaneous manifestations. The duration of diabetes ranged from 1 year to 20 years. The majority of the patients (55%) with cutaneous manifestations were having the disease duration between 1-5 years. Most common manifestation was cutaneous infection (49%).Fungal infections were seen in 26% of the cases, forming the largest group. Pruritus, localized or generalized without any skin lesions were present in 10.5% of the cases. 1% of the patients had Lichen planus, Psoriasis and Pemphigus vulgaris. The male: female ratio was 2:3. Prevalence of skin infections was most common in the age group of 51-60 years. [15]

An observational study was conducted to analyze the prevalence and pattern of skin disorders among diabetic patients attending the out-patient department of General Medicine and Endocrinology of a Medical College and

Hospital in Eastern India. The data were collected prospectively and systematically in a pre-established proforma, where clinical findings along with investigations were recorded. Among 680 diabetic patients who were examined, there were 64.8% male and 35.1% were female, and of them 95.3% were type 2 diabetics while 4.7% were type 1. 503 (73.9%) were found to have skin lesions. 13 (41%) type 1 diabetics demonstrated skin lesions commonest being diabetic xerosis, infections and diabetic hand. Among type 2 diabetics 490 (75.61%) showed skin lesions. Here infections, xerosis, hair loss beneath the knees, diabetic dermopathy were the most frequent. Majority of the patients (67%) had combination of more than one type of skin lesion. There was statistically significant correlation of skin lesions with duration of diabetes, however similar correlation could not be demonstrated regarding metabolic control. Involvement of skin is inevitable and multifarious in diabetes mellitus. The duration of diabetes is positively correlated with lesions and infective dermatologic manifestations were associated with higher HbA1C values. [16]

In the Endocrine out-patient department and Diabetic clinic of department of Medicine, Government Medical College, Jammu, conducted a study with 150 consecutive diabetes mellitus patients. 150 age and sex matched non-diabetics attending the medicine outpatient department were taken as controls. The majority, 65.3%, belonged to the 41-60 years age group; 56% were females, 97.3% had non-insulin dependent diabetes, 44.7% had duration of diabetes of 1-5 years. Among the study group, 66% had cutaneous manifestations as compared to 21.3% in the controls, which was statistically highly significant ($P<0.0001$). Varied cutaneous manifestations were significantly seen in diabetics as compared to controls ($P < 0.05$). Diabetic thick skin in the form of finger pebbles was the most common

manifestation (49.49%), followed by fungal and bacterial infections (34.34%). The occurrence of cases with cutaneous manifestations were having uncontrolled diabetes and had multiple and varied manifestations. [4]

A study was carried out in Medicine Department, Liquate University Hospital Jamshoro, Hyderabad, Sindh, Pakistan, from January to December 2005. Diabetic patients who had skin problems were selected for the study with convenience sampling technique. Then questionnaires were filled for collection of the data. In this study, 72% diabetics had skin infections, whereas 28% patients had non-infectious lesions. Fungal infections were the most common (50%), followed by 14.4% bacterial infections and viral infections (7.77%). Among fungal infections, Candida albicans was commonest (22.2%). The non-infectious lesions were skin tags (8.8%), xanthomas (6.6%) and pruritus (6.6%). [17]

In a cross-sectional study, the pattern of cutaneous disorders was studied. In a tertiary care hospital, a total of 500 consecutive patients were studied. Dermatoses with or without known pathogenesis were correlated with age, gender, fasting plasma glucose (FPG), duration of diabetes and complications of diabetes mellitus. The study showed that majority of patients had well-controlled (FPG<130 mg/ml, 60%) type 2 DM (98.8%). No statistically significant difference (P>0.05) between the patients with or without DM specific cutaneous disorders was noticed with reference to age and gender distribution, duration of DM and FPG. Signs of insulin resistance, acrochordon (26.2%), and acanthosis nigricans (5%) were common, followed by fungal (13.8%) and bacterial (6.8%) infections. Eruptive xanthoma (0.6%), diabetic foot (0.2%), diabetic bulla (0.4%), diabetic

dermopathy (0.2%), generalized granuloma annulare (0.2%), and insulin reactions (6.2%) and lipodystrophy (14%) were also seen. [18]

In the out-patient department of District Headquarters Hospital Battgram, from January 2008 to July 2008 a descriptive study was done to evaluate the frequency of skin manifestations in 350 patients with diabetes mellitus of both type 1 and type 2. The mean age of the patients was 54±8.53 years, which meant that the majority of the diabetics were suffering from the disease in their most productive years of life. Duration of diabetes was between 1-12 years. 320 patients had type 2 and 30 patients had type 1 diabetes mellitus. Patients with uncontrolled diabetes were 327 and 23 patients showed adequate glycemic control. 76% of the patients had cutaneous manifestations. The skin manifestations observed were: skin infections were 30.9% of which bacterial infections were most common amounting to 19%, foot gangrene, ulcers and acanthosis nigricans were 2.9%, eruptive xanthomas were 2.6%, necrobiosis lipoidica diabeticorum was 1.4%, diabetic bullae was 0.6% and pigmented purpuras in 0.3% of the patients. Female patients had higher frequency of skin disorders (45.1%) as compared to male diabetics (31.4%). The ulcerations of the foot was seen in 12.9% of the patients due to infections, ill-fitting foot wear, improper toe nail cutting, use of chappal with a single throng and bare foot gait. [19]

A retrospective study of 232 patients seen between August 1998 and April 2000 at the Skin clinic in Princess Haya hospital, Aqaba was undertaken to determine the prevalence of skin disorders associated with diabetes mellitus aged 60 years and more. Eczema/dermatitis was the commonest skin disorder seen (25.9%), followed by pruritus without skin lesions (15.1%), viral infections

(14.7%, most commonly Herpes zoster), fungal infections (13.8%) and bacterial infections (10.3%). Bacterial infections were the most common skin disorder in patients with diabetes mellitus (62.5%), followed by fungal infections (50.0%). Skin disease cause considerable morbidity in elderly, especially in those with diabetes. The male: female ratio was 3:4, as slightly more women than men visited the skin clinic. Two cases of malignant skin tumours were seen squamous cell carcinoma and basal cell carcinoma, both in male patients. [20]

A cross sectional study was conducted in Iraq among 110 diabetic patients covering both males and females from different ethnicities and occupations to evaluate the frequency of skin manifestations. This study was conducted over the period of 2005 to 2006 including patients over 20 to 75 years age using a specific questionnaire. The skin manifestations observed were skin infections (19.4%), itching (12.1%), skin atrophy and inter-digital maceration (10.5%), waxy skin (9.7%), lipodystrophy (9.7%), skin thickening (7.2%), sweating disturbance (7.2%), diabetic dermopathy (6.5%), yellow nails (6.5%) and others. Infection, itching, skin atrophy and sweat disturbances are the most common three initial skin manifestations in diabetes mellitus patients of this work. The study revealed that it took more than 10 years for skin manifestations to appear in 60% of the patients. On the other hand, no patient reported manifestation at 30 or more years since they have been diagnosed with diabetes mellitus. The maximum number of patients reported skin manifestations were at 17-18 year since the onset of diabetes mellitus diagnosis. The paper concluded that the most cutaneous manifestations in diabetes mellitus Iraqi patients in Baghdad are bacterial and other skin infections. [21]

Another descriptive, cross-sectional study was conducted at departments of Medicine and Dermatology, Sir Syed College of Medical Sciences and Hospital, Karachi from 1stJanuary to 30th June 2014 to determine the frequency and pattern of skin disorders in patients with type 2 diabetes mellitus and their association with glycemic control. After taking the informed consent, demographic details, duration of diabetes, mode of treatment for diabetes, types of footwear, foot care and glycemic profile were documented. In 203patients (41% male and 59% female), mean age was 50 ± 11 years and mean duration of diabetes 8.5 ± 7 years. Mean HbA1c was 8.6 ± 1.5 with 68% patients having unsatisfactory glycemic control. Most frequently observed skin disease was bacterial infections (26%), followed by fungal infections (22%), acanthosis nigricans (20%), diabetic foot (16%), nail changes (16%), acrochordons (10%), diabetic dermopathy (9%), necrobiosis lipoidica (9%), viral infections (8%), pruritus (8%) and xanthelasma (8%). There was significant association of unsatisfactory glycemic control with bacterial infections ($p = 0.037$) and fungal infections ($p = 0.023$). Females especially had a higher frequency of association with acanthosis nigricans ($p = 0.030$).Patients with type 2 DM have high frequency of infections especially bacterial and fungal. Other manifestations like acanthosis nigricans and diabetic foot were comparatively less common. [22]

To investigate the prevalence of skin manifestations in diabetic patients in the Qassim region, Saudi Arabia. A prospective observational study was performed on 320 patients (174 males and 146 females) attending the diabetic clinic. A detailed dermatological examination was carried out by a consultant dermatologist and the cutaneous findings were recorded. The overall prevalence of skin manifestations was 91.2%. Cutaneous lesions were seen in 12 patients

(34.3%) of type 1 diabetes mellitus and 280 (98.2%) of type 2 diabetics. There was a statistically significant difference (p = 0.001) in skin manifestations between type 1 and type 2 diabetes mellitus patients. For those patients having diabetes of less than 5 years duration, the incidence of skin manifestations was 80.6%; for those having had diabetes for more than 5 years, the incidence was 98%. This difference was statistically significant (p = 0.001). The skin manifestations that had a statistically significant difference (p = 0.05) in prevalence between the 2 durational groups were gangrene, diabetic dermopathy, paresthesia, diabetic feet, diabetic bullae and fungal infections. Diabetics had a greater prevalence of skin manifestations in type 2 than type 1 and as the duration of diabetes increased, the likelihood of developing skin manifestations also increased. Early referral to the dermatologist may help to detect complications of the skin in diabetes at an early stage and may prevent disability caused by these complications. [3]

Of 100 cases of diabetes mellitus were examined for cutaneous findings at the Diabetic Clinic of Civil Hospital, Karachi, and 82% showed cutaneous findings. Infection (49%) was the most common finding followed by involvement of foot (30%). High incidence of vitiligo (10%) and localized anogenital pruritus (19%) was an unusual feature. Some of the cutaneous markers of diabetes mellitus like necrobiosis lipoidica diabeticorum, diabetic bullae, acquired perforating dermatoses and scleroderma were not seen in this study. [23]

To know the prevalence and the pattern of cutaneous manifestations among diabetic patients, one hundred patients with diabetes mellitus having at least one skin manifestation were selected and subjected to a detailed dermatological and systemic examination, and the findings were recorded. The most prevalent findings

were cutaneous infections (40%), followed by pruritus (11%), local reactions at the site of insulin injection (8%), vitiligo (8%), diabetic dermopathy (7%), periungual telangiectasia (6%) and xanthelasma (5%). The prevalence of skin manifestations was higher as the duration of diabetes increased and was more in type II than in type I diabetic patients. [24]

The frequency of skin manifestations were examined in 238 Insulin Dependent Diabetes Mellitus patients (disease duration >5 years) and 122 healthy control subjects in a cross-sectional study. The aim was to evaluate the frequency of skin manifestations, including the diabetic hand syndrome. In addition, the relation of the cutaneous manifestations to diabetes duration, glycemic control, microvascular complications, Body Mass Index and stratum corneum hydration was studied. Diabetic skin manifestations were detected in 168 of 238 (71%) patients and in 18 of 122 (14%) of the control subjects. Ichthyosiform skin changes of the shins, scleroderma like skin changes, tinea paedis, and dry scaly palms were detected in 48 vs. 7%, 39 vs. 0%, 32 vs. 7%, and 21 vs. 0.8% of the patients and control subjects, respectively. In the diabetic patients, a significant association was found between ichthyosis of the shins and scleroderma like skin changes of the hand ($p< 0.001$) and between scleroderma-like skin changes and the skin dryness of the palms ($p< 0.0001$). Diabetes duration was significantly associated with scleroderma-like skin changes and ichthyosis of the shins ($p< 0.0001$) and diabetic retinopathy ($p< 0.0001$). Keratosis pilaris was present in 21% and was found to be exclusively associated with high Body Mass Index. Acquired ichthyosis is a common finding and the most prevalent skin. [11]

To analyze the pattern of diabetic dermatoses in patients of diabetes mellitus, five hundred consenting patients of diabetes mellitus attending the Outpatient Department of Dermatology and Endocrinology and the patients admitted in these departments of Dayanand Medical College and Hospital, Ludhiana were included in the study. Among them 62.2% (311) were males and 37.8% (189) were females. 475 (95%) patients were type 2 diabetics and 25 (5%) were type 1 diabetic. Cutaneous involvement was seen in 76.8% of patients with infections being the most common dermatoses seen in 221 (57.5%) of patient followed by skin tags (17.2%), acanthosis nigricans (10.9%) and generalized pruritus (9.4%). [25]

The aim of the study conducted in a diabetic clinic of Pakistan Air Force Hospital Sargodha, was to look for major skin findings in patients with diabetes mellitus and to see their clinical correlation. All patients attending the diabetic clinic during a period of one year from July, 2002 to June, 2003 were examined in detail for cutaneous manifestations of the disease. 162 patients, 92 females and 70 males, were enrolled. The overall prevalence of cutaneous manifestations was 81.5% (80% in type I and 83.4% in type II diabetics). These manifestations were microvascular (n=73), neurological (n=61), infections (n=46), iatrogenic (n=7) and miscellaneous (n=184). [26]

To evaluate the prevalence and pattern of skin manifestations in patients with diabetes mellitus from a study was conducted in the Departments of Medicine and Dermatology of Indira Gandhi Medical College, Shimla and 100 consecutive patients with the diagnosis of diabetes mellitus and having skin lesions, either attending the diabetic clinic or admitted in medical wards were included in this

study. The common skin disorders were: xerosis (44%), diabetic dermopathy (36%), skin tags (32%), cutaneous infections (31%), and seborrhic keratosis (30%).Skin is involved in diabetes quite often and the manifestations are numerous. High prevalence of xerosis in diabetic population was perhaps due to cold and dry climatic conditions in the region for most of the time in the year. [27]

METHODOLOGY

SOURCE OF DATA:

Study area: All known cases of type 2 diabetes mellitus patients attending the Urban Health Centres, Ashok Nagar and Ram Nagar, Belagavi.

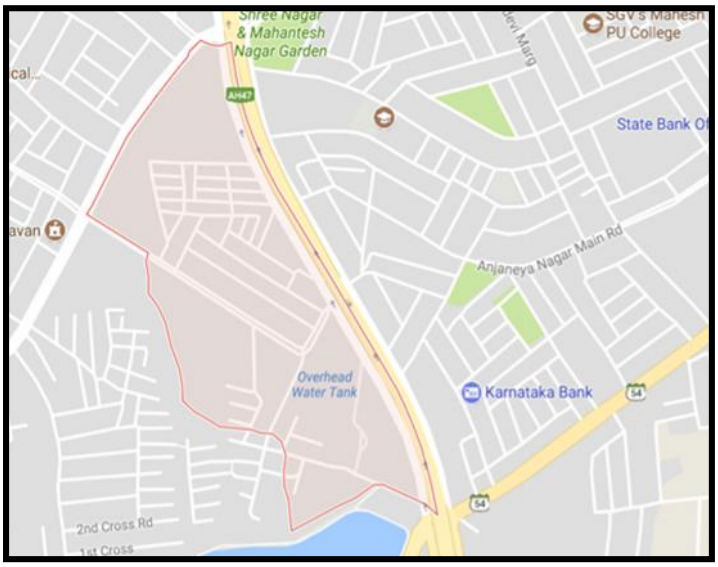


Image 1: Field practice area of Urban Health Centre Ashok Nagar, Belagavi. Area enclosed by red line.

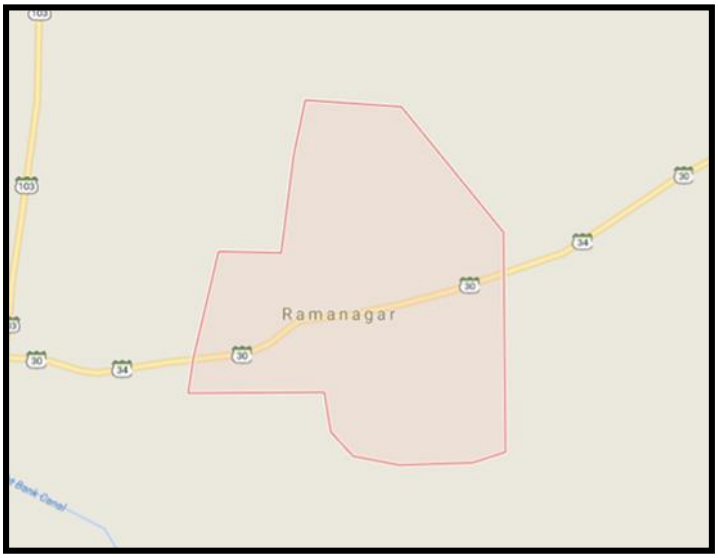


Image 2: Field practice area of Urban Health Centre Ashok Nagar, Belagavi. Area enclosed by red line.

Study design: A longitudinal study.

Study period: 1st January 2016 to 31st December 2016.

Sample size:

By taking the prevalence of cutaneous manifestations in type 2 diabetes mellitus to be around 50%, sample size calculated by using the formula:

$$\mathbf{n = Z\alpha / d^2}$$

Where,

n = sample size

Zα = 95% Confidence level

= 1.96 ~ 2

d = Relative precision

15% of prevalence, where prevalence is taken as 50%

= 0.15

$n = (2/0.15)^2$

n = 177~180

Sampling method: Convenient sampling

METHOD OF THE COLLECTION OF DATA

Selection criteria:

Inclusion Criteria:

1. All type 2 diabetes mellitus patients who seek health care at Urban Health Centres Ashok Nagar and Ram Nagar, Belagavi.

Exclusion Criteria:

1. Patients with skin lesions prior to diagnosis of type 2 diabetes mellitus.
2. Immunocompromised patients with skin lesions.

Materials:

1. **Torch:** Used to illuminate the lesion for better visual inspection
2. **Tape:** Used to measure the dimensions of the lesions
3. **Magnifying Glass:** Used to magnify the lesion for accurate clinical diagnosis.
4. **Glass slide:** Used to scrape the lesions for accurate clinical diagnosis

Ethical Clearance:

The study was approved from Institutional Ethics Committee for Human Subject's Research, Jawaharlal Nehru Medical College, K.L.E. University, Belagavi with the reference number DC/DOME/411 dated 18th November, 2015.

Data collection:

Data was collected from type 2 diabetes mellitus patients attending in Urban Health Centre Ashok Nagar and Ram Nagar under field practice area of Department of Community Medicine, Jawaharlal Nehru Medical College, K.L.E. University, Belagavi. Informed written consent was taken. The diagnosis of diabetes mellitus type 2 was confirmed by verifying the Diabetic Register, maintained in the Urban Health Centres and patients' Medical Records was reviewed for information of duration, medications and complications of diabetes.

Information about socio-demographic profile, general physical examination, systemic and cutaneous examination was recorded using validated, predesigned and pretested proforma. The pilot study was conducted to revise the proforma on 20 patients in urban areas of Rukmini Nagar under the field practice area of Department of Community Medicine, Jawaharlal Nehru Medical College, K.L.E. University, Belagavi. All patients were subjected to detailed history regarding skin complaints, duration of type 2 diabetes mellitus, family history and treatment of diabetes mellitus.

All cases were subjected to thorough cutaneous examination under natural light. They were screened for cutaneous diseases with known or postulated or without a clear pathogenesis as well as with complications and treatment of type 2 diabetes mellitus. Cases which were doubtful of the diagnosis were confirmed with the help of Co-guide from the Department of Dermatology at K.L.E.'s Dr. Prabhakar Kore Hospital & Medical Research Centre. All patients were called for follow-up monthly till 31th December 2016 and status of presence or absence of the existing lesion was confirmed and details of any new lesion were documented in the Follow-up proforma.

DEFINITIONS OF VARIABLES

First part of the proforma consisted of details pertaining to the socio-demographic profile of the study participants. They were:

1. **Age:** Age of the participant in completed years as on their last birthday.
2. **Sex:** Either male or female was mentioned.
3. **Religion:** Participants religion was classified as Hindu, Muslim, Christian or others as stated by them.

4. **Education:** Every study subject was asked about their educational status. It was classified as:
    - **Illiterate:** A person who could not read and write any language.
    - **Primary school:** A person who had studied from first to seventh standard.
    - **Secondary school:** A person who had studied eighth to tenth standard.
    - **Pre-university II:** The person who had studied up to Pre-University College second year.
    - **Graduate:** A person who had a degree in a diploma or under-graduation course.
    - **Post-graduate**: A person who had a master's degree or more.
5. **Occupation:**

    Every study subject was asked about their occupation. It was classified as:

    - **Professionals /Semiprofessional:** which include doctors, engineers, college lecturers etc.
    - **Skilled workers:** skilled based jobs, such as technicians, mechanic, electricians etc.
    - **Semiskilled worker:** drivers, conductors, office attenders, security personnel, supervisors etc.
    - **Unskilled workers/ manual workers:** In this group the occupations which involve physical exertion like masonry, farming, coolie etc.
    - **Unemployed**

6. **Socioeconomic status:**

Information regarding per capita income (in Rupees/month) was collected and socio-economic status was classified using Modified B. G. Prasad's classification for the study period of 2016.[28]

$$\text{Monthly Per Capita Income} = \frac{\text{Total monthly income of family}}{\text{Total members of family}}$$

Modification was done with the aid of Correction factor (CF), which was obtained as below:

As the study period was from 1st January to 31st December 2016, the mean consumer price index for the period was considered.

Average consumer price index for year 2016 was 275.

$$CF = \frac{\text{Value of consumer price index average (2016)}}{100} \times 4.93 \times 4.63$$

$$= \frac{275 \times 4.93 \times 4.63}{100} = 62.61$$

Modified B. G. Prasad's = Per capita family monthly income of 1961 (B.G. Prasad) x CF

Socio-Economic Class	**Prasad's classification 1961 (per capita income in Rupees/month)**	**Modified Prasad's classification 2016 (per capita income in Rupees/month)**
I	100 and above	6261 and above
II	50-99	3099-6260
III	30-49	1835-3098
IV	15-29	949-1834
V	<15	948 and below

Second part of the proforma included details of the history of the patient. Which included:

- The presence or absence of skin lesion was noted.
- If the skin lesion was present, patient was further enquired about the duration, onset, progression, site, number, color and any associated factors based on history was asked.
- The details regarding duration of diabetes and mode of treatment based on the current pharmacological therapy being used to control diabetic status was noted.
- Details of the patients past history of any major medical or surgical illness was noted.
- Patients' personal history regarding diet, appetite, sleep, bowel and bladder movements and sexual history for sexually transmitted infections was asked. Habits such as alcohol consumption was considered if the participant consumed alcohol on a regular basis as a habit for a duration of more than 1 year and tobacco consumption was considered if the participant consumed tobacco in any of its forms as a habit since the last 6 months.
- Menstrual history was asked for in women.
- History of type 2 diabetes mellitus in the family was asked.
- General physical examination include looking for pallor, icterus, cyanosis, clubbing, edema, palpable lymph nodes and calculation of Body Mass Index based on height and weight.

- **Height:** The participant was asked to stand straight without footwear with their back straight. The height was measured using measuring tape (precision 0.5cms).
- **Weight:** Body weight was measured without any footwear and with minimal clothing using digital adult weighing scale (precision 0.1kgs).
- **Body Mass Index (BMI):**

Calculation of Body Mass Index (BMI in kg/m^2): Weight in kg / (Height in m)^2 × 100
BMI calculated was categorized as per the WHO criteria for Asian population. [29]

Category	Body Mass Index
Underweight	<18.5 kg/m^2
Normal	18.5 – 23.0 kg/m^2
Overweight	23.0 – 27.5 kg/m^2
Obese	>27.5 kg/m^2

- Patients' vitals were checked, which included pulse, respiratory rate, blood pressure and temperature.
  - **Blood Pressure:** Blood pressure was recorded in the sitting position and then classified according to updated JNC-7 guidelines recommendations. [30]

Category	**Systolic Blood Pressure (mm of Hg)**		**Diastolic Blood Pressure (mm of Hg)**
Normal	<120	and	<80
Pre-hypertensive	120 – 139	Or	80 – 89
Hypertension Stage I	140 – 159	Or	90 – 99
Hypertension Stage II	≥160	Or	≥100

- Hair and nails were also examined.
- Systemic examination was done to check cardiovascular system, respiratory system, central nervous system and gastrointestinal system by inspection, auscultation and percussion for the completeness.
- Thorough local examination was done for cutaneous lesion and was described by site, size, number and type of lesion.
- And diagnosis was made on the basis of clinical.

Third part of the proforma describes about the several of skin lesions. Due to the lack of importance given to the subject there is no defined classification for cutaneous lesions seen in diabetes. For the purpose of this study, the skin lesions are classified to be inclusive of all the lesion based on various literature available.

Classified as: [7, 8, 31, 32]

I. Cutaneous disorders without clear pathogenesis:

- Necrobiosis lipodica
- Granuloma annualre
- Diabetic dermopathy
- Acquired perforating disorders
- Bullosis diabeticorum

II. Cutaneous disorders with postulated pathogenesis:

- Acanthosis nigrican
- Diabetic thick skin
- Eruptive xanthomas
- Yellow skin
- Cutaneous infections
- Diabetic ulcers

III. Cutaneous symptoms due to diabetic vascular abnormalities:

- Microvascular – diabetic microangiopahty
    i. Erysipelas like erythema
    ii. Diabetic rubeosis
- Macrovascular:
    i. Large vessel disease (atheroscerosis) – ischemic skin ulcers and digital gangrene

IV. Cutaneous reactions due to:

- Oral hypoglycemic drugs
- Insulin

V. Others:

- Xanthalesma
- Generalised pruritis
- Onychodystrophy
- Vitiligo
- Psoriasis
- Skin tag
- Dry skin
- Keloid
- Lichen planus
- Seborrhic keratosis
- Schamberg's disease
- Lichen simplex-chronicus

Necrobiosis lipodica: It presents with one or more sharply demarcated yellow-brown plaques on the anterior pretibial region. The lesions have a violaceous, irregular border that may be raised and indurated. [8]

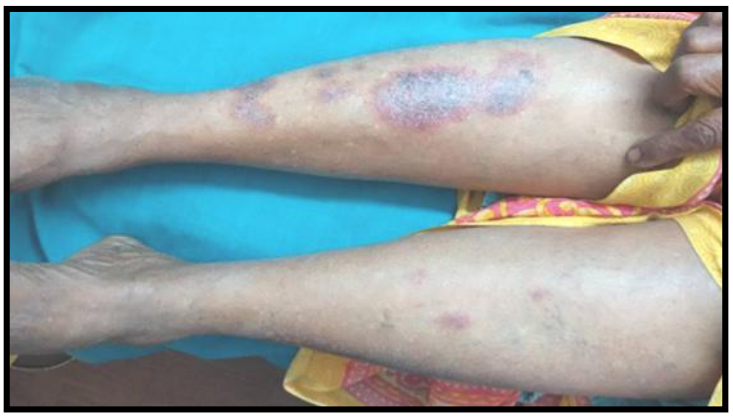


Image 3: Necrobiosis lipodica

Granuloma annulare: It's characterized by an annular configuration of flesh colored or pale red papules and plaques that occur in a localized or generalized pattern. [34]

Diabetic dermopathy: Also known as pigmented pretibial patches or shin spots**.** They are small, flat topped, dull, red papules that are typically painless. The lesion typically progress to atrophic hyperpigmented irregular patches. [34]

Acquired perforating disorders: It is comprised of an overlapping group of disorders characterized by transepidermal elimination "spitting" of altered dermal constituents It classically includes Kyrle disease, reactive perforating collagenosis, perforating folliculitis, and elastosis perforans serpiginosa. Clinically, these lesions appear pruritic, keratotic papules mainly on the extensor surfaces of the extremities. Papules and nodules with a perforating component may also occur on the trunk and face. Many are follicular and contain a prominent central keratotic plug. The papules may be grouped, or coalesce to form verrucous plaques.[7]

Bullosis diabeticorum: it is a non-inflammatory blistering condition that classically presents as serous fluid filled tense bullae that are large and asymmetrical in shape. They arise spontaneously and usually located on the acral and distal skin surfaces of the lower extremities. [9, 35]

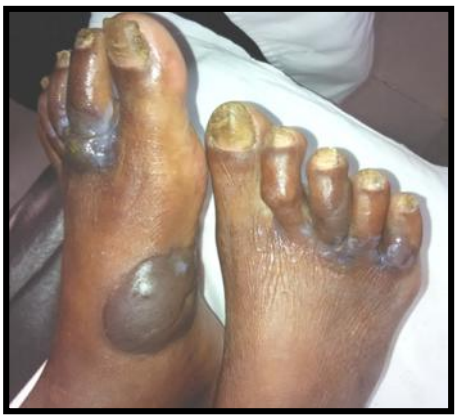


Image 4: Bulosis diabeticorum

Acanthosis nigrican: It is the most readily recognized skin manifestation in diabetes. [7] It is characterized by the presence of confluent area of mid-to dark brown epidermal thickening with a characteristic 'velvety' texture. The lesions appear in most commonly in the axilla, neck, groin and intertriginous area but may also appear over the extensor surfaces like knees, elbows and knuckles. [28]

Diabetic thick skin: Although many of these changes are comparable to those taking place with aging, the skin and particular tissues in the diabetes behave in a unique way and differ from those occurring in non-diabetic individuals. The skin thickening syndrome includes:

- **Finger pebbles:** Also known as Huntley's papules. It consists of multiple tiny papules grouped on the extensor surface and side face of the fingers on the knuckles of the metacarpophalangeal and interphalenggeal joints more frequently in the distal ones and in the periungal region. It is asymptomatic[28] and some dermatologist interpret these cutaneous findings as a variant of acanthosis nigricans. [32]

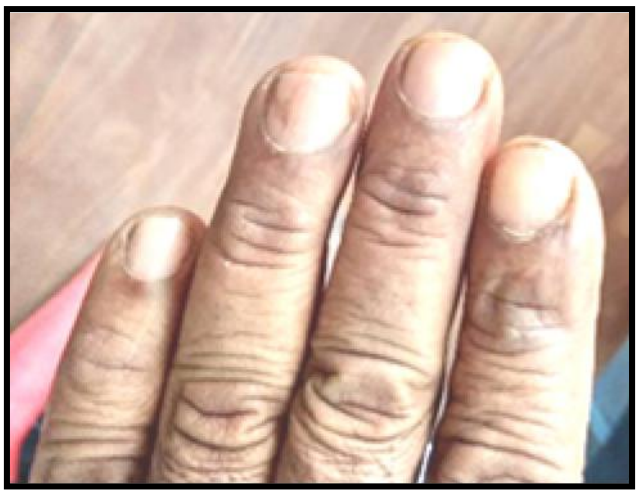


Image 5: Huntley's papules

- **Waxy skin:** Characterized by cutaneous changes over the dorsum of the hand and forearm. The skin is shiny and tight and too difficult to fold.[32] However this is most commonly observed in type 1 diabetes mellitus.[8]
- **Limited joint mobility:** Also known as Cheiroarthropathy. It presents as tightness and thickening of the skin and particular connective tissues of the finger resulting in painless loss of joint mobility. Initial involvement of the distal interphalangeal joints of the 5^{th} digit usually progress to involve all the fingers. Larger joints of the elbow, knees and foot may be involved. This disorder is characterized by a "prayer sign" which is the inability to proximate the palmer surfaces and interphalengeal joint spaces with the hands pressed together and fingers separate. [7]
- **Diabetic scleroderma:** It is a diffuse, non-pitting induration of the skin characteristically occurring on the upper back, neck and shoulders

Eruptive xanthomas: These are asymptomatic small, firm, non-tender, pinkish yellow, papules most commonly occurring in crops on the knees, elbows, back, buttocks and trunk and may coalesce into plaques overtime. [29]

Yellow skin: Also known as xanthosis. It is characterized by yellowish skin, generally on the pals of hands, soles, nasolabial folds and armpits.

Cutaneous infections: Skin infections due to Staphylococcus aureus and group A Streptococcus haemolyticus are common in diabetic patients. Invasive Pseudomonas infection of the ear can progress through cellulitis and osteitis to cranial nerve damage and meningitis with a high mortality rate, so-called malignant otitis externa.

- **Non-clostridial gas gangrene:** This complication develops in the soft tissues near a gangrenous focus. The commonest pathogens are Escherichia coli, Klebsiella, Pseudomonas and Bacteroides species in various combinations.
- **Candida albicans:** Candida albicans infections of mouth, nail folds, genitals and intertriginous skin areas are frequent in diabetics. Candidiasis may be the presenting feature of diabetes, and is frequently seen in diabetic patients whose disease is not well controlled. A high glucose level of the saliva seems to account for the oral infection. Phimosis is a common complaint of diabetic men, and recurring candida infection is usually the cause. Dermatophyte infections are not more frequent in diabetic than in non-diabetic individuals. [8]
- **Dermatophytosis:** Also known as tinea is the superficial fungal infections of the hair, nail and skin.[9] Small to large, well-demarcated patches or with fine scale. Lesions are often annular in shape and may be more scaly and erythematous at the edges, with a clearer central area. The various types of tinea are named for the location in which each presents:
    - Tinea faceii – face
    - Tinea capitis – head
    - Tinea corporis (ringworm) – body
    - Tinea cruris (jock itch) – groin
    - Tinea pedis (athlete's foot) – feet and between toes. [8]

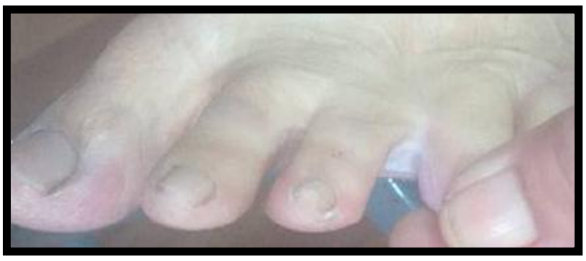


Image 6: Tinea paedis

- Onychomycosis:

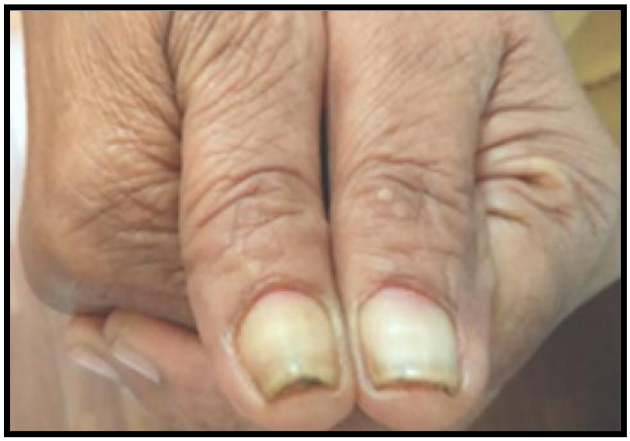


Image 7: Onychomycosis

Folliculitis – Multiple individual pustules, each overlying a hair follicle, usually with a surrounding erythematous area. Folliculitis results from a bacterial infection of hair follicles. [8]

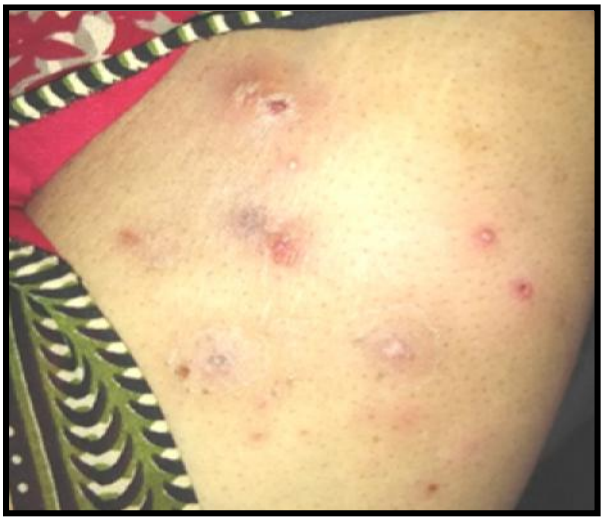


Image 8: Folliculitis

Diabetic ulcers: An area of skin loss extending into the dermis or deeper. [8] Neuropathic ulcers develop most frequently in the areas of high pressure and repeated trauma such as toes, heels and metatarsal heads. The patient may present with paraesthesia or anaesthesia of the legs and feet. Venous ulcers tend to occur on the medial malleoli in association with superficial varicosities and yellow-brown discolouration of the skin and are seldom painful. Arterial ulcers are typically painful (except when accompanied with neuropathy) and occur more distally on the tips of toes and heels. [31]

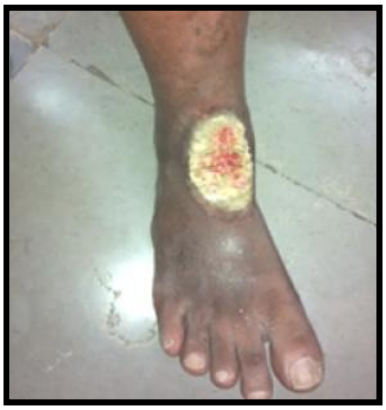


Image 9: Diabetic ulcer

Diabetic rubeosis: Also termed rubeosis faciei diabeticorum, is a relatively common microangiopathic complication associated. It presents as flushing of the face, leading to a generalized reddish complexion.

Cutaneous reactions due to oral hypoglycemic drugs: Cutaneous hypersensitivity reactions are common for various hypoglycemic agents. Serious cutaneous reactions include diffuse exfoliative deramatitis, erythema multiforme, which may progress to Stevens-Johnson syndrome and toxic epidermal necrolysis. Cross reaction can occur with sulfonylurea agents as well as with other sulfa containing drugs such as thiazides and furosemides.

Cutaneous reactions due to insulin: Insulin allergy may be secondary to the insulin molecule or the protein contaminants in the commercial preparation. Local reactions include erythema, pruritus, induration at the site of injection, edema, subcutaneous nodule or urticaria. [31] Lipodystrophies are the delayed complications of subcutaneous insulin injections and include lipoatrophy and lipodystrophy, which can coexist at the same patient. More common in obese. They can be caused by lipolytic components of the preparation or by an inflammatory process mediate by immune complexes. Other theories refer to cryotrauma of refrigerated insulin, mechanical trauma during injection. Lipoatrophy occurs clinically as a depressed and circumscribed area at the injection site resulting in atrophic plaques after 6 to 24 months of therapy. Frequency of lipoatrophy is reduced with an increased use rapidly absorbed modified insulin analogues. Lipohypertrophy is more common and clinically it resembles lipoma. A soft tumor in the dermis at the injection site. It is considered a local response to the anabolic action of insulin over fat metabolism. [33]

Xanthelasma: Type of xanthoma that occurs on the eyelids. It begins as small yellow-orange macules which thicken to form oval foamy plaques. [29]

Generalised pruritus: It is considered a typical symptom of diabetes. [8] An unpleasant sensation which results in scratching and may have an impact on a person's quality of life. It's caused due to alteration in the cutaneous barrier coupled with conditions associated with xerosis like age, nephropathy, use of medications etc. [33] The frequency of generalized pruritus is increased in diabetes. Pruritus without a primary lesion needs a thorough workup to rule out known causes**.** [28]

Onychodystrophy: Presents as excessive nail thickening and deformity, which causes accumulation of debris and subsequent infection. This may lead to diabetic foot.

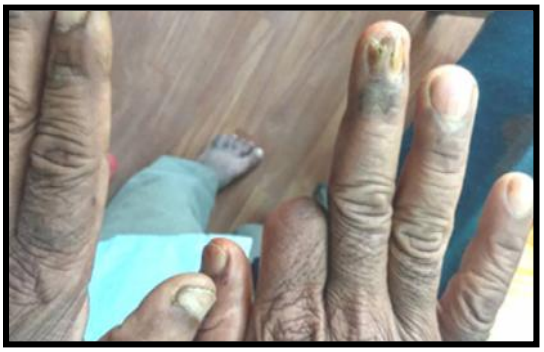


Image 10: Onychodystrophy

Vitiligo: It is an acquired condition characterized by symmetrical circumscribed macular depigmentation in a localized or generalized pattern. Lesions typically occur around the nostrils, mouth, genitals and extensor surface of the hand. Other frequent locations include axillae, nipples, shins and elbows. Overlying hair can be white or normally pigmented. The amelanotic macules progressively enlarge and skin depigmentation can be almost complete. [31]

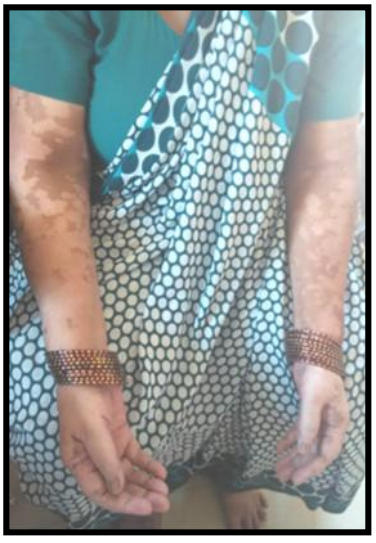


Image 11: Vitiligo

Psoriasis – Thick, small to very large plaques, which are pink or red with silvery white scale. Typical locations for psoriasis are elbows, knees and lower back (sacral area). Plaques of psoriasis are often pruritic. [8]

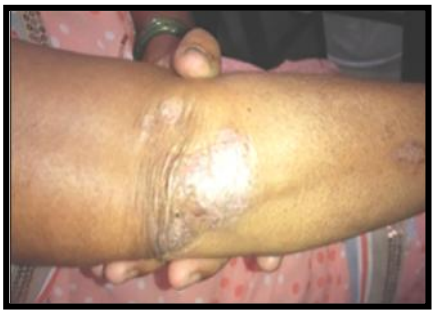


Image 12: Psoriasis

Skin tag: They are small, soft, pedunculated lesions occurring on eyelids, neck and axillae, they are often associated with obesity. [8]

Dry skin: Also known as xeroderma. It is the second most common manifestation in diabetes. When skin is excessively dry it initially reddens and develops cracks. If dryness continues, the skin may also begin to crack or flake. [33]

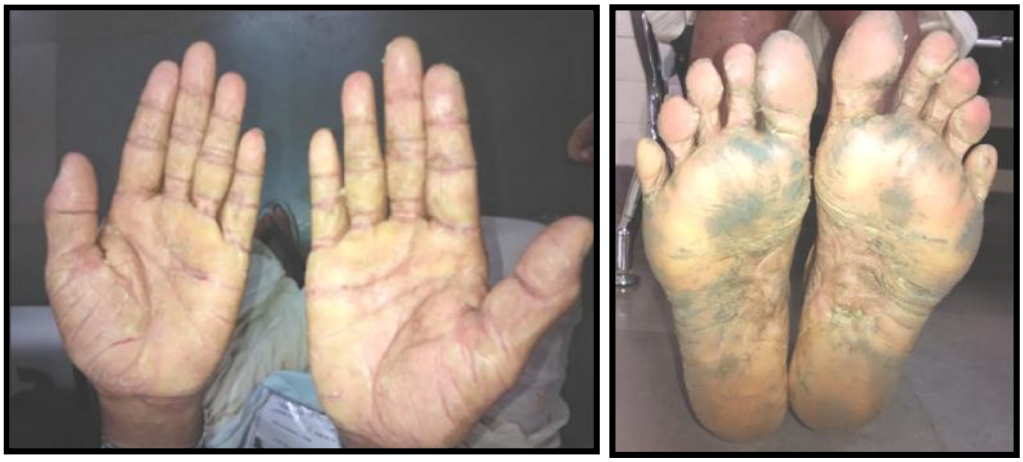


Image 13: Xeroderma

Keloid – Firm raised mass of scar tissue at the previous site of a wound (i.e. vaccination, incision, pierced ear). Keloids are more common in darker-skinned individuals.

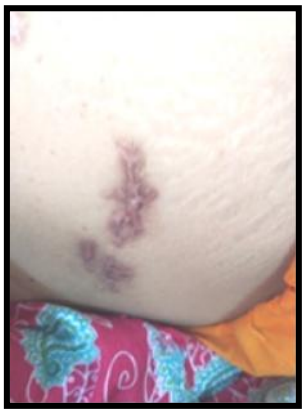


Image 14: Keloid

Lichen planus: It is a chronic inflammatory disease affecting the skin, mucous membranes, scalp, and nails. It has a higher prevalence in patients with diabetes. It is classically described as pruritic, purple (violaceous), polygonal, and papules or plaques. They present as grouped, symmetric, erythematous to violaceous, flat-topped, and polygonal papules distributed mainly in the flexural aspects of arms and legs. Variants may include ulcerative and perforating types. Oral lesions also may occur can be asymptomatic, or be painful. In the mucous membranes usually presents as white lace-like lesions that are found in the lateral buccal mucosa, sometimes involving the lips, gingivae, and tongue. [8]

Seborrhic keratosis: A benign tumour, frequently pigmented, more common in the elderly and composed of epidermal keratinocytes. These are common skin lesions that occur with increasing age occur on anybody site. They are usually asymptomatic but may be itchy. They are most frequent on the face and the upper trunk. The first evidence is slight hyperpigmentation. On the hand and face, seborrhic keratosis may

remain superficial for a long period. [8] Although there are many clinical variants of the lesions usually begin as well circumscribed dull, flat, tan or brown patches, taking a waxy, verrucous or “stuck on’ appearance. They may arise on any non-mucosal surface and multiple lesions may be distributes in a “Christmas tree” pattern along skin folds or in Blaschko’s lines. [7]

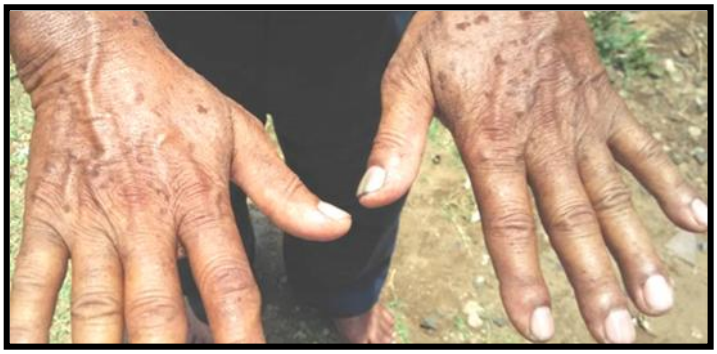


Image 15: Seborrhic keratosis

Schamberg’s disease: These are pigmented eruptions that tend to develop insidiously on either or both lower legs that consist of irregularly shaped reddish-brown patches with "pin head sized reddish puncta, closely resembling grains of cayenne pepper." The average age of onset is in the fifth decade. The lesions can involve the trunk or the upper extremities. They are generally asymptomatic and persistent. Remissions and flares can occur indefinitely.[8]

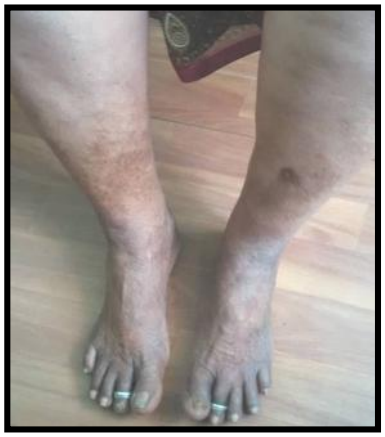


Image 16: Schamberg’s disease

Lichen simplex chronicus: Also known as neurodermatitis circumscripta or circumscribed neurodermatitis. This affects adults, predominantly from ages 30 to 50 years. Females are affected more commonly. Achronic, severely pruritic disorder characterized by one more lichenified plaques in which the skin is thickened and are accentuated skin margins. Most common sites of involvement are scalp, nape of neck, extensor aspects of extremities, ankles and anogenital area.[8]

STATISTICAL ANALYSIS

The data was tabulated and master chart was prepared. Data collected in the questionnaire was coded and entered in Microsoft excel sheet. Data was analyzed using Statistical Package for Social Sciences (SPSS), version 21.0 and the incidence of cutaneous manifestations was expressed in terms of percentages. Statistical analysis was done using Pearson's Chi- Square test to find out the association between cutaneous manifestations and risk factors. A probability value (p value) of less than 0.05 was considered as significant.

RESULTS

The present study was conducted in urban field practice area of Ram Nagar and Ashok Nagar which are the field practice areas of Department of Community Medicine, Jawaharlal Nehru Medical College, K.L.E. University's Belagavi on 180 patients with type 2 diabetes mellitus during the period of January 2016 to December 2016.

The data of the study participant was tabulated and analyzed under following headings as below:

I. Socio-demographic profile

II. Morbidity profile

III. Baseline information of cutaneous manifestations

IV. Incidence of cutaneous manifestations

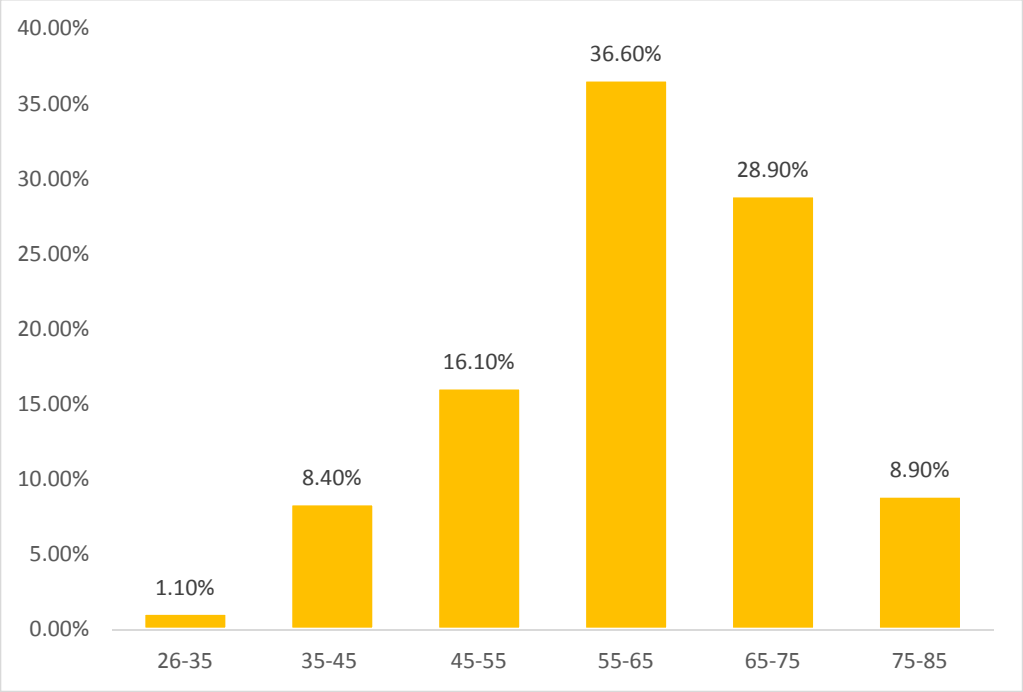
V. Association of the cutaneous lesions with socio-demographic variables and risk factors.

I. Socio-demographic profile

Table 1: Age distribution of study participant

Age (Years)	Number	Percentage (%)
26-35	2	1.1
35-45	15	8.4
45-55	29	16.1
55-65	66	36.6
65-75	52	28.9
75-85	16	8.9
Total	180	100.0

Graph 1: Age distribution of study participant



Of the 180 study participant, 2(1.1%) were between the age group of 26-35 years, 15(8.4%) were in the age group of 36-45 years, 29(16.1%) were in the age group of 46-55 years, 66(36.6%) were in the age group of 56-65 years, 52(28.9%) were in the age group of 66-75 years and 16(8.9%) were in the age group of 76-85 years. The average age of the study participant was 59.88 ±11.06 (mean ± S.D.) with a range of 27 to 87 years of age.

Table 2: Distribution of the study participant according to sex

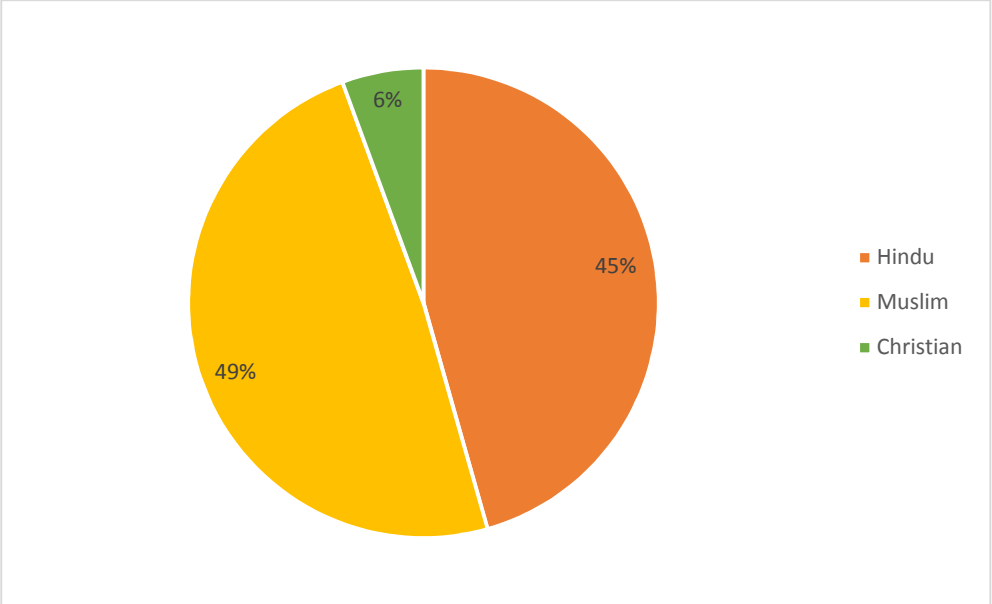
Sex	Number	Percentage (%)
Male	46	25.5
Female	134	74.5
Total	180	100.00

Out of the 180 study participant134 (74.5%) were female forming the major portion and 46 (25.5%) were male.

Table 3: Distribution of the study participant according to religion

Religion	Number	Percentage (%)
Hindu	82	45.6
Muslim	88	48.8
Christian	10	5.6
Total	180	100.0

Graph 2: Distribution of the study participant according to religion

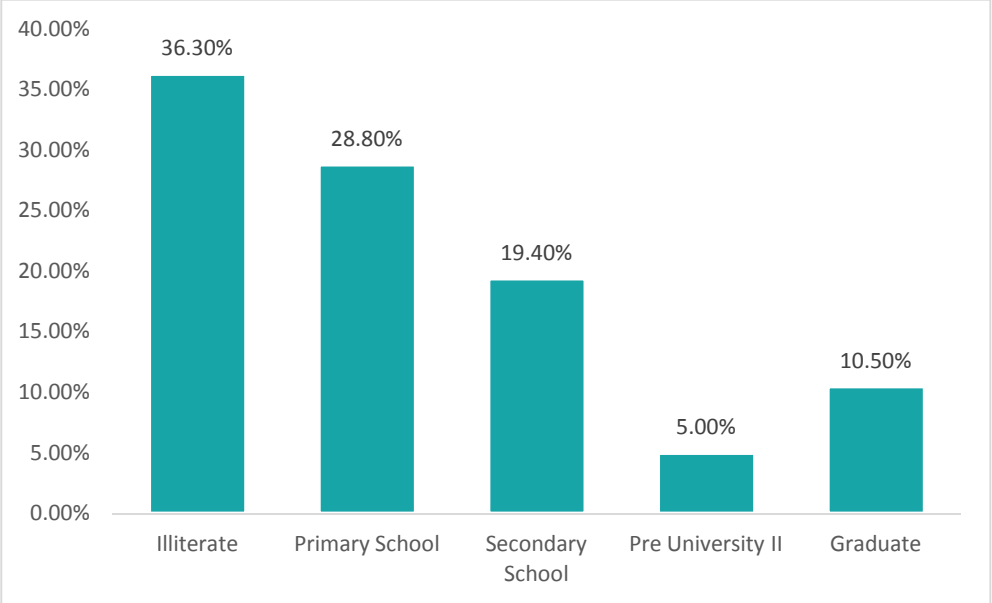


In this study Muslim and Hindu participant were almost equal with 88 (48.8%) and 82 (45.6%) respectively and the remaining 10 (5.6%) of the participant were Christians.

Table 4: Literacy status of study participant

Literacy status	Number	Percentage (%)
Illiterate	65	36.3
Primary School	52	28.8
Secondary School	35	19.4
Pre University II	9	5.0
Graduate	19	10.5
Total	180	100.0

Graph 3: Literacy status of study participant

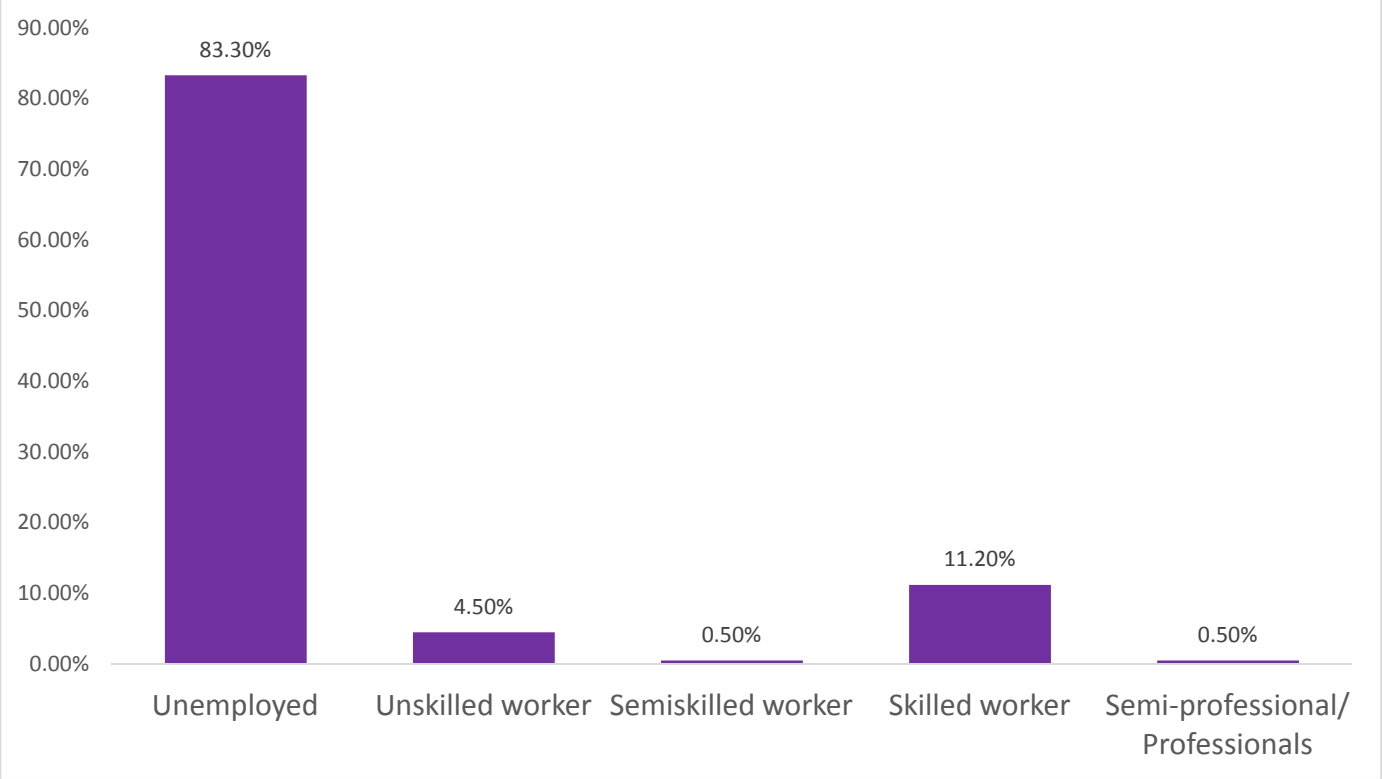


Most of the study participant 65 (36.3%) were illiterate, 52 (28.8%) of them had studied up to primary school, 35(19.4%) had done secondary schooling, 9 (5.00%) had studied up to Pre-university II and 19 (10.5%) had been a Graduate degree.

Table 5: Distribution of the study participant according to occupation

Occupation	Number	Percentage (%)
Unemployed	150	83.3
Unskilled workers/ manual workers	8	4.5
Semiskilled worker	1	0.5
Skilled workers	20	11.2
Semi-professionals/ Professionals	1	0.5
Total	180	100.00

Graph 4: Distribution of the study participant according to occupation

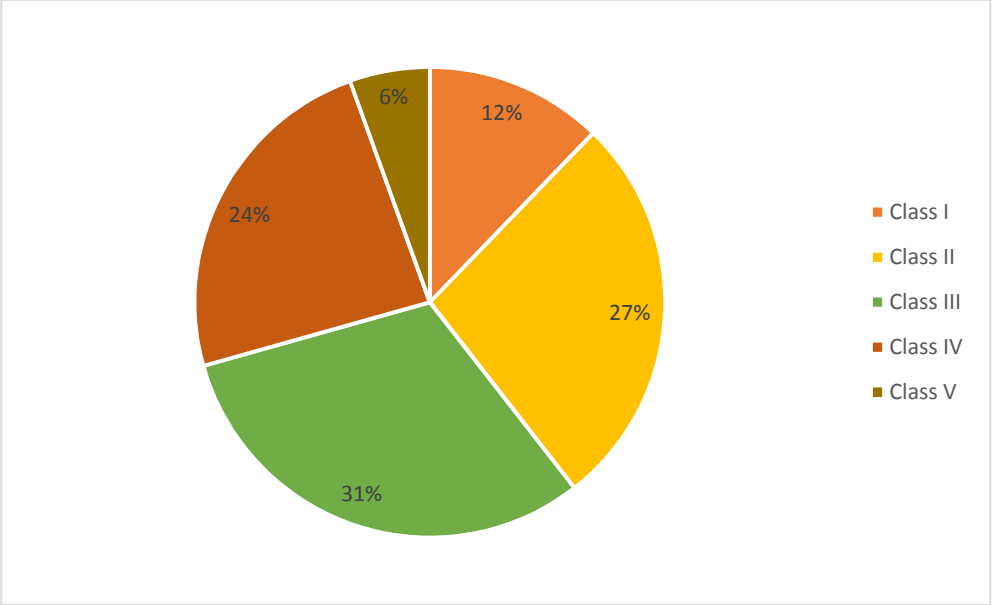


This study had mostly participant 150 (83.3%) who were unemployed, 8 (4.5%) were unskilled workers, 1 (0.5%) were semiskilled workers, 20 (11.2%) were skilled workers, 1 (0.5%) were semi-professionals/ professionals.

Table 6: Distribution of the study participant according to socioeconomic status

Socio-economic status	Number	Percentage (%)
Class I	22	12.2
Class II	49	27.2
Class III	56	31.1
Class IV	43	23.8
Class V	10	5.5
Total	180	100.00

Graph 5: Distribution of the study participant according to socioeconomic status



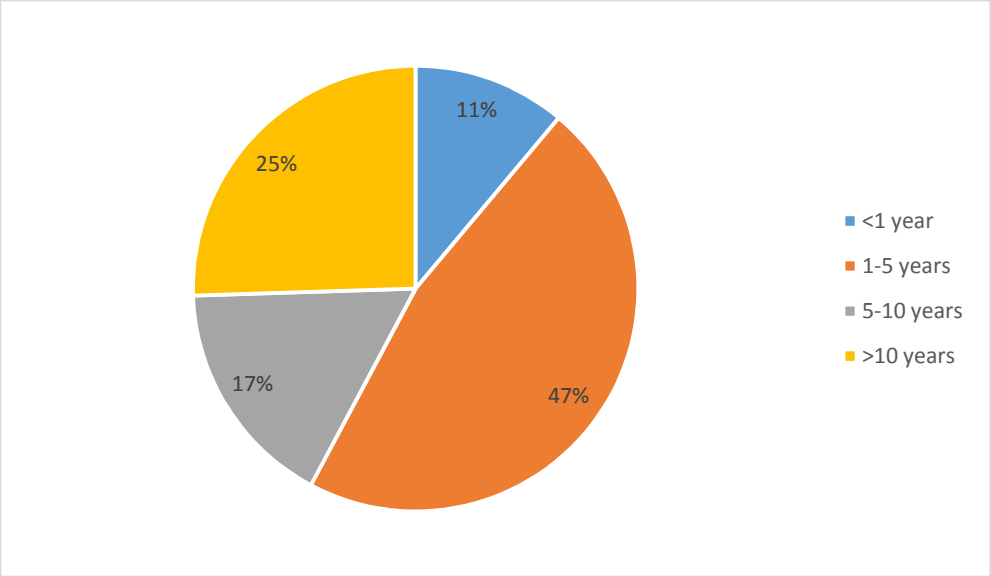
Among the 180 study participant 22 (12.2%) were of Class I, 49 (27.2%) were of Class II, majority were of Class III with 56 (31.1%) participant. 43 (23.8%) were of Class IV and 10 (5.5%) were of Class V.

II. Morbidity profile

Table 7: Distribution of the study participant according to duration of diabetes mellitus

Duration (in Years)	Number	Percentage (%)
<1	20	11.1
1-5	84	46.7
5-10	30	16.7
>10	46	25.5
Total	180	100.00

Graph 6: Distribution of the study participant according to duration of diabetes mellitus

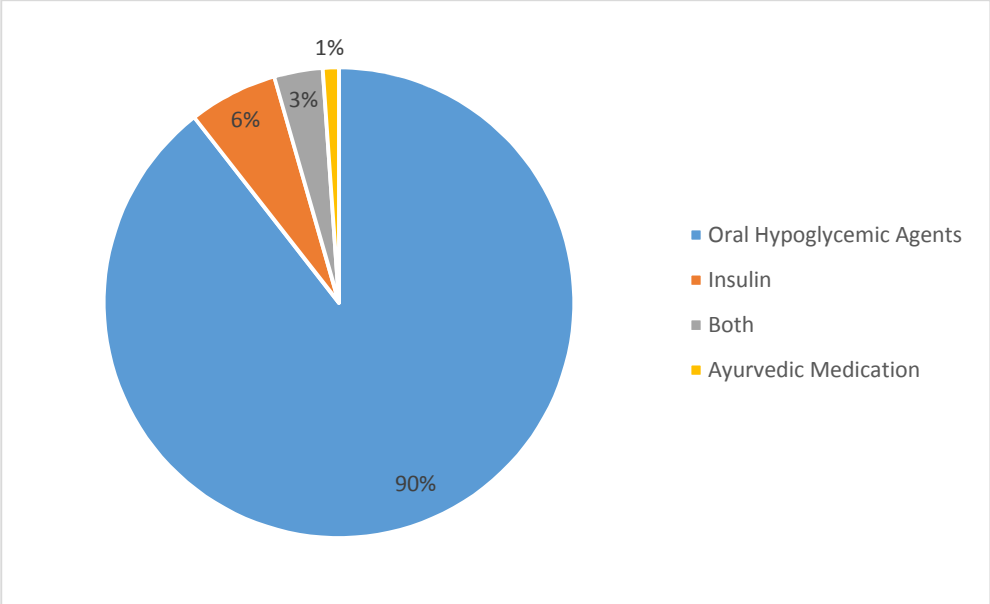


The study participant' duration of diabetes varied. 20 (11.1%) had diabetes since less than 1 year. Most of them, 84(46.7%) had diabetes from 1-5 years, 30(16.7%) had diabetes since 5-10 years and 46(25.5%) were living with diabetes for more than 10 years.

Table 8: Distribution of the study participant according to mode of treatment

Mode of treatment	Number	Percentage (%)
Oral Hypoglycemic Agents	161	89.4
Insulin	11	6.1
Both	6	3.4
Ayurvedic Medication	2	1.1
Total	180	100.0

Graph 7: Distribution of the study participant according to mode of treatment



Most of the study participant, 161 (89.4%) were on Oral Hypoglycemic Agents that were provided by the Urban Health Centre. Few of them, 11 (6.1%) were only on insulin. 6 (3.4%) took both Oral Hypoglycemic Agents and Insulin. 2 (1.1%) were on Ayurvedic Medication for the treatment of diabetes mellitus.

Table 9: Distribution of the study participant according to relevant past medical history

Past Medical History	Number	Percentage (%)
Absent	67	37.3
Present	113	62.7
Total	180	100.0

113 (62.7%) of the study participant had medical illness in the past. Most of the participant also stated to have been diagnosed with type 2 diabetes mellitus only after a consultation for some other illness. 67 (37.3%) did not have any significant past history. Most of the study participant, 62 (34.4%) had hypertension and 33 (18.3%) had undergone surgery for fracture of a limb or appendectomy or fistulectomy. Most common surgical procedure done was hysterectomy due to menstrual disorders in 19 (10.55%) and cataract extraction in 5 (2.7%) participant.

Table 10: Distribution of the study participant according to their family history of diabetes mellitus

Family History of Diabetes mellitus	Number	Percentage (%)
Absent	109	60.5
Present	71	39.5
Total	180	100.00

109 (60.5%) of the study participant did not have a history of diabetes mellitus in the family and 71 (39.4%) had a family history of diabetes mellitus. Among them 36 (50.7%) had a single parent with a positive history and 5 (7.0%) had both the parents. 47 (66.1%) had their siblings with a history of diabetes mellitus. 17 (23.9%) had history of diabetes mellitus in siblings and one or both the parents.

Table 11: Distribution of the study participant according to type of diet

Type of Diet	Number	Percentage (%)
Vegetarian	47	26.2
Non-Vegetarian	133	73.8
Total	180	100.00

It was observed that 133 (73.8%) consumed non-vegetarian food and 47 (26.2%) followed vegetarian diet.

Table 12: Distribution of the study participant according to the habits

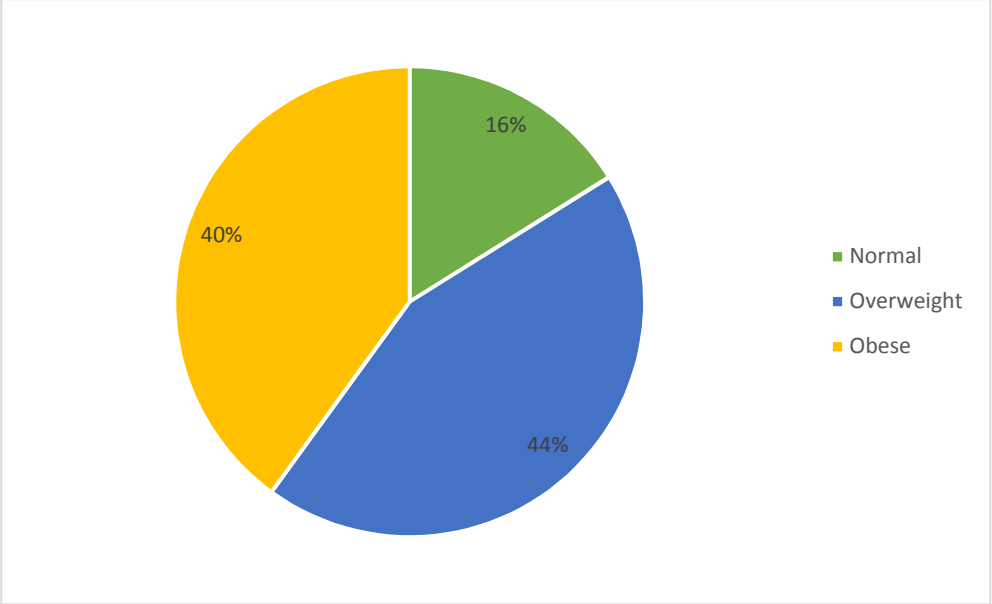
Habits	Number	Percentage (%)
Tobacco	25	73.5
Alcohol	9	26.4
No Habits	146	81.1
Total	180	100.0

Out of the 180 study participant 34 (18.8%) of them had the habit of consuming tobacco or alcohol. Out of them 25 (73.5%) consumed tobacco in one form or the other. 9 (26.4%) consumed alcohol. Rest of the 146 (81.1%) of the participant did not have any personal habits.

Table 13: Distribution of the study participant according to Body Mass Index

BMI	Number	Percentage (%)
Normal	29	16.2
Overweight	79	43.8
Obese	72	40.0
Total	180	100.0

Graph 8: Distribution of the study participant according to body mass index

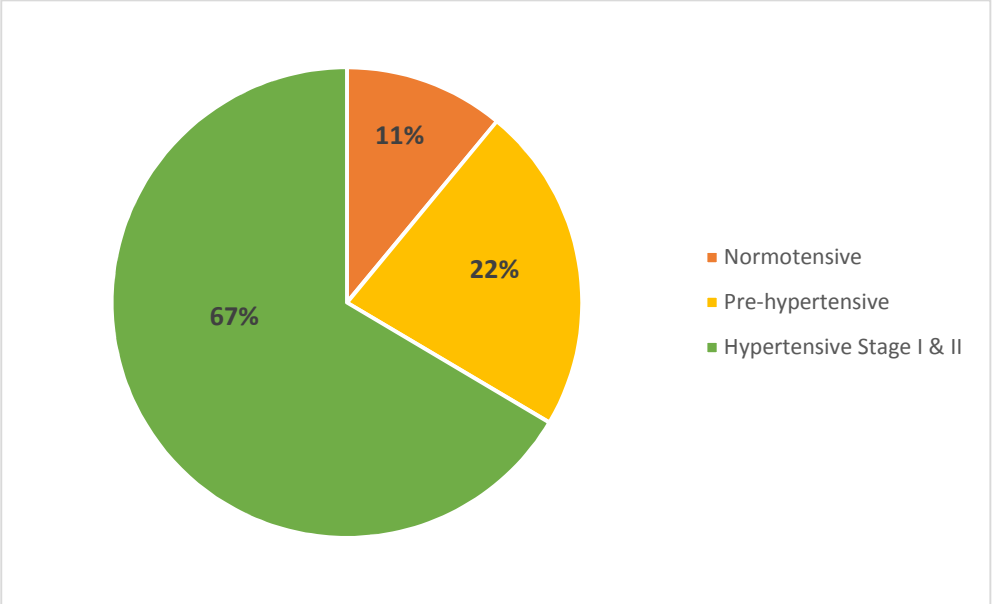


None of the study participant were underweight. Only 29 (16.2%)were of normal weight, 79 (43.8%) were overweight and 72 (40.0%) were obese.

Table 14: Distribution of the study participant according to hypertension

Category of Hypertension	Blood Pressure	
	Number	Percentage (%)
Normotensive	22	12.2
Pre-hypertensive	45	25.0
Hypertensive Stage I & II	133	73.8
Total	180	100.00

Graph 9: Distribution of the study participant according to hypertension



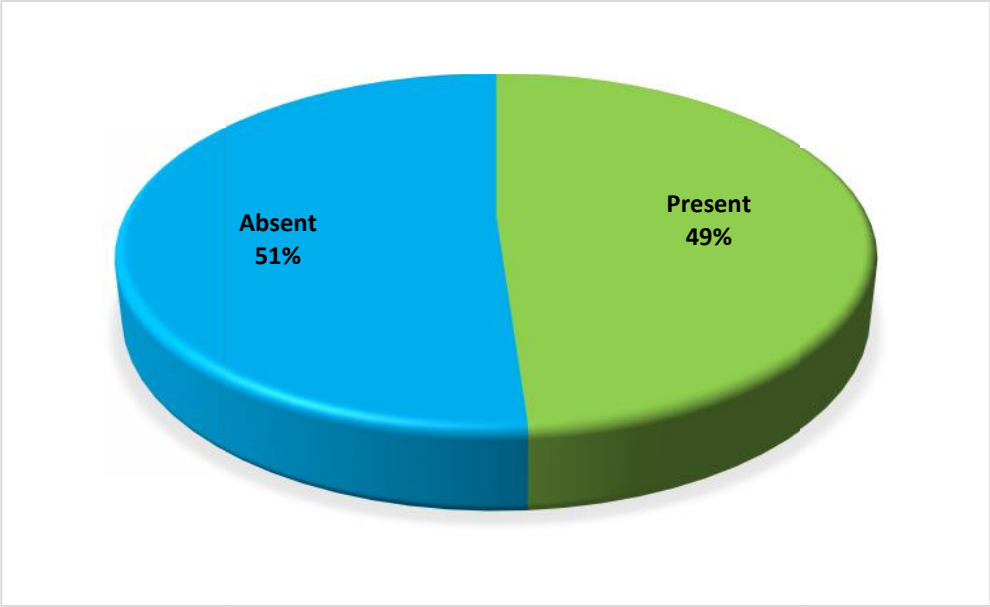
22 (12.2%) had normal blood pressure, 45 (25.0%) had pre-hypertensive blood pressure, 133 (73.8%) were hypertensive. The hypertensives 51 (28.33%) were newly diagnosed and 62 (34.4%) were already known cases of hypertension. Amongst these 47 (75.8%) had blood pressure of <140/90 mm of Hg and 15 (24.1%) had blood pressure of > 140/90 mm of Hg.

IV. Baseline information of cutaneous manifestation

Table 15: Prevalence of cutaneous manifestations in type 2 diabetes

Cutaneous lesion	Number	Percentage (%)
Present	88	48.8
Absent	92	51.2
Total	180	100.00

Graph 10: Prevalence of cutaneous manifestations in type 2 diabetes

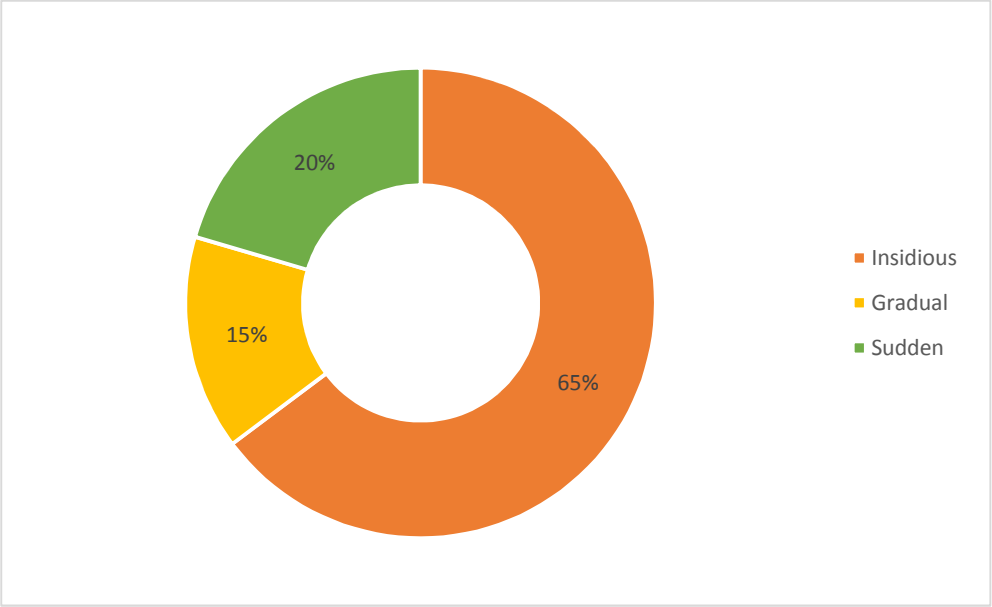


Among the 180 study participant the prevalence of cutaneous manifestations was found to be in 88 (48.8%) and 92 (51.1%) did not have any skin lesion at the time of collection of baseline information.

Table 16: Onset of cutaneous lesions

Onset	Number	Percentage (%)
Insidious	57	64.7
Gradual	13	14.7
Sudden	18	20.4
Total	88	100.0

Graph 11: Distribution of onset of cutaneous lesions

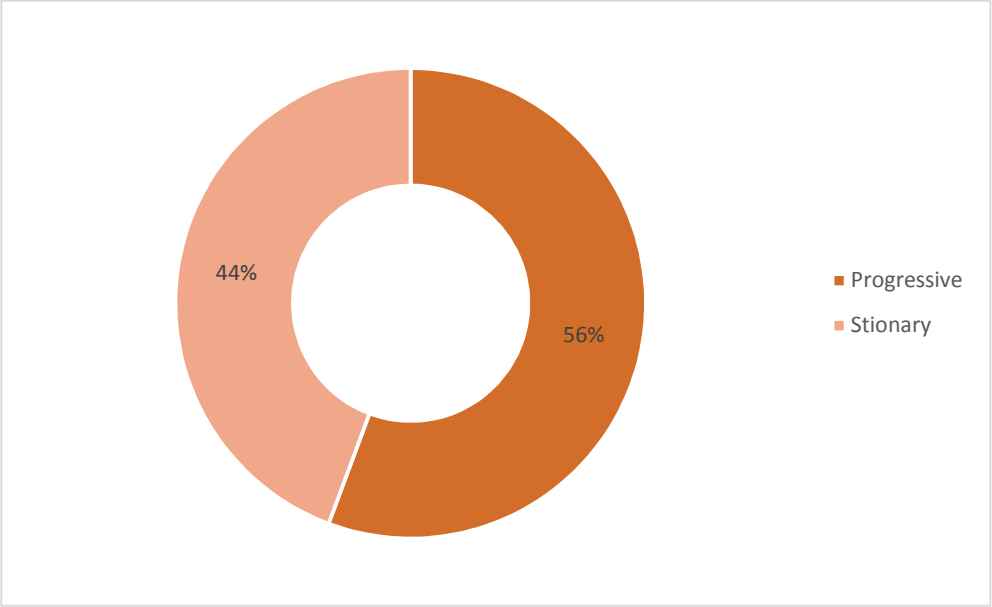


The cutaneous lesion present among the 88 (48.8%), the onset of lesion was insidious in more than half of them (57[64.7%]). The onset was gradual in 13 (14.7%) and sudden in 18 (20.4%).

Table 17: Distribution of progression of cutaneous lesions

Progression	Number	Percentage (%)
Progressive	49	55.6
Stationary	39	44.4
Total	88	100.0

Graph 12: Distribution of progression of cutaneous lesions

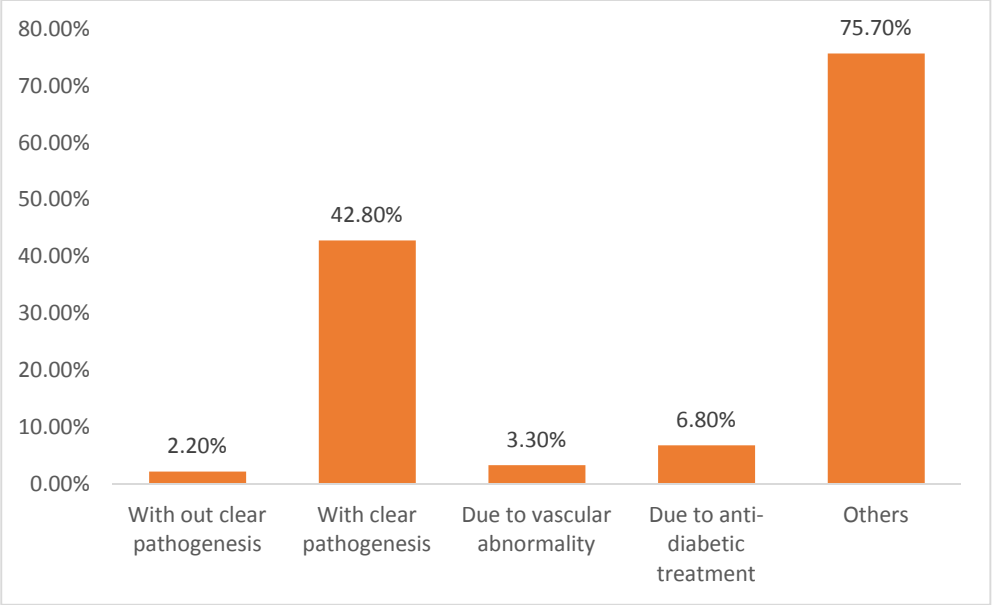


Among the total 88 (48.8%) who had cutaneous manifestations, most of the lesions were progressive 49(55.6%) and remaining lesions did not show any change and were stationary, 39 (44.4%).

Table 18: Pattern of prevalence of type of cutaneous lesions

Type of lesion	Number	Percentage (%)
Without clear pathogenesis		
• Necrobiosis lipoidica diabeticorum	1	1.1
• Diabetic dermopathy	1	1.1
With clear pathogenesis		
• Acanthosis nigricans	5	5.7
• Cutaneous Infections		
o Tinea cruris	4	4.5
o Tinea paedis	19	21.6
o Folliculitis	4	4.5
o Onycomycosis	2	2.2
o Paronychia	4	4.5
Due to vascular abnormality		
• Diabetic ulcer	1	1.1
• Diabetic foot	2	2.2
Due to anti diabetic treatment		
• Lipoatrophy	3	3.4
• Lipohypertrophy	3	3.4
Others		
• Xanthelesma	3	3.4
• Generalised pruritus	9	10.2
• Onychodystrophy	1	1.1
• Vitiligo	2	2.3
• Skin tag	42	47.7
• Xerosis	1	1.1
• Keloid	1	1.1
• Lichen simplex-chronicus	1	1.1
• Psoriasis	1	1.1
• Schamberg's disease	2	3.4
• Diabetic scleroderma	1	1.1
• Seborrhic keratosis	2	2.3

Graph 13: Prevalence of pattern of type of cutaneous lesions

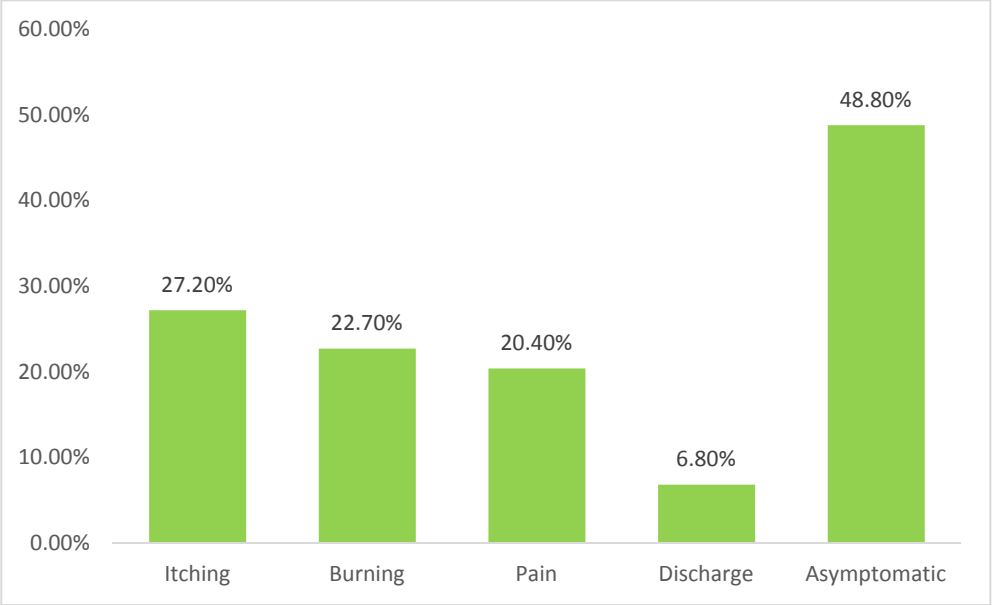


A total of 115 patterns of cutaneous manifestations were found in this study. The pattern noted to be maximum did not belong to any of the categories mentioned. They were classified as others, 66 (75.0%), admits this category staggeringly high number of Skin tags, 42 (47.7%) were found. 38 (43.1%) of the lesions observed had a clear pathogenesis which included Acanthosis nigricans 5 (5.6%) and Cutaneous infections 33 (37.5%) [most common was Tinea paedis with 19 (21.5%)]. 2 (2.2%) had Necrobiosis lipodica diabeticorum [1(0.1%)] and Diabetic dermopathy [1(0.1%)]. 3 (3.4%) had manifestations due to vascular abnormality. 6 (6.81%) had lesions due to anti diabetic treatment. 21 (23.8%) of the participants had more one lesion present. Of them 13 (62.9%) had two lesions and 8 (38.0%) had three lesions at the time of diagnosis.

Table 19: Distribution of associated symptoms of cutaneous manifestation:

Associated symptoms	Number	Percentage (%)
Itching	24	27.2
Burning	20	22.7
Pain	18	20.4
Discharge	6	6.8
Asymptomatic	43	48.8
Total	88	100.0

Graph 14: Distribution of associated symptoms of cutaneous manifestation



The cutaneous lesions were asymptomatic in majority of the participants 43 (48.86%). The other symptoms included were itching in 24 (27.2%), burning sensation 20 (22.7%), pain 18 (20.4%), discharge from the lesion was present in 6 (6.8%) of the skin lesions. 68 (77.2%) of them had single associated symptom, 17 (19.3%) had two associate symptoms and 3 (3.4%) had three symptoms associated with the skin lesions.

V. Incidence of cutaneous manifestations in the subjects.

177 total subject were followed up for a total of 10 month. 3 study participant were accounted to loss to follow up. 1 was due to death and other 2 were due to change in residence. These study participant contributed to 6, 8 and 9 months of follow up. This amounting to 1793 months, which is 99.61% of follow up. And the attrition rate was 0.38%.

Table 20: Incidence of cutaneous lesions in type 2 diabetes mellitus

Cumulative Incidence	0.4777
Cumulative incidence/ 100 Population at risk	47.77/ 100 Diabetics
Incidence rate	0.0479
Incidence rate/ persons-Year	0.0479/ Diabetics – Years

So, the cumulative incidence was found to be 0.4777 or 47.77 per 100 Diabetics and incidence rate was found to 0.0479 per Diabetics – Years

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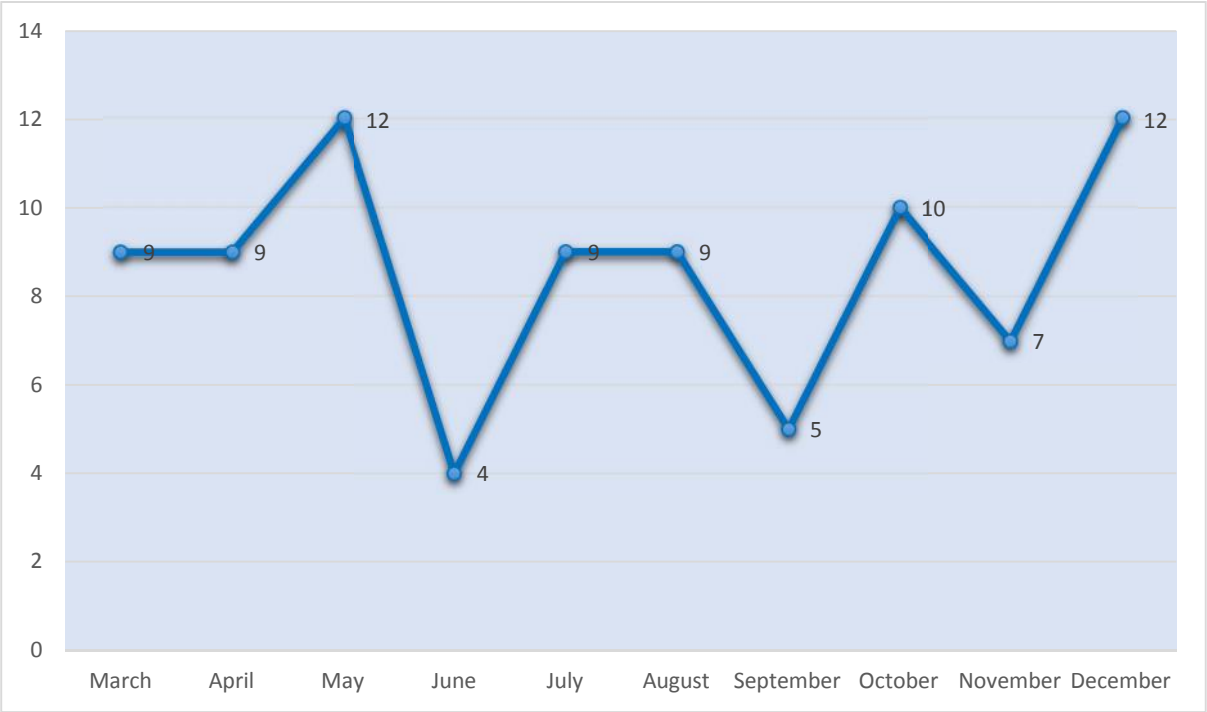
Table 21: Distribution of new cases noted during the 10 month follow up

Type of skin lesion	Total
Acanthosis nigricans	5
Diabetic foot	2
Folliculitis	7
Generalised pruritus	6
Ulcer	3
Keloid	1
Finger pebbles	1
Onychomycosis	7
Paronychia	1
Tinea corporis	1
Skin tag	7
Tinea cruris	6
Tinea paedis	14
Vitiligo	2
Onychodystrophy	2
Xanthelesma	3
Xerosis	18
Total	86

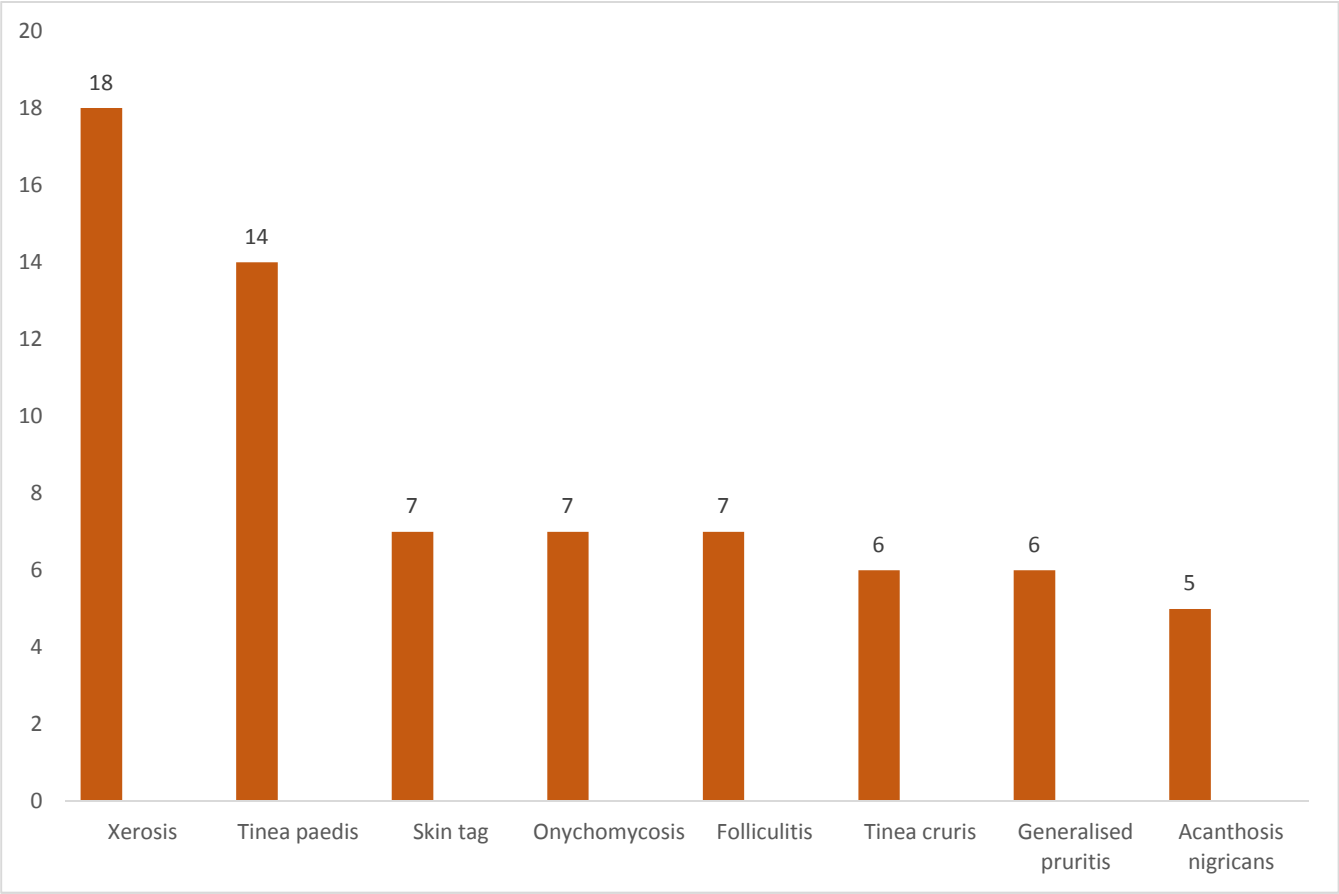
Graph 15: Distribution of new cases observed during the 10 month follow up



Among the 180 study participant, total number of episodes noted were 86 during the10 month follow-up period. A total of 17 different patterns of lesions were noted. The cases noted during the months of follow up was 9 (10.4%) in the month of March, 9 (10.4%) in the month of April, 12 (13.9%) in May, 4 (4.6%) in June, 9 (10.4%) in July, 9 (10.4%) in August, 5 (5.8%) in September, 10 (11.3%) in October, 7 (7.9%) in November and 12 (13.9%) in December.

The skin lesions were almost equally distributed throughout the year. However during the summer (March to May) cutaneous lesions were at a peak with total of 30 new cases, monsoon (June to September) total of 27 new cases and winter season (October to December) showed 29 new cases.

Graph 16: Distribution of leading cutaneous lesions



Leading cutaneous manifestations observed were Xerosis with 18 (20.9%) cases followed by Tineapaedis with 14 (16.2%). Skin tag, Onychomycosis and Folliculitis was the third leading manifestation with 7 (8.1%) each and Tinea cruris and Generalised purities with 6 (6.7%) lastly Acanthhosis nigricans with 5 (5.8%).

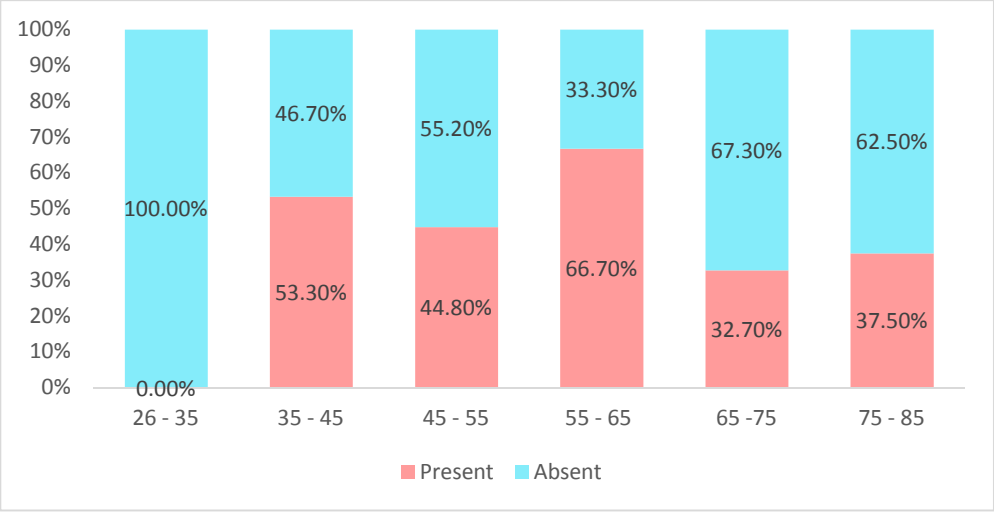
V. Association of the cutaneous lesions with socio-demographic variables and risk factors.

A. Association of cutaneous lesions of the base line data with socio-demographic variables and risk factors

Table 22: Association of baseline data with age

Age (Years)	Present (%)	Absent (%)
26 – 35	0 (0.0)	2 (100.0)
35 – 45	8 (53.3)	7 (46.7)
45 - 55	13 (44.8)	16 (55.2)
55 – 65	44(66.7)	22 (33.3)
65 – 75	17 (32.7)	35(67.3)
75 – 85	6 (37.5)	10(62.5)
Total	88 (100)	92 (100)
χ 2 = 16.861	**df = 5**	**p = 0.005**

Graph 17: Association of baseline data with age

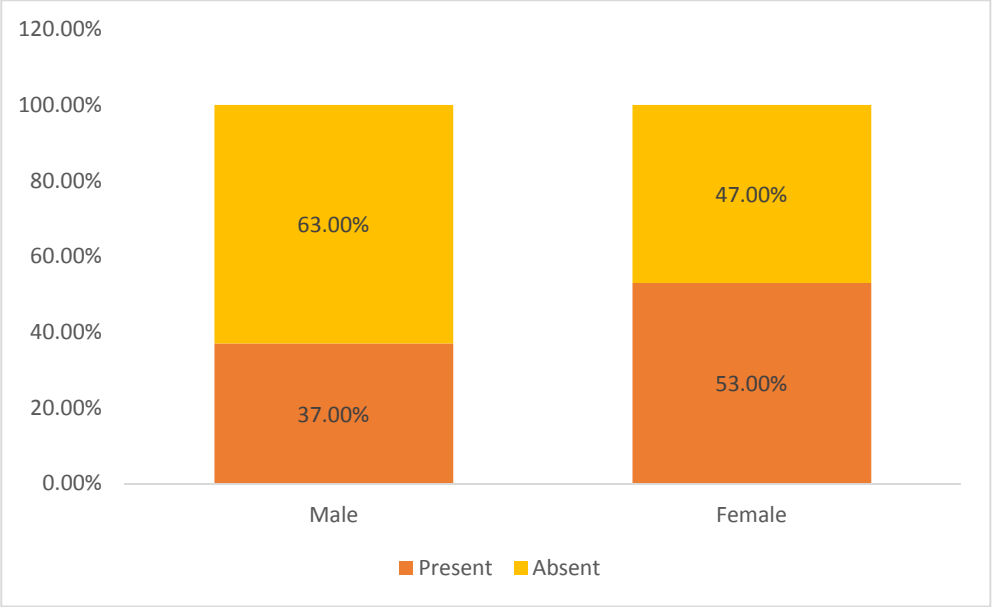


The cutaneous manifestations showed an increasing trend with no manifestations in the youngest age group and maximum number of manifestations in the age group of 55 - 65with 44 (66.7%) lesions. Age was statistically significant (χ 2 = 16.861; p = 0.005) in this study.

Table 23: Association of baseline data with gender

Gender	Present (%)	Absent (%)
Male	17 (37.0)	29 (63.0)
Female	71 (53.0)	63 (47.0)
Total	88 (100.0)	92 (100.0)
χ 2 = **3.521**	**df = 1**	**p = 0.061**

Graph 18: Association of baseline data with gender

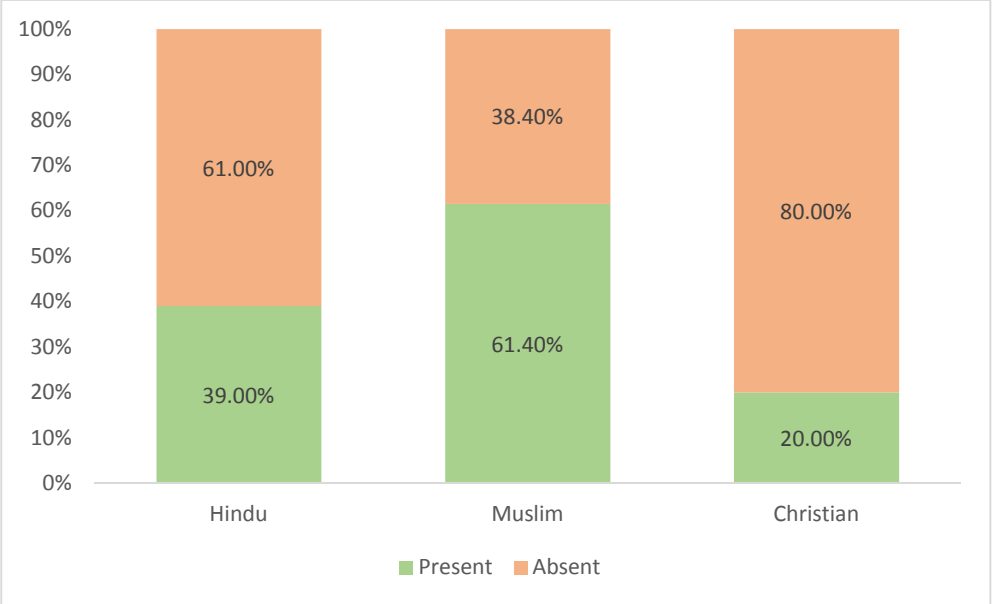


71 (53.0%) female study participants showed greater presence of cutaneous lesions. This study did not show any statistical significance (χ 2 = 3.521; p= 0.061) when sex was associated with the presence of skin lesions.

Table 24: Association of baseline data with religion

Religion	Present (%)	Absent (%)
Hindu	32 (39.0)	50 (61)
Muslim	54 (61.4)	34 (38.4)
Christian	2 (20.0)	8 (80.0)
Total	88 (100.0)	92 (100.0)
χ 2 = 12.014	**df =2**	**p = 0.002**

Graph 19 : Association of baseline data with religion

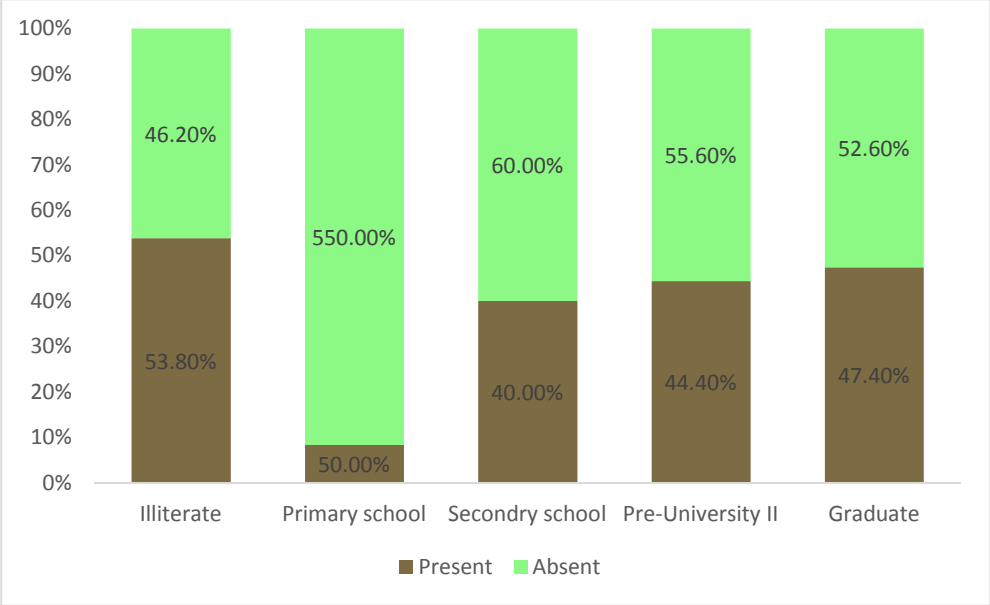


The study had almost equal number Hindu, 82 (45.6%) and Muslim 88 (48.9%) of study participant. The lesion was found to the highest among the Muslim population with 54 (61.4%) number of lesions and the Hindus had 32 (20.0%) number of the total cases. And the presence of cutaneous manifestations in these diabetics was found to be statistically significant (χ 2 = 12.014; p = 0.002%).

Table 25: Association of baseline data with literacy

Literacy	Present (%)	Absent (%)
Illiterate	35 (53.8)	30 (46.2)
Primary school	26 (50.0)	26 (50.0)
Secondary school	14 (40.0)	21 (60.0)
Pre-University II	4 (44.4)	5 (55.6)
Graduate	9 (47.4)	10 (52.6)
Total	88 (100.0)	92 (100.0)
χ 2 = 1.860	**df = 4**	**p= 0.761**

Graph 20: Association of baseline data with literacy

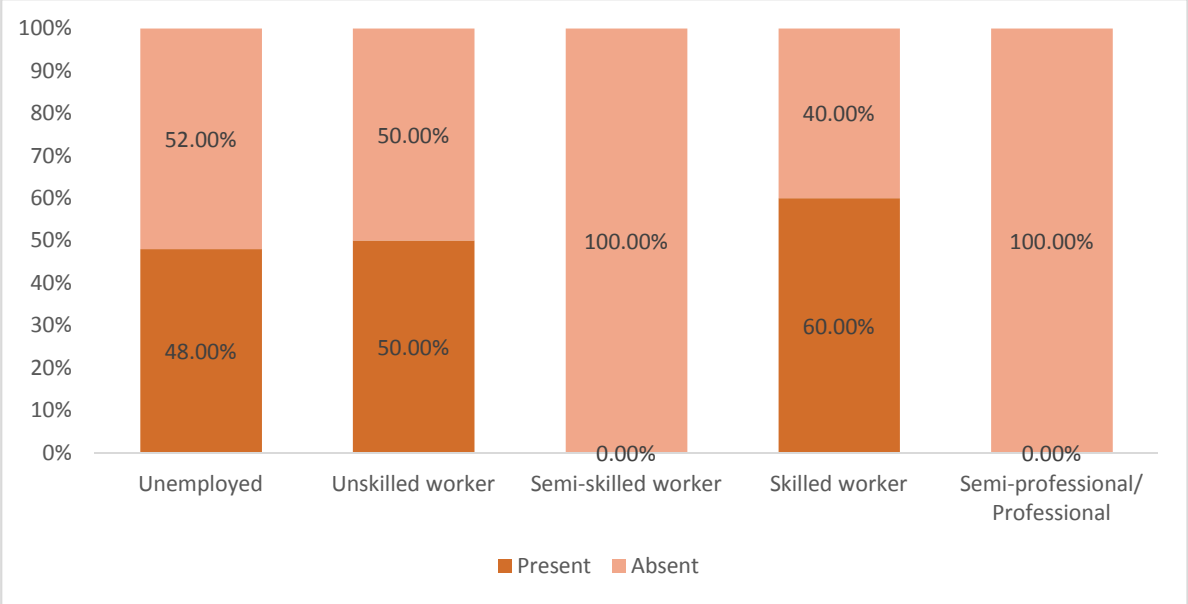


A downward trend was noticed as the literacy increased. Most of the skin lesions were found in those who were illiterate, 35 (53.8%) and the least was noted in those who had studied up to Pre-university II, 4 (44.4%)of those with lesion and education was not statistically significant (χ 2 = 1.860; p = 0.761).

Table 26: Association of baseline data with occupation:

Occupation	Present (%)	Absent (%)
Unemployed	72 (48.0)	78 (52.0)
Unskilled worker	4 (50.0)	4 (50.0)
Semi-skilled worker	0 (0.0)	8 (100.0)
Skilled worker	12 (60.0)	8 (40.0)
Professional	0 (0.0)	1 (100.0)
Total	88 (100.0)	92 (100.0)
χ 2 = 2.953	**df = 4**	**p = 0.566**

Graph 21: Association of baseline data with occupation:

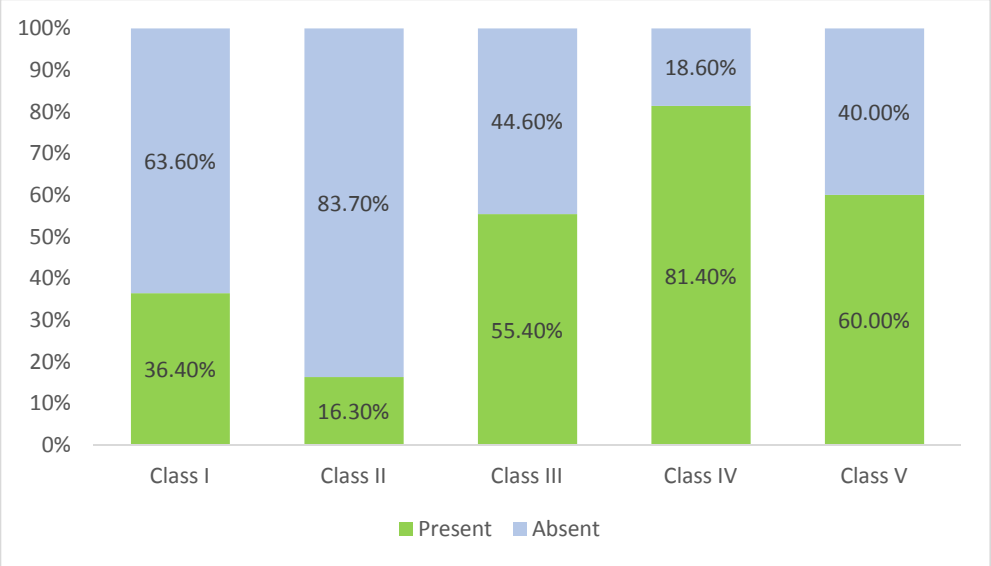


In this study maximum number of skin lesions were found in those who were unemployed, 72 (48.0%) and professionals did not have any lesions. The presence of skin lesion was not associated with occupation statistically (χ^2 = 2.953; p = 0.566%).

Table 27: Association of baseline data with socio-economic status:

Socio-economic status	Present (%)	Absent (%)
Class I	8 (36.4)	14 (63.6)
Class II	8 (16.3)	41 (83.7)
Class III	31 (55.4)	25 (44.6)
Class IV	35 (81.4)	8 (18.6)
Class V	6 (60.0)	4 (40.0)
Total	88 (100.0)	92 (100.0)
χ 2 =41.789	**df = 4**	**p = 0.000**

Graph 22: Association of baseline data with socio-economic status:

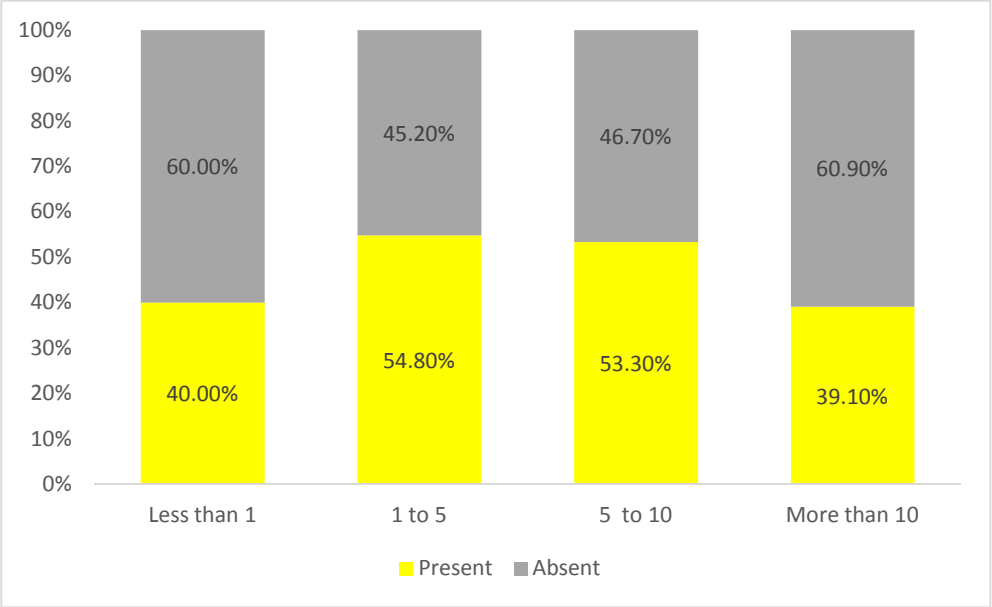


The cutaneous manifestations were found to be more as the socio-economic class of the participant fell. The least number of cases were observed in the class I 8 (36.4%) and class II 8 (16.3%). The cutaneous lesions were found to the most in class IV with 35 (81.4%).This study showed statistical significance of association is presence of skin lesion and socioeconomic status of the study participant (χ^2 = 41.789; p = 0.000%).

Table 28: Association of baseline data with duration of diabetes mellitus

Duration of diabetes mellitus (Years)	Present (%)	Absent (%)
Less than 1	8 (40.0)	12 (60.0)
1-5	46(54.8)	38 (45.2)
5-10	16 (53.3)	14 (46.7)
More than 10	18 (39.1)	28 (60.9)
Total	88 (100.0)	92 (100.0)
χ 2 = 3.782	**df = 3**	**p = 0.286**

Graph 23: Association of baseline data with duration of diabetes mellitus

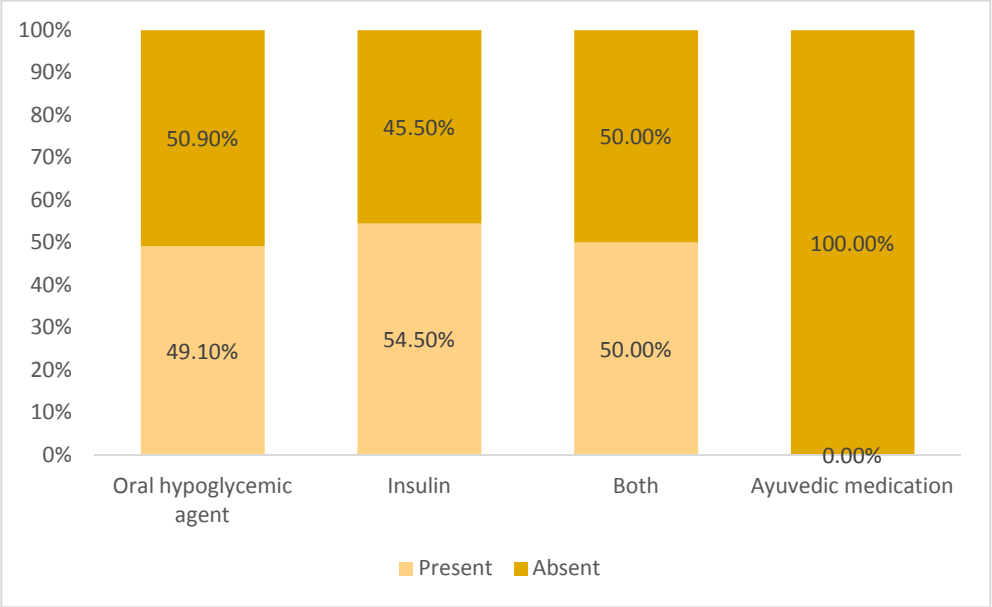


In this study the presence of cutaneous manifestations were most commonly observed when the duration of diabetes was for 1 to 5 years with 46 (54.8%) of study participants with lesions. However there was no statistical significance (χ^2 = 3.782; p = 0.286%) noted between the presence of cutaneous lesions and increasing duration of diabetes mellitus.

Table 29: Association of baseline data with mode of treatment

Mode of treatment	Present (%)	Absent (%)
Oral hypoglycemic agents	79 (49.1)	82 (50.9)
Insulin	6 (54.5)	5 (45.5)
Both	3 (50.0)	3 (50.0)
Ayurvedic medication	0 (0.0)	2(100.0)
Total	88 (100.0)	92 (100.0)
χ^2 = 2.059	**df = 3**	**p = 0.560**

Graph 24: Association of baseline data with mode of treatment

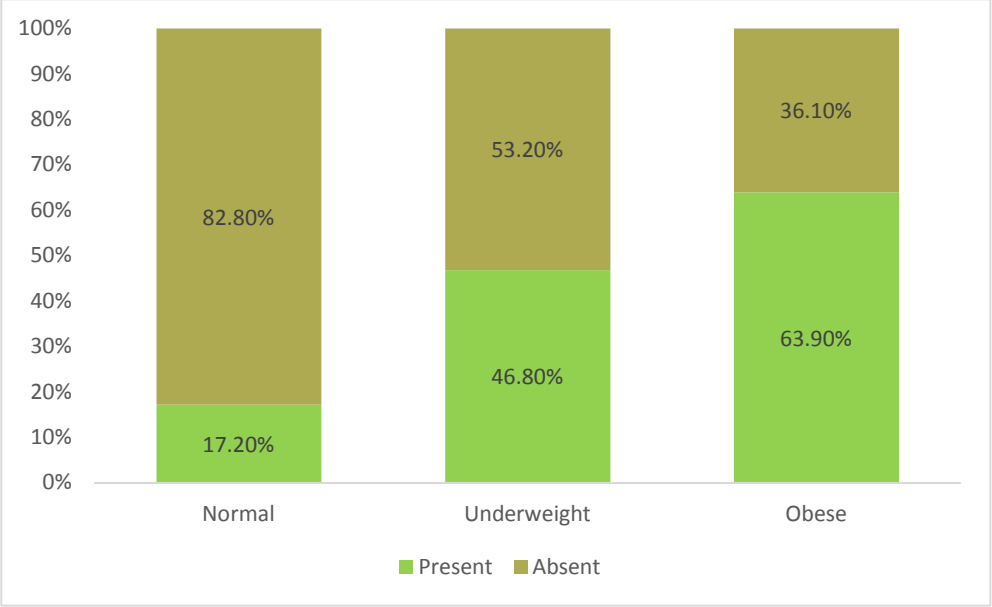


The study showed most of the lesions were present in those on insulin 6 (54.5%). The number of lesions noted among those on oral hypoglycemic agents were 79 (49.1%) and no lesions among those who were on ayurvedic medication. In this study the mode of treatment adapted by the study participant was not statically significant (χ^2 = 2.059; p = 0.560).

Table 30: Association of baseline data with body mass index:

Body Mass Index	Present (%)	Absent (%)
Normal	5 (17.2)	24 (82.8)
Overweight	37(46.8)	42 (53.2)
Obese	46 (63.9)	26 (36.1)
Total	88 (100.0)	92 (100.0)
χ 2 = 18.240	**df = 2**	**p = 0.000**

Graph 25: Association of baseline data with body mass index:



The study showed a rise in pattern, with increase in body mass index the cutaneous manifestations also increases. Those with normal body mass index 24 (82.8%) had no skin lesion. The number of manifestations observed among the overweight was 37 (46.8%) and most of the lesions were seen in those obese participants 46 (63.9%). And there was a statistical significance (χ 2 = 18.240; p = 0.000%) on associating cutaneous lesions with body mass index.

B. Association of incidence of cutaneous lesions with socio-demographic variables and risk factors

Table 31: Association of incidence of cutaneous lesions with age

Age	Number	Number of episodes	Incidence
25-35	2	1	0.50
35-45	15	12	0.80
45-55	29	18	0.62
55-65	66	22	0.33
65-75	52	25	0.48
75-85	16	8	0.50
Total	180	86	0.47
χ 2 = 28.578		**df = 5**	**p = <0.001**

Among the 180 study participants, participants between 25-35 years had 1 (0.50) episode, 35-45 years had 12 (0.80) episodes, 45-55 years had 18(0.62) episodes, 55-65 years had 22 (0.33), 65-75 years had 25 (0.48) episodes, 75-85 years had 8 episodes. The association of incidences of cutaneous lesions with age was statistically significant ($\chi^2 = 28.578$; p = <0.001).

Table 32: Association of incidence of cutaneous lesions with sex:

Sex	Number	Number of episodes	Incidence
Male	46	18	0.39
Female	134	68	0.50
Total	180	86	0.47
χ 2 = 29.07		**df = 1**	**p =<0.001**

The male study participants had 18 (0.39) episodes and the female had 68(0.50) episodes of cutaneous lesions during the 10 month follow up. The association of incidence of cutaneous lesion with sex was statistically significant (χ^2 = 29.07; p = <0.001).

Table 33: Association of incidence of cutaneous lesions with religion:

Religion	Number	Number of episodes	Incidence
Hindu	82	34	0.41
Muslim	88	39	0.44
Christian	10	13	1.3
Total	180	86	0.47
χ 2 = 13.27		**df = 2**	**p = 0.00131**

The study had more number of episodes among the Muslims with 39 (0.44) episodes and Hindus had 34 (0.41) number of episodes and the least was noted among the Christians with 13 (1.3) episodes. There was a statistical significance when number of cutaneous lesion was associated with religion (χ^2 = 13.27; p = 0.00131).

Table 34: Association of incidence of cutaneous lesions with socio-economic status:

Socio-economic status	Number	Number of episodes	Incidence
Class I	65	10	0.15
Class II	52	34	0.65
Class III	35	13	0.37
Class IV	9	26	2.88
Class V	19	3	0.15
Total	180	86	0.47
χ 2 = 36.674	**df = 4**	**p = <0.001**	

The 180 study participants during the 10 month follow up showed 10 (0.15) episodes among Class I, 34 (0.65) episodes in Class II, 13 (0.37) episodes in Class III, 26 (2.88) episodes in Class IV and 3 (0.15) in Class V. The association of incidence of cutaneous lesion with socio-economic status was statistically significant (χ^2 = 36.674; p = <0.001).

Table 35: Association of incidence of cutaneous lesions with occupation:

Occupation	Number	Number of episodes	Incidence
Unemployed	150	77	0.51
Unskilled worker	8	4	0.50
Semi-skilled worker	1	0	0.00
Skilled worker	20	4	0.20
Professional	1	1	1.00
Total	180	86	0.47
χ 2 = 260.628	**df = 4**	**p = 0.001**	

Among the 180 study participants, the unemployed 77 (0.51) number of episodes, unskilled had 4 (0.50) episodes, semiskilled worker had no episodes, skilled worker had 4 (0.20) episodes and professional had 1 (1) episode. Number of cutaneous lesions was statistically significant when associated with occupation (χ^2 = 260.628; p = 0.001).

Table36: Association of incidence of cutaneous lesions with literacy:

Literacy	Number	Number of episodes	Incidence
Illiterate	22	32	1.45
Primary school	49	18	0.36
Secondary school	56	18	0.32
Pre-University II	43	4	0.09
Graduate	10	14	1.40
Total	180	86	0.47
χ 2 = 23.535		**df = 4**	**p = <0.001**

During the 10 month follow up, 32 (1.45) episodes were found in those who were illiterate, 18 (0.36) episodes of cutaneous lesion among those educated up to primary school, 18 (0.32) episodes among those with secondary school education, 4 (0.09) episodes among pre-university II education and 14 (1.40) episodes in those with a graduate degree. Episodes of cutaneous lesion was statistically significant with literacy ($\chi^2 = 23.535$; p = <0.001).

Table 37: Association of incidence of cutaneous lesions with duration of diabetes mellitus:

Duration (Years)	Number	Number of episodes	Incidence
Less than 1	20	5	0.25
1-5	84	43	0.51
5-10	30	15	0.50
More than 10	46	23	0.50
Total	180	86	0.47
χ 2 = 36.233		**df = 3**	**p = <0.001**

The number of episodes noted among those with duration of diabetes less than 1 year was 5 (0.25), 43 (0.51) episodes with 1 to 5 years of duration of diabetes, 15 (0.50) when the duration of diabetes was 5 to 10 years and 23 (0.50) episodes when the duration of diabetes was more than 10 years. There was statistical significance when the number of episodes of cutaneous lesion was associated with duration of diabetes ($\chi^2 = 36.233$; $p = < 0.001$).

Table 38: Association of incidence of cutaneous lesions with treatment:

Treatment	Number	Number of episodes	Incidence
Oral Hypoglycemic Agent	161	68	0.42
Insulin	11	6	0.54
Both	6	8	1.33
Ayurvedic medications	2	4	2
Total	180	86	0.47
χ 2 = 134.465		**df = 3**	**p = <0.001**

Among the total 86 (0.47) number of episodes, participants on oral hypoglycemic agents and the most number of episodes, 68 (0.42). Participants on insulin had 6 (0.54) episodes. Participant on both insulin and oral hypoglycemic agent had 8 (1.33). Maximum number of episodes were noticed among those who used ayurvedic medication with 4 (2) episodes. There was a statistical significance when number of episodes was associated with mode of treatment (χ^2 = 1134.465; p = <0.001).

Table39: Association of incidence of cutaneous lesions with body mass index

BMI	Number	Number of episodes	Incidence
Normal	29	17	0.58
Overweight	79	34	0.43
Obese	72	35	0.48
Total	180	86	0.47
χ 2 = 7.144		**df = 2**	**p = 0.028**

The study showed most number of episodes among obese 35 (0.48) and overweight had 34 (0.43) and the least number of the episodes were noted among normal BMI with 17 (.058) episodes. The association of BMI with incidence was not statistically significant ($\chi^2 = 7.144$; $p = 0.028$).

DISCUSSION

The present study was conducted in the Urban Health Centres of Ashok Nagar and Ram Nagar which are the field practice areas of Department of Community Medicine, Jawaharlal Nehru Medical College, K.L.E. University, Belagavi. Total 180 type 2 diabetes mellitus patients were recruited for the study. The duration of the study period was from January to December 2016.

A number of cutaneous lesions are associated with or are a sequalae of diabetes mellitus. Many of the associations may simply be an accidental due to high prevalence of diabetes in the general population. [23]

The distribution of the 180 study participants was such that most of them were between the age group of 56-65 years with 36.67% and the next highest number of study participants was between the age group of 65-75, with 28.89% participants.

The least number of study participants were in the younger age group with 1.11% between the age group of 25-35 years and 8.33% between the age of 35-45 years. Also there were less participants in the oldest age group of 75-85 with 8.89% study participants.

As diabetes is known to occur in the older population, the lesser participants in the younger age group and then on the rise in participants is noted. In a study conducted by Usha Kataria et al. the age of the patients ranged from 18- 70 years and the most common age group was 51-60 years (42%) followed by 41-50 years (28%) and 31-40 years (20%). [15]In a study conducted by Deepika et al. the maximum

number of patients were in the age group of 51-60 years (35%) followed by 61-70 years (22.6%). [25] (Table 1)

Most of the study participants were female, 134 (74.44%) and the reaming were males 46 (25.56%) with the ratio of 2.9:1(M: F). This was so as the data collection was done during the working hours of Urban Health Centre.

Among the 200 type 2 diabetic mellitus patients120 (60%) were females and 80 (40%) were males with the ratio of 2:3 in a study conducted by Usha Kataria et al. [15] In a study conducted by Yasmeen J. Bhat 56% were females and 44% were males. [4] However male preponderance was noticed in a study conducted by Manish N. Kadam et.al with 62%. [14] (Table 2)

The religious division of the study participants were such that Muslims were the most with 88 (48.89%) and Hindus were 82 (45.56%). The least participants were Christians. The study area was located in the Muslim populated area. In contrast to a study conducted in coastal Karnataka by Chythra R. Rao et al. 85.6% were Hindus, 8.6% were Muslims and 5.7% were Christians. [40](Table 3)

The study participants were mostly illiterate with 65 (36.11%) participants and 52 (28.89%) had studied up to primary school. 19 (10.56%) had a graduate degree. Nitendra et al. also had the majority, 62% out of 192 study participants to be illiterate. [36] (Table 4)

Most of the study participants were unemployed, 150 (83.33%). This was observed as most of the participants were illiterate and belonged to older age group. Also larger percentage of the participants were housewives. 20 (11.11%) were skilled worker and worked as tailors and mechanics. 8 (4.44%) were unskilled workers,

coolie or mason. Out of the 1239 respondents in a study by Chythra R. Rao et al. 44% were housewives, 24% were unskilled workers and 9.9% were unemployed an retired.[40] (Table 5)

Out of the 180 study participants most of the study participant, 56 (31.11%) belonged to Class III socio-economic status. 22 (12.22%) belonged to Class I and Class V had 10 (5.56%) participants. According to a study conducted by Nitendra Chaurasia et al. 59.88% out of 192 belong to Class IV and V socio-economic status. [36] (Table 6)

Most of the study participants, 84 (46.67%) had 1-5 years of duration of diabetes mellitus. 46 (25.56%) had more than10 years of duration of diabetes mellitus. Only 20 (11.11%) had the duration less than 1 year duration of diabetes.680 diabetic patients were a part of the study conducted by Nandini Chatterjee et al., the duration of diabetes was 1-10 years in 290 patients and 201 ha more than 10 years of diabetes.[16] Roshni Vahora et al. studied 300 diabetics, 62.33% had the duration of diabetes was less than 6 years and 83.7% of the patients the duration was less than 10 years.[1] In a study conducted by Sivanna Ragunaha et al., the mean duration of diabetes was 5.5 ± years and 82 % of patients the duration was less 10 years. [18] (Table 7).

Most of the study participant, 161 (89.44%) were on oral hypoglycemic agents and insulin was used by 11 (6.11%) and 6 (3.33%) were on both Oral hypoglycemic agents and insulin. 2 (1.11%) were on Ayurvedic medications. Manish N. Kadam et al. showed that out of 100 cases studied 10% patients were only on insulin therapy, the other 76% patients were on hypoglycemic drugs and 14% patients were on were on no treatment.[14] Ghulam Hussain Baloch et al. had 70 type diabetics on oral drugs

and 2 on insulin out of the 90 patients studied.[17] Another study conducted by Krushid Ahmed et al., Among 350 diabetic cases 82.2% were on oral hypoglycemic agents, 12.9% were on insulin and 4.9% were on combination therapy. [19] (Table 8)

Most of the study participants had a medical past history, 113 (62.78%). Past history included hypertension [62(34.44%)], hysterectomy [19(10.55%)] and cataract extraction [5(2.77%)] commonly. Most of the participants were also diagnosed diabetic through the course of the past medical illness. Systemic disease was present in 47% of patients in the study done by Eman M. Sanad. Hypertension was the most common, singly (24 patients) or with other systemic disease (7 patients) such as cardiac, renal and hepatic disease which occurred without hypertension. [24] (Table 9)

Among the study participants, a positive family history was present in 71 (39.44%). Amongst them 36 (50.70%) had single parent with diabetes, 5 (7.04%) had both parents. 47 (66.19%) had their siblings with diabetes. 17 (23.94%) had history of diabetes mellitus siblings and one or both parents. Family history as noted by Muhammad Shahzad et al. showed positive family history in 64% and no history in 36% of the participants. [3] (Table 10)

It was observed that 133 (73.89%) consumed non-vegetarian food and 47 (26.11%) followed vegetarian diet. 90% of the study participants were non-vegetarians out of the 1936 respondents of a study in rural Tamil Nadu by Sanjay Kumar Gupta et al. [37] (Table 11)

Out of the 180 study participant 34 (18.88%) of them had the habit of consuming tobacco or alcohol. Out of them 25 (73.52%) consumed tobacco in one

form or the other. 9 (26.47%) consumed alcohol. Rest of the 146 (81.11%) of the participant did not have any personal habits. (Table12)

It was interesting to note that none of the study participant were underweight though most of the study participants belonged to Class III socio-economic status. Only 29 (16.11%) were of normal weight, 79 (43.89%) were overweight and 72 (40.00%) were obese. This distribution of study participants shows that diabetes no longer affects those of then higher economic status but now equally prevalent among lower class as well. Overall, in both urban and rural areas, women had higher mean BMI values than men (Urban: women: 23.6 vs. men: 22.7 kg/m^2, $p < 0.001$ in a study conducted by Rajendra Pradeepa et al. [38] (Table 13)

22 (12.22%) had normal blood pressure, 45 (25.00%) had pre-hypertensive blood pressure, 133 (73.88%) were hypertensive. The hypertensives 51 (28.33%) were newly diagnosed and 62 (34.45%) were already known cases of hypertension. Amongst these 47 (75.81%) had blood pressure of <140/90 mm of Hg and 15 (24.19%) had blood pressure of > 140/90 mm of Hg. The co-existence of hypertension with diabetes was clearly noted. Hypertension was present among 45.5% urban and 43.6% rural diabetic subjects in a study conducted by P.C. Banik et al. [41] (Table 14)

Among the 180 study participant the prevalence of cutaneous manifestations was found to be in 48.88%. The overall prevalence of cutaneous manifestations varied from 11.4to 97%. [10, 38] (Table 15)

Among the 88 (48.88%) with cutaneous lesion, the onset of lesion was insidious in more than half of them (64.77%). The onset was gradual in 13 (14.77%) and sudden in 18 (26.86%). (Table 16)

Among the total 88 (48.88%) who had cutaneous manifestations, most of the lesions were progressive 49 (55.68%) and remaining lesions did not show any change and were stationary, 39 (44.31%). (Table 17)

A total of 115 patterns of cutaneous manifestations were found in this study. The pattern noted to be maximum did not belong to any of the categories mentioned. They were classified as others, 66 (75.00%), admits this category staggeringly high number of Skin tags, 42 (47.72%) were found. 38 (43.18%) of the lesions observed had a clear pathogenesis which included Acanthosis nigricans 5 (5.68%) and Cutaneous infections 33 (37.50%) [most common was Tinea paedis with 19 (21.59%)]. 2 (2.27%) had Necrobiosis lipodica diabeticorum [1(0.11%)] and Diabetic dermopathy [1(0.11%)]. 3 (3.40%) had manifestations due to vascular abnormality. 6 (6.81%) had lesions due to anti diabetic treatment. 21 (23.86%) of the participants had more one lesion present. Of them 13 (62.90%) had two lesions and 8 (38.09%) had three lesions at the time of diagnosis. In this study cutaneous lesions without clear pathogenesis had the least prevalence of 2.26%, Necrobiosis lipodica was seen in 1.13%. The prevalence as stated by Simone Van Hattem et al was 0.3-1.6%. Diabetic demopathy was noted in one subject, 1.13% and however it is said to affect 7-70% of diabetic patients. It is not specific affecting 20 % of the non-diabetic population as well. [42]

Cutaneous lesions with clear pathogenesis had a total of 38 (43.13) cases. The most common were cutaneous infections 33(37.45%). Amongst them tinea paedis was

the most common, 19 (21.59%). Acanthosis nigricans was present in 5.68% of study population. However William B. Horton et al states that it is the most widely recognized cutaneous manifestation of diabetes mellitus and is present in up to 70% of obese adults and can also be predictive of hyperinsulinemia. [34]

As a group skin infections occur in 20-50 %of diabetics. [11, 43] In a 2013 study of 76 patients with tinea corporis, the main predisposing factor was xerosis.[44] Pyodermic infections such as impetigo, folliculitis, carbuncles, furunculosis, ecthyma and erysipelas can be more severe and wide spread in diabetic patients. [42]

Vascular abnormalities due to diabetes were seen 3 (3.40%) cases. In particular, diabetic foot ulcer is common complications occurring in 15-25% of all patients with diabetes and accounting for more than 80% of all lower limb amputations. [45] Lipodystrophy was noted in the present study with the prevalence of 6.80%. However this is more common in type 1 diabetes mellitus with 6% as stated by Yosipovitch et al. [11](Table18)

The cutaneous lesions were asymptomatic in majority of the participants 43 (48.86%). The other symptoms included were itching in 24 (27.27%), burning sensation 20 (22.72%), pain 18 (20.45%), discharge from the lesion was present in 6 (6.81%) of the skin lesions. 68 (77.27%) of them had single associated symptom, 17 (19.31%) had two associate symptoms and 3 (3.40%) had three symptoms associated with the skin lesions. (Table 19)

Among the 180 study participant, total number of episodes noted were 86 during the10 month follow-up period. A total of 17 different patterns of lesions were noted.

The cases noted during the months of follow up was 9 (10.46%) in the month of March, 9 (10.46%) in the month of April, 12 (13.95%) in May, 4 (4.65%) in June, 9 (10.46%) in July, 9 (10.46%) in August, 5 (5.81%) in September, 10 (11.36%) in October, 7 (7.95%) in November and 12 (13.95%) in December.

The skin lesions were almost equally distributed throughout the year. However during the summer (March to May) cutaneous lesions were at a peak with total of 30 new cases, monsoon (June to September) total of 27 new cases and winter season (October to December) showed 29 new cases.(Table 21)

The cutaneous manifestations showed an increasing trend. The presence of lesion increased with age. With no manifestations in the youngest age group and maximum number of manifestations in the age group of 55 - 65 with 44 (66.7%) lesions. Then the lesions decreased with 6(37.5%) diabetics with lesion in 75-85 years age group. This decrease was seen as the number participants in this age group were fewer as well. (Table 22)

71 (53.0%) female study participants showed greater presence of cutaneous lesions. This was notices as the female participants were more in number. Also the women were noticed to have the practice soaking of the feet in water during household activities such as washing clothes and utensils. (Table 23)

The study had almost equal number Hindu, 82 (45.6%) and Muslim 88 (48.9%) of study participant. The lesion was found to the highest among the Muslim population with 54 (61.4%) number of lesions and the Hindus had 32 (20.0%) number of the total cases. The increased prevalence of cutaneous lesion among the Muslim

participants was more as there was no daily bathing practiced. This was also aggravated by the water problem in the study areas. (Table 24)

A downward trend was noticed as the literacy increased. Most of the skin lesions were found among those who were illiterate, 35 (53.8%) and the least was noted in those who had studied up to Pre-university II, 4 (44.4%). This throws light on the knowledge gap present in the participants not only regarding the complications of diabetes but also on the importance of self-care. (Table 25)

In this study maximum number of skin lesions were found in those who were unemployed, 72 (48.0%) and professionals did not have any lesions. The unemployed were also illiterate and also were housewives involved in household chores. (Table 26)

The cutaneous manifestations were found to be more as the socio-economic class of the participant fell. The least number of cases were observed in the class I 8 (36.4%) and class II 8 (16.3%). The cutaneous lesions were found to the most in class IV with 35 (81.4%).(Table 27)

In this study the presence of cutaneous manifestations were most commonly observed when the duration of diabetes was for 1 to 5 years with 46 (54.8%) of study participants with lesions. Also the absence of lesion was pronounced in those with duration of diabetes less than 1 year with 12 (60.0%) among those without manifestations. Hence the longer the duration of type 2 diabetes mellitus more the skin lesion. (Table 28)

The study showed most of the lesions were present in those on insulin 6 (54.5%). The number of lesions noted among those on oral hypoglycemic agents were 79 (49.1%) and no lesions among those who were on ayurvedic medication.(Table 29)

The study showed a rise in pattern, with increase in body mass index the cutaneous manifestations also increases. Those with normal body mass index 24 (82.8%) had no skin lesion. The number of manifestations observed among the underweight was 37 (46.8%) and most of the lesions were seen in those obese participants 46 (63.9%). (Table 30)

Among the 180 study participants, participants between 25-35 yeas had 1 (0.50) episode, 35-45 years had 12 (0.80) episodes, 45-55 years had 29 (18) episodes, 55-65 years had 22 (0.33), 65-75 years had 25 (0.48) episodes, 75-85 years had 8 episodes. The incidence of was the highest in 35-45 years of age and the least was in the age group of 55-65. (Table 31)

The male study participants had 18 (0.39) episodes and the female had 68 (0.50) episodes of cutaneous lesions during the 10 month follow up.(Table 32)

The study had more number of episodes among the Muslims with 39 (0.44) episodes and Hindus had 34 (0.41) number of episodes and the least was noted among the Christians with 13 (1.3) episodes. However the incidence of new cases was the highest among Christians. (Table 33)

The 180 study participants during the 10 month follow up showed 10 (0.15) episodes among Class I, 34 (0.65) episodes in Class II, 13 (0.37) episodes in Class III, 26 (2.88) episodes in Class IV and 3 (0.15) in Class V. This study showed increase in incidence of cutaneous lesions as the socio-economic status of the participants fell. (Table 34)

Among the 180 study participants, the unemployed 77 (0.51) number of episodes, unskilled had 4 (0.50) episodes, semiskilled worker had no episodes, skilled worker had 4 (0.20) episodes and professional had 1 (1) episode. (Table 35)

During the 10 month follow up, 32 (1.45) episodes were found in those who were illiterate, 18 (0.36) episodes of cutaneous lesion among those educated up to primary school, 18 (0.32) episodes among those with secondary school education, 4 (0.09) episodes among pre-university II education and 14 (1.40) episodes in those with a graduate degree. Increased incidence of skin lesion is attributed to lower educational status. (Table 36)

The number of episodes noted among those with duration of diabetes less than 1 year was 5 (0.25), 43 (0.51) episodes with 1 to 5 years of duration of diabetes, 15 (0.50) when the duration of diabetes was 5 to 10 years and 23 (0.50) episodes when the duration of diabetes was more than 10 years. The occurrence of new lesions was the lowest when the duration of diabetes was the least and the incidence was more when the duration of diabetes increased. There was no change in incidence of new lesion when the duration of diabetes was more than 5 years. (Table 37)

Among the total 86 (0.47) number of episodes, participants on oral hypoglycaemic agents and the most number of episodes, 68 (0.42). Participants on insulin had 6 (0.54) episodes. Participant on both insulin and oral hypoglycemic agent had 8 (1.33). Maximum number of episodes were noticed among those who used ayurvedic medication with 4 (2) episodes. (Table 38)

The study showed most number of episodes among obese and overweight and the least number of the episodes were noted among those with normal BMI. (Table 39)

CONCLUSION

Dermatological manifestations were highly prevalent causing considerable morbidity although the true burden is difficult to define. The most common lesion noted were Xerosis during the winter months and Tinea paedis during the monsoon season. The incidence newer lesions were low owing the chronicity of the diabetes mellitus. However there are cutaneous markers such as Acanthosis nigricans and skin tag which are considered precursors for the development of diabetes mellitus.

Diabetic skin is more susceptible to infections than the non-diabetic skin. The positive association of incidence of skin lesion with the literacy advocates the need to emphasis on self-care practices to overcome fatal outcomes. With regards to the elevated occurrence of cutaneous lesions in this population the treating physician should also be vigilant in detection and management of early stage lesions. In addition, a good glycemic control can alleviate these complications.

STRENGTHS

1. This study has brought out awareness about the skin lesions and glycemic status among the study participants.
2. Thus aiding in prompt reporting to skin specialist and seeking adequate treatment.
3. There was least panel attrition as the study participants were permanent residents of the study area and also were tracked through phone calls.

LIMITATIONS

1. Glycemic status (HbA1c) was not measured.
2. Progression or regression of the lesion was not noted which would have also reflected upon the glycemic status.
3. Other confounding factors such as obesity, seasonal variations and those working in water were not dealt with.
4. It was unable to identify the lesions that were present prior to the start of the study, though they contribute to the incidence.

RECOMMENDATIONS

- Randomized controlled trial to know if the glycemic control has a role to play in the occurrence of skin lesions.
- Cohort study to know the progression and regression of the skin lesions those adhering to good OHA compliance.
- Alert dermatologist to diagnose diabetes at the onset of certain cutaneous markers such as skin tag or acanthosis nigricans.
- Physicians should pay attention to skin changes to avert complications of cutaneous manifestations such as amputations from diabetic foot.
- Diabetologist can provide adequate non-invasive screening for the family members of the diabetic patients with a thorough dermatological examination.
- Primary physician can also contribute to lessening the burden of diabetes and its complications by routine Non-communicable diseases camps particularly being vigilant about the dermatological complaints.
- IEC activities regarding foot care should be done.

SUMMARY

The present study was a facility based longitudinal study directed to know the incidence of cutaneous manifestations in the type 2 diabetes mellitus. The study was conducted in urban field practice area of Ram Nagar and Ashok Nagar which are the field practice areas of Department of Community Medicine, Jawaharlal Nehru Medical College, K.L.E. University's Belagavi on 180 patients with type 2 diabetes mellitus during the period of January 2016 to December 2016.

Key results are summarized as follows:

Socio-demographic profile:

Of the 180 study participant, 36.67% were in the age group of 56-65 years and 28.8% were in the age group of 66-75 years forming the majority of the participants. The average age of the study participant was 59.88 ±11.06 (mean ± S.D.) with a range of 27 to 87 years of age.74.44% were female forming the major portion and 25.56% were male. In this study Muslim and Hindu participant were almost equal with 48.89% and 45.56% respectively, and the remaining 5.56%of the participant were Christians.

Most of the study participant36.11% were illiterate and 28.89%of them had studied up to Primary school.83.33%were unemployed and 11.11%were skilled workers. Among the 180 study participant 22 (12.22%) were of Class I, 49 (27.22%) were of Class II, majority were of Class III with 56 (31.11%) participant. 43 (23.89%) were of Class IV and 10 (5.56%) were of Class V.

Morbidity profile:

The study participants' duration of diabetes varied. 11.11% had diabetes since less than 1 year. Most of them, 46.67% had diabetes from 1-5 years, 16.67% had diabetes since 5-10 years and 25.56% were living with diabetes for more than 10 years.89.44% were on Oral Hypoglycemic Agents that were provided by the Urban Health Centre. Few of them, 6.11% were only on insulin. 3.33 took combined medication. 1.11% was on Ayurvedic Medication for the treatment of diabetes mellitus.

39.44% had a family history of diabetes mellitus. Among them 50.70% had a single parent with a positive history and 7.04% had both the parents. 66.19% had their siblings with a history of diabetes mellitus. 23.94% had history of diabetes mellitus in siblings and one or both the parents.

73.89% consumed non-vegetarian food and 26.11% followed vegetarian diet. Out of the 180 study participant 18.88% of them had the habit of consuming tobacco or alcohol. Out of them 73.52% consumed tobacco in one form or the other and 26.47% consumed alcohol.

None of the study participant were underweight. 16.11% were of normal weight, 43.89%were overweight and40.00% were obese.12.22% had normal blood pressure, 25.00% had pre-hypertensive blood pressure, 73.88% were hypertensive.

Baseline information of cutaneous manifestations:

Among the 180 study participant the prevalence of cutaneous manifestations was found to be in 88 (48.88%) and 92 (51.11%) did not have any skin lesion at the time of collection of baseline information. The onset was gradual in 14.77% and

sudden in 26.86%. Most of the lesions were progressive (55.68%) and remaining lesions did not show any change and were stationary (44.31%).

A total of 115 patterns of cutaneous manifestations were found in this study. The pattern noted to be maximum did not belong to any of the categories mentioned. They were classified as others, (75.00%), admits this category staggeringly high number of Skin tags (47.72%) were found. 43.18% of the lesions observed had a clear pathogenesis which included Acanthosis nigricans (5.68%) and Cutaneous infections (37.50%) [most common was Tinea paedis with (21.59%)]. 3.40% had manifestations due to vascular abnormality. 6.81% had lesions due to anti diabetic treatment. 23.86% of the participants had more one lesion present. Of them 62.90% had two lesions and 38.09% had three lesions at the time of diagnosis.

The cutaneous lesions were asymptomatic in majority of the participants (48.86%). The other symptoms included were itching in (27.27%), burning sensation (22.72%), pain (20.45%), discharge from the lesion was present in (6.81%) of the skin lesions. 77.27% of them had single associated symptom, 19.31% had two associated symptoms and 3.40% had three symptoms associated with the skin lesions.

Incidence of cutaneous manifestations:

177 total subject were followed up for a total of 10 month. 3 study participant were accounted to loss to follow up. 1 was due to death and other 2 were due to change in residence. These study participant contributed to 6, 8 and 9 months of follow up. This amounting to 1793 months, which is 99.61% of follow up. And the attrition rate was 0.38%.So, the cumulative incidence was found to be 0.4777 or 47.77 per 100 Diabetics and incidence rate was found to 0.0479 per Diabetics – Years.

Among the 180 study participant, total number of episodes noted were 86 during the10 month follow-up period. A total of 17 different patterns of lesions were noted. The cases noted during the months of follow up was 9 (10.46%) in the month of March, 9 (10.46%) in the month of April, 12 (13.95%) in May, 4 (4.65%) in June, 9 (10.46%) in July, 9 (10.46%) in August, 5 (5.81%) in September, 10 (11.36%) in October, 7 (7.95%) in November and 12 (13.95%) in December.

The skin lesions were almost equally distributed throughout the year. However during the summer (March to May) cutaneous lesions were at a peak with total of 30 new cases, monsoon (June to September) total of 27 new cases and winter season (October to December) showed 29 new cases.

Leading cutaneous manifestations observed were Xerosis with 20.93% cases followed by Tinea paedis with 16.27%. Skin tag, Onychomycosis and Folliculitis was the third leading manifestation with 8.13% each and Tinea cruris and Generalised purities with 6.79% lastly Acanthosis nigricans with 5.81%.

Association of the cutaneous lesions with socio-demographic variables and risk factors:

The cutaneous manifestations showed an increasing trend with no manifestations in the youngest age group and maximum number of manifestations in the age group of 55 - 65 with 66.7% lesions. Age was statistically significant ($p = 0.005$). 53.0% female study participants showed greater presence of cutaneous lesions. This study did not show any statistical significance ($p= 0.061$) when sex was associated with the presence of skin lesions. The lesion was found to the highest among the Muslim population with (61.4%) number of lesions and the Hindus had

(20.0%) number of the total cases. And the presence of cutaneous manifestations in these diabetics was found to be statistically significant (p = 0.002%).

A downward trend was noticed as the literacy increased. Most of the skin lesions were found in those who were illiterate, (53.8%) and the least was noted in those who had studied up to Pre-university II, (44.4%) of those with lesion and education was not statistically significant (p = 0.761). In this study maximum number of skin lesions were found in those who were unemployed (48.0%) and professionals did not have any lesions. The presence of skin lesion was not associated with occupation statistically (p = 0.566%).

The cutaneous manifestations were found to be more as the socio-economic class of the participant fell. The least number of cases were observed in the class I (36.4%) and class II (16.3%). The cutaneous lesions were found to the most in class IV with 81.4%.This study showed statistical significance of association is presence of skin lesion and socioeconomic status of the study participant (p =<0.001).

In this study the presence of cutaneous manifestations were most commonly observed when the duration of diabetes was for 1 to 5 years with 54.8% of study participants with lesions. However there was no statistical significance (p = 0.286) noted between the presence of cutaneous lesions and increasing duration of diabetes mellitus. The study showed most of the lesions were present in those on insulin (54.5%). The number of lesions noted among those on oral hypoglycemic agents were in 49.1% and no lesions among those who were on ayurvedic medication. In this study the mode of treatment adapted by the study participant was not statically significant (p = 0.560).

The study showed a rise in pattern, with increase in body mass index the cutaneous manifestations also increases. Those with normal body mass index (82.8%)

had no skin lesion. The number of manifestations observed among the overweight was 37 (46.8%) and most of the lesions were seen in those obese participants 46 (63.9%). And there was a statistical significance (p =< 0.001) on associating cutaneous lesions with body mass index.

Among the 180 study participants, participants between 45-55 years had maximum incidence of 0.62 and least was in 55-65 years age group with 0.33 incidence. The association of incidences of cutaneous lesions with age was statistically significant (p = <0.001). The male study participants had 18 (0.39) episodes and the female had 68(0.50) episodes of cutaneous lesions during the 10 month follow up. The association of incidence of cutaneous lesion with sex was statistically significant (p = <0.001).

The study had more number of episodes among the Muslims with 39 (0.44) episodes and there was a statistical significance when number of cutaneous lesion was associated with religion (p = 0.00131).

The 180 study participants during the 10 month follow up showed 26 (2.88) episodes in Class IV and 3 (0.15) in Class V. The association of incidence of cutaneous lesion with socio-economic status was statistically significant (p = <0.001). Number of cutaneous lesions was also statistically significant when associated with occupation (p = 0.001).Episodes of cutaneous lesion was statistically significant with literacy (p = <0.001) where the illiterates had the highest incidence with 1.45 and the lowest was among the Pre-university graduates with 0.09 incidence.

The number of episodes noted among those with duration of diabetes less than 1 year was 5 (0.25), 43 (0.51) episodes with 1 to 5 years of duration of diabetes, 15 (0.50) when the duration of diabetes was 5 to 10 years and 23 (0.50) episodes when the duration of diabetes was more than 10 years. There was statistical significance

when the number of episodes of cutaneous lesion was associated with duration of diabetes ($p = < 0.001$). Maximum number of episodes were noticed among those who used ayurvedic medication with 4 (2) episodes. There was a statistical significance when number of episodes was associated with mode of treatment ($p = <0.001$).

The study showed most number of episodes among obese 35 (0.48) and overweight had 34 (0.43) and the least number of the episodes were noted among normal BMI with 17 (.058) episodes. The association of BMI with incidence was not statistically significant ($p = 0.028$).

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BIBLIOGRAPHY

1. Global Report on Diabetes; World Health Organization, 2016.
2. Seema Abhijeet Kaveeshwar, Jon Cornwall. The current state of diabetes mellitus in India; Australasian Medical Journal, 2014; 7(1) 45-48.
3. Muhammad Shahzad, Ahmad Al Robaee, Hani A. Al Shobaili, Abdullateef A. Alzolibani, Abdullah A, Al Marshood, Barakat Al Moteri. Skin Manifestations in Diabetic Patients Attending a Diabetic Clinic in the Qassim Region, Saudi Arabia; Medical Principles and Practice, 2011; 20:137–141.
4. Yasmeen J. Bhat, Vipin Gupta, R. P. Kudyar. Cutaneous manifestations of diabetes mellitus; International Journal of Diabetes in Developing Countries; December 2006; 26(4) 152-155.
5. E. Makrantonaki, D. Jiang, A. M. Hossini, G. Nikolakis, M. Wlaschek, K. Scharffetter-Kochanek, C. C. Zouboulis. Diabetes mellitus and the skin; Reviews in Endocrine and Metabolic Disorders, July 2016; 17(3)269–282.
6. Roshni Vahora, Sejal Thakkar, Yogesh Marfatia. Skin, a mirror reflecting diabetes mellitus: A longitudinal study in a tertiary care hospital in Gujarat; Indian Journal of Endocrinology and Metabolism, July-August 2013; 17(4) 659-664.
7. Fitzpatcrik's Dermatology in General Medicine, 7th Edition; 461-1470.
8. Rook’s Textbook of Dermatology, 8thEdition; 59.77-59.81.
9. Michelle Duff, Olga Demidova, Stephanie Blackburn, Jay Shubrook. Cutaneous Manifestations of Diabetes Mellitus; Clinical Diabetes Journal, Winter2015; 33(1) 40-48.

10. M. Greenwood. A study of the skin in five hundred cases of diabetes; Journal of American Medical Association, September 1927; 89(10) 774-776.
11. Gil Yosipovitch, Emmilia Hodak, Pnina Vardi, Ilana Shraga, Moshe Karp, Eliott Sprecher, Michael David. The Prevalence of Cutaneous Manifestations in IDDM Patients and Their Association With Diabetes Risk Factors and Microvascular Complications; Diabetes Care, April 1998; 21(4) 506-509.
12. http://www.searo.who.int/india/mediacentre/events/2016/en/
13. S.Hodl. Skin disorders in diabetes mellitus; Acta Deramatovenerologica Alpina, Pannonica et Adriatica; 1(92,3) 71-78.
14. Manish N. Kadam, Pravin N. Soni, Sangita Phatale, B. Siddramappa; A study of cutaneous manifestations associated with diabetes mellitus International Journal of Advances in Medicine, April-June 2016; 3(2) 296-303.
15. Usha Kataria, Dinesh Chillar, Hitender Kumar, Pankaj Chhikkar. Cutaneous manifestations of diabetes mellitus in controlled and uncontrolled state. Internal Archives of International Medicine, February 2015; 2(2) 90-93.
16. Nandini Chatterjee, Chandan Chattopadhyay, Nilanjan Sengupta, Chanchal Das, Nilendu Sarma, Salil K Pal. An observational study of cutaneous manifestations in diabetes mellitus in a tertiary care Hospital of Eastern India; Indian Journal of Endocrinology and Metabolism, March-April 2014; 18(2) 217-220.
17. Ghulam Hussain Baloch, Noor Mohammad Memon, Bikha Ram Devrajani, Pervez Iqbal and Nasreen Khalid Thebo. Cutaneous manifestations of Type 2 Diabetes Mellitus; Journal of Liaquat University of Medical & Health Sciences, August 2008; 7(2) 67-70.

18. Shivanna Ragunatha, Bhaktavatsalam Anitha, Arun C Inamadar, Aparna Palit, Shashidhar S Devarmani. Cutaneous disorders in 500 diabetic patients attending diabetic clinic; Indian Journal of Dermatology, 2011; 56(2) 160-164.
19. Khurshid Ahmed, Zardad Muhammad, Iftikhar Qayum.J Ayub. Prevalence of cutaneous manifestations of Diabetes mellitus; Journal of Ayub Medical College Abbottabad, 2009; 21(2) 76-79.
20. F.Najdawi and M.Fa'ouri. Frequency and types of skin disorders and associated diabetes mellitus in elderly Jordanians; Eastern Mediterranean Health Journal, 2002; 8(4/5) 574-578.
21. Fady S. Yasso, Saba S. Yaso, Petra S. Yasso. Skin Manifestations of Diabetes Mellitus among Iraqi Patients American Journal of Medicine Studies, 2013, Vol. 1, No. 3, 32-37.
22. Furquana Niaz, Farhat Bashir, Nadia Shams, Zaman Shaikh, Ijaz Ahmed.Cutaneous manifestations of diabetes mellitus type 2: Prevalence and association with glycemic control, Journal of Pakistan Association of Dermatologists, 2016; 26 (1) 4-11.
23. Zamaz Wahid, Anjum Kanjee. Cutaneous Manifestations of Diabetes Mellitus; Journal of Pakistan Medical Association, 1998; 48(304) 304-305.
24. Eman M. Sanada, Mona M. El Fangaryb, Neveen E. Soroura, Noha M. ElNemisya. Skin manifestations in Egyptian diabetic patients: A case series study, Egyptian Journal of Dermatology and Venereology, 2013; 33:56–62.
25. Deepika, Sunil Kumar Gupta, Parminder Singh, Monika. Pattern of Dermatological diseases in patients of diabetes mellitus, Journal of Pakistan Association of Dermatologists. 2016; 26 (3):214-218.

26. Tariq Mahmood, Arfan ul Bari, Humayun Agha. Cutaneous manifestations of diabetes mellitus; Journal of Pakistan Association of Dermatologists, 2005; 15(3) 227-232.
27. Abhishek Goyal, Sujeet Raina, Satinder S Kaushal, Vikram Mahajan1, Nand Lal Sharma. Pattern of cutaneous manifestations in diabetes mellitus; Indian Journal of Dermatology, 2010; 55(1) 39-41.
28. Mahesh Ravindra Khairnar, Umesh Wadgave, Pranali Vinayak Shimpi. Updated BG Prasad socioeconomic classification for 2016; Journal of Indian Association of Public Health Dentistry, October-December 2016; 14(4) 469-470.
29. WHO expert consultation. Appropriate body-mass index for Asian populations and its implications for policy and intervention strategies; The Lancet, January 10, 2004; 363 (157-163); www.thelancet.com.
30. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure; National Institutes of Health Publication No. 04-5230, August 2004, Pg 12.
31. Joslin's Diabetes Mellitus, C. Ronald Kahn, Gordon C. Weir, George L. King, Alan M. Jacobson, Alan C. Moses, Robert J. Smith, 14th Edition, 1018-1060.
32. Cutaneous Manifestations of diabetes, Emilia Noemi Cohen Sabban, Volume 1, 1st Edition.
33. Cutaneous Manifestations of diabetes, Emilia Noemi Cohen Sabban, Volume 2, 1st Edition.

34. William B. Horton, Patrick L. Boler, Angela R. Subauste. Diabetes Mellitus and the Skin: Recognition and Management of Cutaneous Manifestations, Southern Medical Journal, October 2016, 109(10) 636-646.

35. Wilson TC, Snyder RJ, Southerland CC. Bullosis diabeticorum: is there a correlation between hyperglycemia and this symptomatology ? Wounds, 2012; 24(350–355).

36. Nitendra Chaurasia, Bijay Thapa, Bhimagouda H. Patil, Sagar Khandekar, Mubashir Angolkar, Aswini Narasannavar, et al. Knowledge of urban population regarding diabetes mellitus and its complication: A Community based study, Journal of Nobel Medical College, 3 (1,5) 62-65.

37. Sanjay Gupta, Zile Singh, Anil J. Purty, M. Kar, D.R. Vedapriya, P. Mahaajn et al. Diabets Prevalence and its risk factors in rural area of Tamil Nadu, Indian Journal of Community Medicine, July 2010; 35 (3) 396-399.

38. Rajendra Pradeepa , Ranjit Mohan Anjana , Shashank R. Joshi , Anil Bhansali , Mohan Deepa, Prashant P. Joshi , Vinay K. Dhandania , Sri Venkata Madhu , et at. for the ICMR-INDIAB Collaborative Study Group; Prevalence of generalized & abdominal obesity in urban & rural India- the ICMR-INDIAB study (Phase-I) [ICMR-INDIAB-3]; Indian Journal of Medical Research, August 2015, 142 (139-150).

39. Geisa Maria de Macedo, Samanta Nunes and Tania Barreto. Skin disorders in diabetes mellitus: An epidemiology and physiopathology review, Diabetology Metabolic Syndrome, 2016, 8 (63) 1-8.

40. Chythra R. Rao, Veena G. Kamath, Avinash Shetty, Asha Kamath. A study on the prevalence of type 2 diabetes in coastal Karnataka, International Journal in Developing Countries, April-June, 2010, 30(2) 80-85.

41. P.C. Banik, M. Moniruzzaman, F. Zaman, L. Ali.Hypertension among urban and rural type 2 diabetic subjects in Bangladesh; Mach, 2016; https://www.researchgate.net/publication/297533525Hypertensionamongurban andruraltype2diabeticsubjectsinBangladesh.
42. Simone Van Hattem, Aart H. Bootsma, H. Bing Thio. Skin manifestations of diabetes, Cleveland Clinic Journal of Medicine, November 2008; 75(11).
43. G. Romano, G. Moretti, A. Di Benedetto, C.Giofre, E. Di Cesare, G. Russo, et al. Skin lesions in diabetes mellitus: prevalence and clinical correlations, Diabetes Research and Clinical Practice, 1998; 39 (101-106).
44. Qadim H.H., Golfroushan F., Azimi H., Goldust M.Factor leading to dermopytosis. Ann Parisitol, 2013; 59 (99-102).
45. Arsanjani Shirazi A, Nasiri M, Yazdanpanah L. Dermatological and musculoskeletal assessment of diabetic foot: A narrative review. Diabetes metabolic syndrome, 2016.

ANNEXURE – I – ETHICAL CLEARANCE LETTER

K.L.E.UNIVERSITY'S
JAWAHARLAL NEHRU MEDICAL COLLEGE,
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Ref: MDC/DOME/411 **Date: 18/11/2015**

To,

PG student in Community Medicine,
J.N.Medical College,
BELAGAVI.

Sub: Institutional Ethical Clearance for the study.

With reference to the above, we wish to inform you that your proposed research project titled **"CUTANEOUS MANIFESTATIONS IN TYPE 2 DIABETES MELLITUS IN URBAN AREAS OF BELAGAVI – A LONGITUDINAL STUDY",** is ethical and justifiable. The proposed research project has been cleared by the JNMC Institutional Ethics Committee on Human Subjects Research.

(Dr. Arathi Darshan)
Member Secretary
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belagavi.

(Dr. Ganga Pilli)
Chairman,
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belagavi.

ANNEXURE-II

INFORMED CONSENT

Cutaneous manifestations in type 2 diabetes mellitus in urban areas of Belagavi – A longitudinal study

INVESTIGATORS: **Dr.**

Dr.

Dr.

Introduction

Diabetes mellitus is a worldwide problem and the most common metabolic disorder. More than 387 million are diabetics globally and by 2035 the number is likely to rise to 592 million, with 65.1 million (2013) diabetics India.

In type 2 diabetes mellitus due to insulin resistance resulting in elevated blood glucose levels causes metabolic, vascular, neurological and immunological abnormalities. Which causes secondary pathophysiological changes in multiple organs system that impose a tremendous burden on the individual and health care system. Skin is the largest and the most easily accessible organ and thus is the window to the internal body. Cutaneous signs of diabetes mellitus are extremely valuable to clinicians as some of them can alert the physicians to the diagnosis of diabetes mellitus and reflect the status of glycemic control.

Some of the most common skin lesions seen in diabetics are infections , Bullous diabeticorum, Acanthosis nigricans, Diabetic bulla and Diabetic dermopathy.

Explanation of procedures

In this study you will be subjected to complete systemic enquiry, systemic examination and dermatological examination in natural light, after obtaining written informed consent. Presence or absence of skin lesions are noted and you will followed up every month during the study period to look for new lesions or improvement in the condition. The entire procedure may take 1/2 an hour per examination.

Possible benefits and risks

The investigator does not promise or guarantee that you will receive direct benefit being in the study. It will benefit the whole community because by this study we will know incidence of skin lesion associated with type 2 diabetes mellitus patients, and accordingly improvement measures can be taught. For treatment the patient will be referred to Department of Dermatology at K.L.E.'s Dr. Prabhakar. Kore Hospital & Medical Research Centre. There are no risks involved for participation in the study.

Incentive

No monetary benefit will be given to the patient.

Confidentiality

Your identity will not be revealed. All information collected will be collected and coded so that no one will know your identity.

Withdrawal

Participation in this study is voluntary. If you do not wish to participate in this study, you will not lose benefits to which you are entitled.

Costs of participation

The cost of the study will be borne by the researcher. There will be no additional cost to you for participating in this study.

Payment of participation

There will be no incentives to you for participating in this study.

Authorization to publish results

The Researchers may use the information gathered from this study for presentation in scientific journals. However your identity will not be disclosed in such presentation or publication.

Legal rights

By signing this consent form, you are not waiving any of your legal rights.

Questions: If you have any questions about this study, you may contact **Dr. _____ Dr. _____.** If you have any questions about your rights as a study participant, you may contact **Dr. GANGA S. PILLI**, Chairman, JNMC Institutional Ethics Committee on human subjects research at 0831- 2741701.

Consent statement:

"I have been explained all the contents of this consent form in my local language and, have understood and clarified all my queries about the study to the best of my knowledge, I hereby give my voluntary consent for participation in the study. I do sign the informed consent form in front of an eyewitness whom I recognize."

Name and Signature/ left thumb impression of the participant: _____

Name and Signature of the interviewer: _____

Name and Signature/ left thumb impression of the eyewitness: _____

Date: _____ Place: _____

ANNEXURE-III

QUESTIONNAIRE

Cutaneous manifestations in type 2 diabetes mellitus in urban areas of Belagavi – A longitudinal study

Date of Examination: ID No: Ph No:

1. Name:

2. Age: 3. Sex: i) Male [ ] ii) Female [ ]

4. Address:

5. Religion: a)Hindu [ ]b)Muslim [ ]c)Christian [ ]d)Others [ ]

6. Education: a)Illiterate [ ]b)Primary school [ ]

c)Secondary school [ ]d)Pre-university II [ ]

e)Graduate [ ]f)Post-graduate [ ]

7. Occupation:

8. Socioeconomic status:

9. Skin lesion: i) Present [ ] ii) Absent [ ]

10. Present complaints and duration:

11. History of presenting illness:

a) Onset: i)Insidious [ ] ii)Sudden [ ] iii)Gradual [ ]

b) Progression: i)Progressive [ ] ii)Stationary [ ]

c) Initial lesion :i) Dry ii)Redness iii)Wheals iv)Fluid filled

v) Pus filled vi)Oozing lesion vii) Change in skin color viii) Swelling

ix) Ulcer x) Scaly lesion

d) Site: i) Face: I)Present [ ] II)Absent [ ]

ii) Oral cavity: I)Present [ ] II)Absent [ ]

iii) Chest: I)Present [ ] II)Absent [ ]

iv)Back: I)Present [ ] II)Absent [ ]

v) Trunk: I)Present [ ] II)Absent [ ]

vi) Upper limb: I)Present [ ] II)Absent [ ]

vii) Lower limb: I)Present [ ] II)Absent [ ]

viii) Crural region: I)Present [ ] II)Absent [ ]

ix) Web spaces: I)Present [ ] II)Absent [ ]

x)External genitalia:I)Present [ ] II)Absent [ ]

xi) Palms: I)Present [ ]II)Absent [ ]

xii) Soles: I)Present [ ] II)Absent [ ]

e) Size: i)≤0.5 cm [ ]ii)0.6- 1 cm [ ]iii)1.1- 2 cm [ ] iv)>2.1 cm [ ]

f) Number:

g) Color:

h) Skin surrounding the lesion:

i) Associated factors: i) Itching: I)Present [ ] II)Absent [ ]

ii) Pain: I)Present [ ] II)Absent [ ]

iii) Burning: I)Present [ ] II)Absent [ ]

iv) Discharge: I)Present [ ] II)Absent [ ]

v) Asymptomatic: I)Present [ ] II)Absent [ ]

j) Duration of Diabetes: I)<1 year [ ]II)1-5 years [ ]III)5-10 years [ ]IV)>10 years [ ]

k) Mode of treatment: I)OHA [ ] II)Insulin [ ] III)Diet control [ ]

12. Past history: Similar complaints in the past i)Present [ ] ii)Absent [ ]

Any major medical of surgical illness i)Present [ ] ii)Absent [ ]

13. Personal history: a) Diet: i)Vegetarian [ ] ii)Non-vegetarian [ ]

b) Appetite: i)Good [ ] ii)Reduced [ ]

c) Sleep: i)Adequate [ ] ii)Disturbed [ ]

d) Bowel and bladder: i)Normal [ ] ii)Altered [ ]

e) Tobacco consumption: i)Present [ ] ii)Absent [ ]

f) Alcohol: i)Present [ ] ii)Absent [ ]

g) Sexual history: History suggestive STI i) Present [ ] ii) Absent [ ]

14. Menstrual History: i)Normal [ ] ii)Abnormal [ ] iii)Not applicable [ ]

iv) Post menopausal [ ]

15. Family history: History of Type 2 DM in the family i) Present [ ] ii)Absent [ ]

16. General Physical Examination:

Height: Weight: BMI:

A)Built- i)Obese [ ] ii)Well [ ] iii)Moderate [ ] iv)Poor [ ]

B)Pallor- i)Present [ ] ii)Absent [ ]

C)Icterus- i)Present [ ] ii)Absent [ ]

D)Cyanosis- i)Present [ ] ii)Absent [ ]

E)Clubbing- i)Present [ ] ii)Absent [ ]

F)Edema- i)Present [ ] ii)Absent [ ]

G)Lymph Nodes- i)Palpable [ ] ii)Not Palapable [ ]

H)Vitals – a)Pulse- _____ c)Respiratory rate- _____

b)Bloodpressure- _____ d)Temperature- _____

I) Hair: i)Normal [ ] ii)Abnormal [ ]

J) Nails: i)Normal [ ] ii)Abnormal [ ]

17. Systemic Examination:

a) Cardiovascular system: i)Normal [ ] ii)Abnormal [ ]

b) Respiratory system: i)Normal [ ] ii)Abnormal [ ]

c) Central Nervous system: i)Normal [ ] ii)Abnormal [ ]

d) Gastrointestinal system: i)Normal [ ] ii)Abnormal [ ]

18. Local Examination:

a) Site:

b) Size:

c)Number:

d)Type of lesion:I)Macule [ ] VIII)Papule [ ]

II)Vesicle [ ] IX)Pustule [ ]

III)Bullae [ ] X)Plaque [ ]

IV)Erythema [ ] XI)Nodule [ ]

V)Ulcer [ ]XII)Patches [ ]

VI)Xerosis [ ]XIII)Atropy [ ]

VII)Swelling [ ]XIV)Maceration [ ]

19. Investigations:

Histopathological report-

Microbiological report-

20. Diagnosis:

FOLLOW - UP QUESTIONNAIRE

Cutaneous manifestations in type 2 diabetes mellitus in urban areas of Belagavi – A longitudinal study

Date of Examination: ID No:

1. Name:

2. Age:

3. Sex: i) Male [ ] ii) Female [ ]

4. Skin lesion: i) Present [ ] ii) Absent [ ]

5. Local Examination:

a) Site:

b) Size:

c)Number:

d)Type of lesion: I)Macule [ ] VIII)Papule [ ]

II)Vesicle [ ] IX)Pustule [ ]

III)Bullae [ ] X)Plaque [ ]

IV)Erythema [ ] XI)Nodule [ ]

V)Ulcer [ ] XII)Patches [ ]

VI)Xerosis [ ] XIII)Atropy [ ]

VII)Swelling [ ] XIV)Maceration [ ]

6. Investigations:

Histopathological report-

Microbiological report-

7. Diagnosis:

ANNEXURE-IV

KEY TO MASTER CHART

Cutaneous manifestations in type 2 diabetes mellitus in urban areas of Belagavi – A longitudinal study

ID No:

A. Age:

B. Sex: 1. Male 2.Female

C. Religion: 1. Hindu2.Muslim3.Christian

D. Education: 1. Illiterate 2. Primary school

3. Secondary school 4.Pre-university II

5. Graduate 6.Post-graduate

E. Occupation: 1. Unemployed 2.Unskilled workers/ manual workers 3.Semiskilled worker 4. Skilled workers 5. Professionals /Semiprofessional

F. Socioeconomic status: 1. Class I 2. Class II 3. Class III 4. Class IV 5. Class V

G. Skin lesion: 1. Present2. Absent

H. Onset: 1. Insidious 2.Sudden3.Gradual

I. Progression: 1. Progressive2.Stationary

J. Site: 1. Face 2. Oral cavity 3. Chest 4. Back 5. Trunk 6.Upper limb 7.Lower limb 8. Rural region 9.Web spaces 10. External genitalia 11. Palms 12. Soles

L. Associated factors: 1. Itching 2.Pain 3. Burning 4. Discharge 5. Asymptomatic

M. Duration of Diabetes: 1. <1 year 2. 1-5 years 3. 5-10 years 4. >10 years

N. Mode of treatment: 1. OHA 2.Insulin 3. Diet control 4. Ayurvedic medications

O. Past history of any major medical of surgical illness: 1. Present 2. Absent

P. Type of past history: 1. Hypertension 2. Hysterectomy 3. Others (specified)

Q. Diet: 1.Vegetarian 2. Non-vegetarian

R. Tobacco consumption: 1. Present 2. Absent

S. Alcohol: 1. Present 2.Absent

T. History of Type 2 DM in the family: 1. Present 0. Absent

U. Family member with type 2 DM: 1.Mother 2. Father 3.Sister 4. Brother

V. Height:

W. Weight:

X. BMI:

Y. Built: i) Obese [ ] ii)Well [ ] iii)Moderate [ ] iv)Poor [ ]

Z. Pallor: 1. Present2. Absent

AA. Blood pressure:

AB. Hair: 1. Normal2. Abnormal

AC. Nails: 1. Normal2. Abnormal

AD. Diagnosis:

1.	Acanthosisnigricans	17.	Onychomycosis
2.	Diabetic dermopathy	18.	Paronychia
3.	Diabetic foot	19.	Psoriasis
4.	Folliculitis	20.	Schamberg'spurpura
5.	Generalised pruritus	21.	Sclerosis
6.	Healing ulcer	22.	Seborrhic keratitis
7.	Hyperkeratosis	23.	Tineacorporis
8.	Hyperpigmentation	24.	Skin tag
9.	Hypertrophied skin	25.	Tineacruris
10.	Keloid	26.	Tineapaedis
11.	Lichen simplex-chronicus	27.	Vitiligo
12.	Lipoatrophy	28.	Granuloma annualre
13.	Lipohypertrophy	29.	Xanthelesma
14.	Skin pebbles	30.	Xerosis
15.	Necrobiosislipoidicadiabeticorum	31.	Death
16.	Eruptive xanthomas	32.	Non resident

AE. Follow up 1:

AF. Follow up 2:

AG. Follow up 3:

AH. Follow up 4:

AI. Follow up 5:

AJ. Follow up 6:

AK. Follow up 7:

AL. Follow up 8:

AM. Follow up 9:

AN. Follow up 10:

Age	Age coded	sex	religion	educatio	occupation	
76	6	2	2	2	shop keeper	
50	3	2	2	1		1
60	4	2	2	1	aya at school	
58	4	2	2	3		1
64	4	1	1	3	goldsmith	

OCCUPATION	SES	lesion	onset	progression
4	3	1	3	1
1	1	1	1	1
4	4	1	2	1
1	3	1	1	1
4	4	1	2	2

initial lesion	site	size	number	associated factors
	3	2	multiple	1
	1 1,3,7,8	3	multiple	5
	7 1,9	4	multiple	5
	8	3	multiple	5

duration of DM	MORx
2	1
2	1
2	1
2	1
3	1

Past History	diet	smoking
1, cataract extraction b/l	2	1
1,htn, tonsillectomy, IOL implantation	2	2
1,hypertension,catarct	2	2
1,hypertension,cataract	2	2
1,hypertension,cataract	2	2

alcohol	nily hist	ht	wt	bmi	BP	pallor	Hb	hair	nails
2	2	1.53	77	32.89333162		2		1	1
2	2	1.44	60	28.93518519		2		1	2
2	1,b	1.31	60	34.96299749		2		1	1
2	2	1.56	68	27.94214333		2		1	1
2	2	1.6	64	25		2		1	1

Site	size	number	ype of lesic
neck abdomen	0.1x1 cm	multiple	
nails, thumb b/l, r toe nail		3	
neck,upper chest, r face	0.5x1.5cm	multiple	8
face,neck,web spaces	0.5 x1cm	multiple	8
b/l shin	0.5 x 2cm	multiple	

diagnosis	RBS 1	f1 - may
skin tag		
paronychia		paronychia
skin tag, generalised itching		
skin tag,tinea pedis,acanthosis		
multiple scar		

f2 - june	f3 - july	f4 - aug	f5 - sept

f6 - oct	f7 - nov	f8 - dec

f9 - jan	f10 - feb	RBS 2
skin tag	skin tag	

Age	Age	Sex	Religion	Education	Occupation	SES	Skin Lesion
67	5	2	2	1	1	4	1
56	4	2	2	2	3	1	2
67	5	2	2	1	1	1	2
42	2	2	2	2	1	2	2
70	5	2	1	1	1	2	2
64	4	2	1	1	1	4	1
61	4	2	2	1	1	5	1
62	4	1	2	4	2	3	1
76	6	2	2	2	4	3	1
55	4	2	1	1	1	2	1
50	3	2	2	1	1	1	1
66	5	2	2	5	1	1	1
65	5	2	1	1	1	2	1
72	5	1	2	1	2	3	1
60	4	2	2	1	4	4	1
70	5	2	2	2	2	4	1
65	5	2	2	1	1	4	1
69	5	1	2	2	4	5	1
40	2	1	1	5	4	4	1
72	5	1	1	3	2	2	2
57	4	2	1	2	1	1	2
50	3	2	1	1	1	1	2
62	4	2	1	2	1	4	1
41	2	2	1	4	1	2	2
63	4	2	1	3	1	1	1
63	4	2	1	3	1	2	2
63	4	1	1	5	4	3	2
60	4	1	2	1	4	3	1
70	5	2	2	2	3	3	1
64	4	2	2	2	1	4	1
62	4	2	1	1	1	4	1
64	4	2	1	2	1	4	1
76	6	2	2	1	1	2	2
52	3	1	2	3	2	1	2
58	4	2	1	2	1	4	1
75	6	2	1	1	1	1	2
69	5	1	3	3	4	1	2
40	2	1	1	5	2	2	2
74	5	2	1	2	1	2	2
54	3	2	2	2	1	2	1
69	5	1	1	1	4	2	2
61	4	2	1	1	1	3	1
46	3	2	2	1	1	3	1
70	5	2	2	3	1	3	2
55	4	2	2	3	1	3	2
70	5	2	1	1	1	4	2
58	4	2	2	2	1	2	1
51	3	1	1	3	2	2	2
50	3	2	2	2	1	4	1

58	4	2	2	3	1	2	1
70	5	2	1	2	4	4	2
63	4	2	1	1	1	5	1
78	6	2	3	1	1	2	2
82	6	1	3	3	4	2	2
54	3	2	1	5	4	1	2
68	5	2	1	1	1	5	2
50	3	2	2	2	1	3	1
62	4	2	2	3	1	3	2
71	5	2	2	3	1	1	2
43	2	1	1	4	2	4	2
74	5	2	2	1	1	1	2
69	5	2	2	3	1	3	1
55	4	2	2	2	1	4	1
52	3	2	1	1	1	2	2
66	5	1	2	4	3	4	1
55	4	1	2	2	4	1	1
68	5	2	3	5	4	2	2
66	5	1	1	2	4	2	2
74	5	1	1	3	4	1	2
27	1	2	1	5	1	2	2
68	5	1	2	3	4	2	2
71	5	2	2	5	4	3	2
56	4	2	1	2	1	3	2
60	4	2	3	1	1	2	2
58	4	2	1	3	1	2	2
45	3	2	1	3	1	2	2
55	4	2	2	2	1	3	1
58	4	1	2	4	2	3	1
50	3	2	1	4	1	2	2
52	3	2	1	3	1	3	2
61	4	2	1	5	1	2	2
67	5	2	1	1	1	2	2
60	4	2	1	3	1	2	1
74	5	1	1	5	4	3	2
69	5	2	1	3	1	4	1
55	4	2	2	4	1	3	2
50	3	2	1	1	1	3	2
48	3	2	1	2	1	2	2
58	4	2	2	3	1	3	1
74	5	1	1	5	4	2	2
68	5	2	2	1	1	3	2
48	3	2	1	2	1	4	1
61	4	2	1	1	1	5	1
62	4	2	2	1	1	3	2
69	5	2	2	1	1	2	2
58	4	2	2	1	1	3	2
51	3	1	2	5	4	4	1
65	4	2	2	3	4	3	1
48	3	2	2	1	1	4	2

56	4	2	2	2	1	2	2
70	4	1	2	2	4	2	2
53	6	2	3	1	3	4	1
55	6	2	1	3	1	5	2
60	4	2	2	1	1	3	1
66	4	2	2	1	1	2	2
56	4	2	1	1	1	1	2
49	2	1	1	5	4	4	1
56	2	1	1	2	4	3	2
47	3	2	1	2	1	3	1
60	5	2	2	1	1	2	2
63	2	2	2	3	1	3	1
81	5	1	2	2	3	3	2
85	4	1	2	2	2	3	2
55	4	2	2	2	1	4	2
55	5	1	2	2	4	3	2
61	4	2	2	1	1	3	1
44	1	1	1	2	4	3	2
38	6	1	1	5	4	4	1
52	5	2	1	2	1	4	2
70	5	2	1	3	1	3	2
44	2	2	2	2	1	4	1
68	4	1	1	3	4	4	1
59	3	1	2	2	4	3	2
55	3	2	2	1	1	4	1
65	6	1	1	1	4	2	2
59	3	2	2	2	1	2	2
27	6	1	2	3	3	3	2
75	5	1	2	2	4	2	2
66	4	1	2	2	4	3	1
66	5	2	2	1	1	4	1
40	6	2	2	2	4	3	1
64	4	2	1	1	1	2	1
50	3	2	2	1	1	1	1
47	5	2	2	5	1	1	1
75	5	2	1	2	4	4	2
45	4	2	1	1	1	5	1
87	6	2	3	1	1	2	2
70	6	1	3	3	4	2	2
56	4	2	1	1	1	4	1
67	5	2	1	1	1	5	2
48	3	2	2	2	1	3	1
37	2	1	1	5	4	4	1
41	2	1	1	2	4	3	2
51	3	2	1	2	1	3	1
72	5	2	2	1	1	2	2
37	2	2	2	3	1	3	1
66	5	2	1	3	1	4	1
61	4	2	2	4	1	3	2
48	3	2	1	1	1	3	2

48	3	2	1	2	1	2	2
60	4	2	2	3	1	3	1
59	4	2	1	1	1	4	1
58	4	2	2	1	1	5	1
62	4	1	2	4	2	3	1
77	6	2	2	2	4	3	1
64	4	2	1	1	1	2	1
47	3	2	2	1	1	1	1
66	5	2	2	5	1	1	1
70	5	2	3	5	4	2	2
67	5	1	1	2	4	2	2
69	5	1	1	3	4	1	2
77	6	2	3	1	3	4	1
80	6	2	1	3	1	5	2
58	4	2	2	1	1	3	1
60	4	2	2	1	1	2	2
60	4	2	1	1	1	1	2
36	2	1	1	5	4	4	1
37	2	1	1	2	4	3	2
47	3	2	1	2	1	3	1
66	5	2	2	1	1	2	2
40	2	2	2	3	1	3	1
60	4	2	2	3	1	3	1
60	4	1	2	1	4	3	1
68	5	2	2	2	3	3	1
60	4	2	2	2	1	4	1
60	4	2	1	1	1	4	1
62	4	2	1	2	1	4	1
80	5	2	2	1	1	4	1
60	4	2	1	1	1	4	1
64	4	2	1	1	1	4	1

Onset	Progression	Site	Number	Associated factors	Duration of DM
1	2	9	1	2	2
0	0	0	0	0	1
0	0	0	0	0	2
0	0	0	0	0	2
0	0	0	0	0	4
1	2	9	1	2, 4	4
3	1	10		1,2,3	4
3	1	7	1	2	1
3	1	3	multiple	1	2
1	2	9	2	3	1
0	0	0	0	0	2
1	1	3,5,	multiple	1,3	2
2	1	7,8	4	1	3
2	1	1	multiple	1	2
2	1	1,3,7,8	multiple	5	2
3	2	3,4,7,8		1,3	3
2	1	1,7,8	multiple	5	3
2	1	1,7	multiple	1	3
3	1	7,8	1	5	4
0	0	0	0	0	2
0	0	0	0	0	2
0	0	0	0	0	2
1	2	1	6	5	3
0	0	0	0		2
3	1	1,7	2	1	3
0	0	0	0	0	4
0	0	0	0	0	4
1	2	4,7	multiple	5	2
1	2	1	5	5	4
1	2	1	1	5	2
2	2			1	3
1	1	7		2,3	4
0	0	0	0	0	4
0	0	0	0	0	4
2	2	9	8	1,3	3
0	0	0	0	0	3
0	0	0	0	0	2
0	0	0	0	0	1
0	0	0	0	0	2
1	2	1,7	multiple	5	2
0	0	0	0	0	4
1	2	1	15	5	2
1	2	1	multiple	5	2
0	0	0	0	0	4
0	0	0	0	0	4
0	0	0	0	0	2
2	1	10	1	1	2
0	0	0	0	0	1
1	1	3	1	4	2

3		1	8		1	1,3	4
0		0	0		0		1
1		1	1,9		4		5	2
0		0	0		0		0	4
0		0	0		0		0	4
0		0	0		0		0	4
0		0	0		0		0	3
1		1	1	multiple			5	2
0		0	0		0		0	4
0		0	0		0		0	2
0		0	0		0		0	1
0		0	0		0		0	4
1		2	1	multiple			5	3
1		2	1		3		5	2
0		0	0		0		0	2
1		2	1		2		5	1
1		1	6	multiple			5	2
0		0	0		0		0	4
0		0	0		0		0	4
0		0	0		0		0	2
0		0	0		0		0	2
0		0	0		0		0	2
0		0	0		0		0	1
0		0	0		0		0	3
0		0	0		0		0	2
0		0	0		0		0	2
0		0	0		0		0	2
1		2	1	multiple			5	2
3		1	7				5	2
0		0	0		0		0	4
0		0	0		0		0	2
0		0	0		0		0	3
0		0	0		0		0	4
1		1	7	multiple			0	4
0		0	0		0		0	4
1		2	1	multiple			5	2
0		0	0		0		0	3
0		0	0		0		0	2
0		0	0		0		0	2
1		1	1,9	multiple			5	2
0		0	0		0		0	1
0		0	0		0		0	2
2		2	8		1	2,3	2
1		1	6,7,8	multiple			5	2
0		0	0		0		0	3
0		0	0		0		0	3
0		0	0		0		0	2
1		1	6,9		2	2,3,5	1
1		2	1		5		5	3
0		0	0		0		0	3

0		0		0		0		3
0		0		0		0		4
1		2	1,		multiple		5	2
0		0		0		0		4
2		1		1		1		3
0		0		0		0		3
0		0		0		0		2
1		2		1	multiple		1	2
0		0		0		0		2
2		1		5	multiple	2,3		4
0		0		0		0		2
1		1		1	multiple		5	2
0		0		0		0		2
0		0		0		0		1
0		0		0		0		1
0		0		0		0		1
1		1		1	multiple		5	2
0		0		0		0		2
1				7		1	5	4
0		0		0		0		4
0		0		0		0		1
1		1		9		1	5	1
2		2		8	multiple		5	3
0		0		0		0		4
1		1			multiple	1,3		2
0		0		0		0	0	4
0		0		0		0		2
0		0		0		0		3
0		0		0		0		2
0		0		7		2	5	3
2		1	1,7,8		multiple		5	3
3		1		3	multiple		1	2
1		2		9		2	3	1
0		0		0		0		2
1		1	3,5,		multiple	1,3		2
0		0		0		0	0	1
1		1	1,9			4	5	2
0		0		0		0		4
0		0		0		0		4
1		2		9		1	2, 4	4
0		0		0		0	0	3
1		1		1	multiple		5	2
1		2		1	multiple		1	2
0		0		0		0		2
2		1		5	multiple	2,3		4
0		0		0		0	0	2
1		1		1	multiple		5	2
1		2		1	multiple		5	2
0		0		0		0	0	3
0		0		0		0	0	2

0	0	0	0	0	2
1	1	1,9	multiple	5	2
1	2	9	1	2, 4	4
3	1	10	1,2,3	4
3	1	7	1	2	1
3	1	3	multiple	1	2
1	2	9	2	3	1
0	0	0	0	0	2
1	1	3,5,	multiple	1,3	2
0	0	0	0	0	4
0	0	0	0	0	4
0	0	0	0	0	2
1	2	1,	multiple	5	2
0	0	0	0	0	4
2	1	1	1	1	3
0	0	0	0	0	3
0	0	0	0	0	2
1	2	1	multiple	1	2
0	0	0	0	0	2
2	1	5	multiple	2,3	4
0	0	0	0	0	2
1	1	1	multiple	5	2
1	1	1,9	multiple	5	2
1	2	4,7	multiple	5	2
1	2	1	5	5	4
1	2	1	1	5	2
2	2	1	3
1	1	7	2,3	4
1	2	9	1	2	2
1	2	9	1	2, 4	4
1	2	9	1	2, 4	4

Mode of Rx	Past History	Type of past illness	Diet	Smoking	Alcohol
1	0	0	2	2	2
1	1	2	2	2	2
1	0	0	2	2	2
1	1	2	2	2	2
2	1	3	2	2	2
1	1	2	1	2	2
1	1	2	2	2	2
1	1	3	2	2	2
1	1	3	2	1	2
1	1	1	2	2	2
1	1	1	2	2	2
1	1	2	2	2	2
1	0	0	1	2	2
1	0	0	2	1	1
1	1	1,3	2	2	2
1	1	1	2	2	2
1	0	0	2	2	2
1	1	3	2	2	2
1	1	3	2	1	1
1	1	1	1	1	1
1	1	3	2	2	2
1	0	0	2	2	2
1	0	0	1	2	2
1	0	0	2	2	2
1	1	3	1	2	2
1	1	3	1	2	2
1	0	0	2	2	1
1	0	0	2	1	2
1	0	0	2	2	2
1	1	1	2	2	2
1	1	1	1	2	2
1,2	1	1	1	2	2
1	1	3	2	1	2
1	1	3	2	2	2
1	0	0	2	2	2
1	0	0	1	2	2
1	1	3	2	1	1
1	0	0	1	1	2
1	1	1	1	2	2
1	0	0	2	2	2
1	0	0	2	2	2
1	0	0	1	2	2
1	1	1	2	2	2
1	0	0	2	2	2
1	1	2,3	2	2	2
1	1	1	1	1	2
1	0	0	2	2	2
1	1	3	1	1	1
1	1	3	2	2	2

1,2		1	1	2	2	2
	1	0	0	1	1	2
	1	1	1	2	2	2
	1	1	2	2	2	2
	1	0	0	1	1	1
	1	0	0	1	2	2
	1	0	0	1	2	2
	1	1	1	2	2	2
	2	1	3	2	2	2
	1	1	1	2	2	2
	1	1	3	2	2	2
	1	0	0	2	2	2
	1	1	2	2	2	2
	1	1	1	2	2	2
	1	0	0	1	2	2
	2	1	1,3	2	2	2
	1	1	1	2	1	1
	4	1	1	2	2	2
	1	1	1	2	2	2
	1	1	1	2	1	2
1,2		1	3	2	2	2
	1	1	1	2	2	2
	1	0	0	2	1	2
	1	0	0	1	2	2
	1	1	3	1	1	2
	1	1	1,2	1	2	2
	1	0	0	2	2	2
	1	1	1	2	2	2
	2	0	0	2	2	2
	2	1	1	1	2	2
	1	0	0	2	2	2
	1	1	1	1	2	2
	1	1	1	2	2	2
	2	1	1	1	2	2
	2	1	3	1	2	2
	1	1	1	1	2	2
	1	1	3	2	2	2
	1	1	2	1	2	2
1,2		1	3	2	2	2
	1	1	1	2	2	2
	1	1	1	1	2	2
	1	1	1	2	2	2
	1	0	0	1	2	2
	1	0	0	1	2	2
	1	0	0	2	2	2
	1	0	0	2	2	2
	1	0	0	2	2	2
	1	1	1	2	1	2
	1	1	1	2	2	2
	1	1	3	2	2	2

1	0	0	2	2	2
2	1	3	2	2	2
2	0	0	2	2	2
1	0	0	1	2	2
1	0	0	2	2	2
1	0	0	2	2	2
1	0	0	2	2	2
1	0	0	2	2	2
1	1	3	2	2	2
1	0	0	2	2	2
1	1	1	2	2	2
1	1	1	2	2	2
1	1	3	2	2	2
1	0	0	2	1	2
1	0	0	2	2	2
1	0	0	2	2	2
1	1	1	2	2	2
1	0	0	2	2	2
2	1	1	1	2	2
1	1	1	2	2	2
1	1	1	1	2	2
1	1	1	2	2	2
1	1	1	2	2	2
1	1	3	2	2	2
1	0	0	2	2	2
1	0	0	1	2	2
1	1	3	2	2	2
1	0	0	2	2	2
1	1	1	2	2	2
1	0	0	2	1	2
1	0	0	2	2	2
1	1	3	2	1	2
1	1	1	2	2	2
1	1	1	2	2	2
1	1	2	2	2	2
1	0	0	1	1	2
1	1	1	2	2	2
1	1	2	2	2	2
1	0	0	1	1	1
1	1	2	1	2	2
1	0	0	1	2	2
1	1	1	2	2	2
1	0	0	2	2	2
1	1	3	2	2	2
1	0	0	2	2	2
1	1	1	2	2	2
1	1	1	2	2	2
1	1	1	1	2	2
1	1	3	2	2	2
1	1	2	1	2	2

1,2	1	3	2	2	2
1	1	1	2	2	2
1	1	2	1	2	2
1	1	2	2	2	2
1	1	3	2	2	2
1	1	3	2	1	2
1	1	1	2	2	2
1	1	1	2	2	2
1	1	2	2	2	2
4	1	1	2	2	2
1	1	1	2	2	2
1	1	1	2	1	2
2	0	0	2	2	2
1	0	0	1	2	2
1	0	0	2	2	2
1	0	0	2	2	2
1	0	0	2	2	2
1	0	0	2	2	2
1	1	3	2	2	2
1	0	0	2	2	2
1	1	1	2	2	2
1	1	1	2	2	2
1	1	1	2	2	2
1	0	0	2	1	2
1	0	0	2	2	2
1	1	1	2	2	2
1	1	1	1	2	2
1,2	1	1	1	2	2
1	0	0	2	2	2
1	1	2	1	2	2
1	1	2	1	2	2

Family history	Relative		Height	Weight	BMI	Built	Pallor
	0	0	1.52	71	30.73060942	4	2
	1	1,3	1.37	50	26.6396718	3	2
	0	0	1.62	65	24.76756592	3	1
	1	1,2	1.57	75	30.42719786	4	2
	2		1.57	65	26.37023814	3	2
	0	0	1.47	67	31.00559952	4	2
	1	3	1.45	65	30.91557669	4	1
	0	0	1.71	71	24.28097534	3	1
	0	0	1.53	77	32.89333162	4	2
	0	0	1.4	49	25	3	1
	0	0	1.44	60	28.93518519	4	2
	0	0	1.58	82	32.84730011	4	1
	0	0	1.4	57	29.08163265	4	2
	1	3	1.7	105	36.33217993	4	1
	1	4	1.31	60	34.96299749	4	2
	0	0	1.73	70	23.38868656	3	1
	0	0	1.52	75	32.46191136	4	1
	0	0	1.64	66	24.5389649	3	1
	1	1,2,3	1.75	57	18.6122449	2	1
	1	2	1.64	65	24.1671624	3	2
	1	1,2	1.57	60	24.34175829	3	1
	1	3	1.45	60	28.53745541	4	1
	0	0	1.38	70	36.75698383	4	1
	1	1,4	1.52	55	23.80540166	3	2
	1	1	1.52	65	28.13365651	4	2
	1	4	1.58	61	24.43518667	3	2
	0	0	1.67	65	23.30668005	3	2
	0	0	1.67	68	24.38237298	3	2
	0	0	1.7	80	27.6816609	3	2
	0	0	1.58	75	30.0432623	4	2
	1	2	1.45	50	23.78121284	3	2
	0	0	1.53	75	32.03895937	4	2
	1	3,4	1.52	40	17.31301939	2	2
	1	1,2,3	1.67	73	26.17519452	3	2
	1	3,4	1.61	55	21.21831719	2	1
	0	0	1.64	65	24.1671624	3	1
	0	0	1.7	68	23.52941176	3	1
	1	1	1.54	72	30.35925114	4	2
	0	0	1.53	58	24.77679525	3	1
	1	4	1.58	62	24.8357635	3	2
	1	3,4	1.62	70	26.6727633	3	1
	0	0	1.47	66	30.54282938	4	1
	1	3	1.56	64	26.29848784	3	1
	1	2	1.53	89	38.01956512	4	2
	0	0	1.44	94	45.33179012	4	2
	0	0	1.45	55	26.15933413	3	1
	0	0	1.52	60	25.96952909	3	2
	0	0	1.63	64	24.08822312	3	2
	1	4	1.58	65	26.03749399	3	1

1	1	1.56	75	30.81854043	4	2
1	3	1.67	73	26.17519452	3	1
0	0	1.58	70	28.04037814	4	1
0	0	1.62	68	25.91068435	3	2
0	0	1.7	72	24.91349481	3	2
0	0	1.64	58	21.56454491	2	1
1	3,4	1.52	73	31.59626039	4	2
0	0	1.52	85	36.7901662	4	1
1	1	1.49	45	20.26935724	2	2
0	0	1.7	70	24.22145329	3	2
0	0	1.7	62	21.4532872	2	2
0	0	1.37	48	25.57408493	3	1
1	4	1.56	72	29.58579882	4	2
0	0	1.47	59	27.30343838	3	1
1	3	1.21	52	35.51669968	4	1
0	0	1.67	74	26.53375883	3	1
1	1	1.67	83	29.76083761	4	1
1	3	1.18	30	21.54553289	2	1
1	3	1.7	55	19.03114187	2	2
1	4	1.7	55	19.03114187	2	2
1	2,3	1.64	58	21.56454491	2	2
0	0	1.67	58	20.79672989	2	1
0	0	1.7	74	25.60553633	3	2
0	0	1.52	63	27.26800554	3	2
0	0	1.52	65	28.13365651	3	1
1	1	1.58	55	22.03172568	2	1
0	0	1.58	55	22.03172568	2	2
0	0	1.52	60	25.96952909	3	2
0	0	1.67	68	24.38237298	3	2
1	2,4	1.49	51	22.9719382	2	1
1	3	1.46	56	26.27134547	3	1
0	0	1.58	71	28.44095498	4	1
0	0	1.52	60	25.96952909	3	2
1	2,4	1.61	60	23.14725512	3	2
0	0	1.58	54	21.63114885	2	2
1	2,3,4,	1.58	58	23.23345618	3	1
1	1,3,4	1.61	80	30.86300683	4	2
0	0	1.58	94	37.65422208	4	1
0	0	1.52	64	27.70083102	3	1
0	0	1.56	68	27.94214333	3	2
0	0	1.63	73	27.47562949	3	2
0	0	1.45	55	26.15933413	3	1
0	0	1.46	65	30.49352599	4	1
0	0	1.52	63	27.26800554	3	1
1	1	1.54	72	30.35925114	4	1
1	2	1.52	68	29.43213296	4	1
0	0	1.54	69	29.09428234	4	1
0	0	1.63	80	30.1102789	4	2
0	0	1.56	65	26.70940171	3	2
1	3,4	1.48	43	19.6311176	2	1

1	3	1.52	62	26.83518006	3	2
2		1.79	85	26.52851035	3	1
0	0	1.56	58	23.8330046	3	2
1	1,3	1.47	45	20.82465639	2	1
1	1	1.56	85	34.92767916	4	1
0	0	1.54	90	37.94906392	4	1
0	0	1.54	60	25.29937595	3	2
1	1,4	1.67	58	20.79672989	2	2
2		1.72	60	20.2812331	2	2
1	2	1.67	72	25.81663021	3	1
0	0	1.46	75	35.18483768	4	2
1	1	1.62	88	33.53147386	4	2
0	0	1.64	80	29.74419988	4	2
0	0	1.58	65	26.03749399	3	2
0	0	1.47	56	25.91512796	3	2
0	0	1.62	71	27.05380277	3	2
1	1	1.54	79	33.310845	4	2
1	3	1.56	63	25.88757396	3	2
1	1,2,3	1.62	69	26.29172382	3	1
1	4	1.45	48	22.82996433	2	1
0	0	1.54	84	35.41912633	4	2
0	0	1.52	80	34.62603878	4	2
0	0	1.6	64	25	3	2
0	0	1.67	70	25.0995016	3	1
1	3,4	1.55	87	36.21227888	4	1
2	0	1.59	52	20.56880661	2	1
0	0	1.5	80	35.55555556	4	2
0	0	1.57	63	25.5588462	3	1
0	0	1.67	82	29.4022733	4	2
1	1	1.65	69	25.34435262	3	2
0	0	1.52	75	32.46191136	4	1
0	0	1.53	77	32.89333162	4	2
0	0	1.4	49	25	3	1
0	0	1.44	60	28.93518519	4	2
0	0	1.58	82	32.84730011	4	1
1	3	1.67	73	26.17519452	3	1
0	0	1.58	70	28.04037814	4	1
0	0	1.62	68	25.91068435	3	2
0	0	1.7	72	24.91349481	3	2
0	0	1.47	67	31.00559952	4	2
1	3,4	1.52	73	31.59626039	4	2
0	0	1.52	85	36.7901662	4	1
1	1,4	1.67	58	20.79672989	2	2
2		1.72	60	20.2812331	2	2
1	2	1.67	72	25.81663021	3	1
0	0	1.46	75	35.18483768	4	2
1	1	1.62	88	33.53147386	4	2
1	2,3,4,	1.58	58	23.23345618	3	1
1	1,3,4	1.61	80	30.86300683	4	2
0	0	1.58	94	37.65422208	4	1

0	0	1.52	64	27.70083102	3	1
0	0	1.56	68	27.94214333	3	2
0	0	1.47	67	31.00559952	4	2
1	3	1.45	65	30.91557669	4	1
0	0	1.71	71	24.28097534	3	1
0	0	1.53	77	32.89333162	4	2
0	0	1.4	49	25	3	1
0	0	1.44	60	28.93518519	4	2
0	0	1.58	82	32.84730011	4	1
1	3	1.18	30	21.54553289	2	1
1	3	1.7	55	19.03114187	2	2
1	4	1.7	55	19.03114187	2	2
0	0	1.56	58	23.8330046	3	2
1	1,3	1.47	45	20.82465639	2	1
1	1	1.56	85	34.92767916	4	1
0	0	1.54	90	37.94906392	4	1
0	0	1.54	60	25.29937595	3	2
1	1,4	1.67	58	20.79672989	2	2
2		1.72	60	20.2812331	2	2
1	2	1.67	72	25.81663021	3	1
0	0	1.46	75	35.18483768	4	2
1	1	1.62	88	33.53147386	4	2
0	0	1.56	68	27.94214333	3	2
0	0	1.67	68	24.38237298	3	2
0	0	1.7	80	27.6816609	3	2
0	0	1.58	75	30.0432623	4	2
1	2	1.45	50	23.78121284	3	2
0	0	1.53	75	32.03895937	4	2
0	0	1.52	71	30.73060942	4	2
0	0	1.47	67	31.00559952	4	2
0	0	1.47	67	31.00559952	4	2

Hair	Nails	BP - Systolic	BP - Diastolic	Diagnosis Code
1	1	122	78	26,24
1	1	156	70	
1	1	134	70	
1	1	124	70	
1	1	122	68	
1	1	124	94	26
1	1	140	68	5
1	1	136	84	3
1	1	120	90	24
1	1	120	84	26
1	2	124	82	18
1	1	110	78	4
1	1	112	70	15
1	1	114	70	24,5
1	1	110	60	24,5
1	1	120	78	5
1	1	130	90	27
1	1	136	68	9,24
1	1	142	90	28
1	1	124	78	
1	1	120	70	
1	1	120	88	
1	1	110	90	24
1	1	100	70	
1	1	106	60	11,29
1	1	108	78	
1	1	104	90	
1	1	120	68	22
1	1	128	76	24
1	1	108	78	24
1	1	144	70	5
1	2	120	88	20,17
1	1	126	90	
1	1	148	90	
1	1	120	78	26
1	1	110	70	
1	1	112	68	
1	1	108	68	
1	1	136	70	
1	1	146	70	21,24,2
1	1	150	68	
1	1	140	94	24
1	1	166	68	24
1	1	126	84	
1	1	122	90	
1	1	120	84	
1	1	124	82	25
1	1	108	78	
1	1	140	70	10

1	1	166	70	6
1	1	120	60	
1	1	128	78	24,26
1	1	126	90	
1	1	130	68	
1	1	132	76	
1	1	120	78	
1	1	124	70	24
1	1	140	88	
1	1	136	90	
1	1	120	84	
1	1	120	82	
1	1	124	78	24
1	1	110	70	24
1	1	112	70	
1	1	114	60	24
1	2	110	78	18
1	1	120	90	
1	1	130	68	
1	1	136	76	
1	1	142	78	
1	1	124	70	
1	1	120	88	
1	1	120	90	
1	1	110	84	
1	1	100	82	
1	1	106	78	
1	1	108	70	24
1	1	104	70	30
1	1	120	60	
1	1	128	78	
1	1	108	90	
1	1	144	68	
1	1	120	76	12,13
1	1	110	78	
1	1	100	70	24
1	1	106	88	
1	1	108	90	
1	1	104	78	
1	1	120	70	24,26,1
1	1	128	88	
1	1	108	90	
1	1	144	84	
1	1	146	82	23
1	1	150	78	
1	1	140	70	
1	1	166	70	
1	1	126	60	26,7
1	1	122	78	24
1	1	120	90	

1	1	124	68	
1	1	108	76	
1	1	140	78	24
1	1	166	70	
1	1	120	88	25,24,1
1	1	128	90	
1	1	126	84	
1	1	130	82	24
1	1	124	78	
1	1	140	70	12,13,8
1	1	136	70	
1	1	120	60	24
1	1	120	78	
1	1	124	90	
1	1	110	68	
1	1	112	76	
1	1	114	78	24
1	1	110	70	
1	1	120	88	26
1	1	130	90	
1	1	136	84	
1	1	142	82	26,24
1	1	124	78	14
1	1	120	70	
1	1	120	70	25
1	1	110	60	
1	1	100	78	
1	1	106	90	
1	1	108	68	
1	1	104	84	19
1	1	120	82	27
1	1	128	78	24
1	1	108	70	26
1	2	144	70	18
1	1	146	60	4
1	1	150	78	
1	1	140	90	24,26
1	1	166	68	
1	1	126	76	
1	1	122	78	26
1	1	120	84	
1	1	124	82	24
1	1	108	78	24
1	1	140	70	
1	1	166	70	4
1	1	120	60	
1	1	128	78	24
1	1	126	90	24
1	1	130	68	
1	1	146	76	

1	1	150	78	
1	1	140	70	24,26,1
1	1	166	88	26
1	1	126	90	5
1	1	122	78	3
1	1	120	70	24
1	1	124	82	26
1	2	108	68	18
1	1	140	78	4
1	1	166	70	
1	1	120	72	
1	1	128	70	
1	1	126	68	24
1	1	130	94	
1	1	146	68	25,24,1
1	1	150	84	
1	1	140	90	
1	1	166	84	24
1	1	126	82	
1	1	122	78	12,13,8
1	1	120	70	
1	1	124	70	24
1	1	108	60	24,26,1
1	1	140	78	22
1	1	166	90	24
1	1	120	68	24
1	1	128	76	5
1	2	126	78	20,17
1	1	130	70	26,24
1	1	140	88	26
1	1	144	90	26

Diagnosis
tinea paedis + skin tag
0
0
0
0
tinea paedis
pruritis
diabetic foot
skin tag
tinea paedis
paronychia
folliculitis,
necrobiosis lipoidica diabeticorum
skin tag , generalised pruritis
skin tag, generalised itching
generalised pruritis
vitiligo
hypertrophied skin,skin tag
wound
0
0
0
skin tag
0
lichen simplex-chronicus,xanthelesma
0
0
seboric keratitis
skin tag
skin tag
generalised pruritis
schamberg purpura,onycomycosis
0
0
tinea pedis
0
0
0
0
sclerosis,skin tag,diabetic dermopathy
0
skin tag
skin tag
0
0
0
tinea cruris
0
keloid

healing ulcer
0
skin tag,tinea pedis
0
0
0
0
skin tag
0
0
0
0
skin tag
skin tag
0
skin tag
paronychia
0
0
0
0
0
0
0
0
0
0
skin tag
xerosis
0
0
0
0
lipo atrophy,lipo hypertrophy
0
skin tag
0
0
0
skin tag,tinea pedis,acanthosis
0
0
0
shamberg's purpura
0
0
0
tinea pedis,hyperkeratosis
skin tag
0

0
0
skin tag
0
tinea cruris,skin tag,acanthosis nigricans
0
0
skin tag
0
lipo atrophy,lipo hypertrophy,hyperpigmentation
0
skin tag
0
0
0
0
skin tag
0
tinea pedis
0
0
tinea pedis,skin tag
multiple scar
0
tinea cruris
0
0
0
0
psoriasis
vitiligo
skin tag
tinea paedis
paronychia
folliculitis,
0
skin tag,tinea pedis
0
0
tinea paedis
0
skin tag
skin tag
0
folliculitis,
0
skin tag
skin tag
0
0

0
skin tag,tinea pedis,acanthosis
tinea paedis
pruritis
diabetic foot
skin tag
tinea paedis
paronychia
folliculitis,
0
0
0
skin tag
0
tinea cruris,skin tag,acanthosis nigricans
0
0
skin tag
0
lipo atrophy,lipo hypertrophy,hyperpigmentation
0
skin tag
skin tag,tinea pedis,acanthosis
seboric keratoses
skin tag
skin tag
generalised pruritis
schamberg purpura,onycomycosis
tinea paedis + skin tag
tinea paedis
tinea paedis

F1 - May	
tinea paedis + skin tag	26,24
	0
	0
tinea cruris	25
	0
tinea paedis	26
none	16
diabetic foot	3
skin tag	24
tinea paedis	26
paronychia	18
folliculitis	4
necrobiosis lipoidica diabeticorum	15
skin tag , generalised pruritis	24,5
skin tag, generalised itching	24,5
generalised pruritis	5
vitiligo	27
hypertrophied skin,skin tag	9,24
wound	28
	0
	0
	0
skin tag	24
	0
lichen simplex-chronicus,xanthelesma	11,29
	0
	0
seboric keratitis	22
skin tag	24
skin tag	24
generalised pruritis	5
schamberg purpura,onycomycosis,contact dermatitis	20,17,33
	0
	0
tinea pedis	26
	0
	0
	0
	0
sclerosis,skin tag,diabetic dermopathy	21,24,2
	0
skin tag	24
skin tag	24
	0
	0
	0
tinea cruris	25
	0
keloid	10

scar	14
	0
skin tag,tinea pedis	24,26
	0
	0
	0
	0
skin tag	24
	0
	0
	0
	0
skin tag	24
skin tag	24
	0
skin tag	24
paronychia	18
wound	28
	0
	0
xanthelasma	29
	0
	0
	0
xerosis	30
	0
	0
skin tag	24
	0
	0
	0
	0
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
	0
	0
	0
skin tag,tinea pedis,acanthosis	24,26,1
	0
	0
	0
shamberg's purpura	23
	0
	0
	0
tinea pedis,hyperkeratosis	26,7
skin tag	24
	0

	0
	0
skin tag	24
	0
tinea cruris,skin tag,acanthosis nigricans	25,24,1
	0
	0
skin tag	24
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
	0
	0
	0
	0
skin tag	24
	0
tinea pedis	26
	0
	0
tinea pedis,skin tag	26,24
multiple scar	
	0
tinea cruris	25
	0
	0
	0
	0
psoriasis	19
vitiligo	27
skin tag	24
tinea paedis	26
paronychia	18
folliculitis	4
	0
skin tag,tinea pedis	24,26
	0
	0
tinea paedis	26
	0
skin tag	24
skin tag	24
	0
folliculitis,	4
	0
skin tag	24
skin tag	24
	0
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skin tag,acanthosis	24,1
tinea paedis	26
	0
diabetic foot	3
skin tag	24
tinea paedis	26
paronychia	18
folliculitis	4
	0
	0
	0
skin tag	24
	0
tinea cruris,skin tag,acanthosis nigricans	25,24,1
	0
	0
skin tag	24
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
skin tag,tinea pedis,acanthosis	24,26,1
seboric keratoses	22
skin tag	24
skin tag	24
generalised pruritis	5
schamberg purpura,onycomycosis,contact dermatitis	20,17,33
tinea paedis + skin tag	26,24
tinea paedis	26
tinea paedis	26

F2 - June	
tinea paedis + skin tag	26,24
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tinea cruris	25
	0
tinea paedis	26
none	16
diabetic foot	3
skin tag	24
tinea paedis	26
paronychia	18
folliculitis	4
necrobiosis lipoidica diabeticorum	15
skin tag , generalised pruritis	24,5
skin tag, generalised itching	24,5
generalised pruritis	5
vitiligo	27
hypertrophied skin,skin tag	9,24
wound	28
	0
	0
generalised pruritis	5
skin tag	24
	0
lichen simplex-chronicus,xanthelesma	11,29
	0
	0
seboric keratitis	22
skin tag	24
skin tag	24
generalised pruritis	5
schamberg purpura,onycomycosis,contact dermatitis	20,17,33
	0
	0
tinea pedis	26
	0
	0
	0
	0
sclerosis,skin tag,diabetic dermopathy	21,24,2
	0
skin tag	24
skin tag	24
	0
	0
	0
tinea cruris	25
	0
keloid	10

scar	14
	0
skin tag,tinea pedis	24,26
	0
xanthelasma	29
	0
	0
skin tag	24
	0
	0
tinea paedis	26
	0
skin tag	24
skin tag	24
	0
skin tag	24
paronychia	18
wound	28
	0
	0
xanthelasma	29
	0
	0
	0
xerosis	30
	0
	0
skin tag	24
	0
	0
	0
	0
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
	0
	0
	0
skin tag,tinea pedis,acanthosis	24,26,1
	0
	0
	0
shamberg's purpura	23
	0
	0
	0
tinea pedis,hyperkeratosis	26,7
skin tag	24
	0

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	0
skin tag	24
	0
tinea cruris,skin tag,acanthosis nigricans	25,24,1
	0
	0
skin tag	24
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
	0
	0
	0
	0
skin tag	24
	0
tinea pedis	26
	0
	0
tinea pedis,skin tag	26,24
multiple scar	14
	0
tinea cruris	25
	0
	0
	0
	0
psoriasis	19
vitiligo	27
skin tag	24
tinea paedis	26
paronychia	18
	0
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skin tag,tinea pedis	24,26
	0
	0
tinea paedis	26
	0
skin tag	24
skin tag	24
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skin tag	24
skin tag	24
	0
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	0
skin tag,acanthosis	24,1
tinea paedis	26
	0
diabetic foot	3
skin tag	24
tinea paedis	26
paronychia	18
	0
	0
	0
	0
skin tag	24
	0
tinea cruris,skin tag,acanthosis nigricans	25,24,1
	0
	0
skin tag	24
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
skin tag,acanthosis	24,1
seboric keratoses	22
skin tag	24
skin tag	24
folliculitis	4
schamberg purpura,onycomycosis,contact dermatitis	20,17,33
tinea paedis + skin tag	26,24
tinea paedis	26
tinea paedis	26

F3 - July	
tinea paedis + skin tag	26,24
	0
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tinea cruris	25
skin tag	24
tinea paedis	26
none	16
diabetic foot	3
skin tag	24
tinea paedis	26
paronychia	18
	0
necrobiosis lipoidica diabeticorum + tinea paedis	15,26
skin tag	24
skin tag	24
	0
vitiligo	27
hypertrophied skin,skin tag	9,24
ulcer	6
	0
	0
	0
skin tag	24
	0
lichen simplex-chronicus,xanthelesma	11,29
	0
	0
seboric keratitis	22
skin tag	24
skin tag	24
	0
schamberg purpura,onycomycosis	20,17
	0
	0
tinea pedis	26
	0
	0
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	0
sclerosis,skin tag,diabetic dermopathy	21,24,2
	0
skin tag	24
skin tag	24
	0
	0
	0
tinea cruris	25
	0
keloid	10

scar	14
	0
skin tag,tinea pedis	24,26
	0
xanthelasma	29
	0
	0
skin tag	24
	0
	0
tinea paedis	26
	0
skin tag	24
skin tag	24
	0
skin tag	24
paronychia	18
wound, tinea paedis	28,26
	0
	0
xanthelasma	29
	0
	0
	0
xerosis	30
	0
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skin tag	24
	0
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lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
	0
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	0
skin tag,tinea pedis,acanthosis	24,26,1
	0
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	0
shamberg's purpura, tinea paedis	23,26
	0
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	0
tinea pedis,hyperkeratosis	26,7
skin tag	24
	0

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skin tag	24
	0
tinea cruris,skin tag,acanthosis nigricans	25,24,1
onychomycosis	17
	0
skin tag	24
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation,	12,13,8
	0
skin tag	24
	0
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skin tag	24
	0
tinea pedis	26
	0
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tinea pedis,skin tag	26,24
multiple scar	14
	0
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	0
psoriasis	19
vitiligo	27
skin tag	24
tinea paedis	26
paronychia	18
	0
	0
skin tag,tinea pedis	24,26
	0
folliculitis	4
tinea paedis	26
	0
skin tag	24
skin tag	24
	0
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	0
skin tag	24
skin tag	24
	0
	0

tinea pedis	26
skin tag,acanthosis	24,1
tinea paedis	26
	0
diabetic foot	3
skin tag	24
tinea paedis	26
paronychia	18
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skin tag	24
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tinea cruris,skin tag,acanthosis nigricans	25,24,1
	0
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skin tag, tinea paedis	24,26
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
skin tag,acanthosis	24,1
seboric keratoses	22
skin tag	24
skin tag	24
	0
schamberg purpura,onycomycosis,contact dermatitis	20,17,33
tinea paedis + skin tag	26,24
tinea paedis	26
tinea paedis	26

F4 - Aug	
tinea paedis + skin tag	26,24
	0
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	0
skin tag	24
tinea paedis	26
none	16
diabetic foot	3
skin tag	24
tinea paedis	26
paronychia	18
	0
necrobiosis lipoidica diabeticorum + tinea paedis	15,26
skin tag	24
skin tag	24
	0
vitiligo	27
hypertrophied skin,skin tag	9,24
ulcer	6
	0
	0
	0
skin tag	24
	0
lichen simplex-chronicus,xanthelesma	11,29
xerosis	30
	0
seboric keratitis	22
skin tag	24
skin tag	24
	0
schamberg purpura,onycomycosis	20,17
tinea pedis	26
	0
tinea pedis	26
	0
	0
relocated	32
	0
sclerosis,skin tag,diabetic dermopathy	21,24,2
	0
skin tag	24
skin tag	24
	0
	0
	0
	0
	0
keloid	10

scar	14
	0
skin tag,tinea pedis	24,26
	0
xanthelasma	29
	0
	0
skin tag	24
	0
	0
xanthelasma	29
	0
skin tag	24
skin tag	24
	0
skin tag	24
paronychia	18
ulcer, tinea paedis	6,26
	0
	0
xanthelasma	29
	0
died	31
	0
	0
	0
	0
skin tag	24
	0
	0
	0
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lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
	0
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	0
skin tag,tinea pedis,acanthosis	24,26,1
	0
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shamberg's purpura, tinea paedis	23,26
	0
	0
	0
tinea pedis,hyperkeratosis	26,7
skin tag	24
	0

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skin tag	24
	0
skin tag,acanthosis nigricans	24,1
onychomycosis	17
	0
skin tag	24
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
	0
onychomycosis	17
	0
	0
skin tag	24
	0
tinea pedis	26
	0
	0
tinea pedis,skin tag	26,24
multiple scar, wound	14,28
	0
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	0
	0
	0
psoriasis	19
vitiligo	27
skin tag	24
tinea paedis	26
paronychia, tinea paedis	18,26
	0
	0
skin tag,tinea pedis	24,26
	0
	0
tinea paedis	26
	0
skin tag	24
skin tag	24
	0
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	0
skin tag	24
skin tag	24
	0
	0

tinea pedis	26
skin tag,acanthosis	24,1
tinea paedis	26
	0
diabetic foot	3
skin tag	24
tinea paedis	26
paronychia	18
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skin tag	24
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tinea cruris,skin tag,acanthosis nigricans	25,24,1
	0
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skin tag, tinea paedis	24,26
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
skin tag,acanthosis,tinea pedis	24,1,26
seboric keratoses	22
skin tag	24
skin tag	24
	0
schamberg purpura,onycomycosis	20,17
tinea paedis + skin tag	26,24
tinea paedis	26
tinea paedis	26

F5 - Sept	
tinea paedis + skin tag	26,24
	0
	0
	0
skin tag	24
tinea paedis	26
xerosis	30
diabetic foot	3
skin tag	24
tinea paedis	26
paronychia	18
	0
necrobiosis lipoidica diabeticorum + tinea paedis	15,26
skin tag	24
skin tag	24
	0
vitiligo	27
hypertrophied skin,skin tag	9,24
ulcer	6
	0
	0
	0
skin tag	24
	0
lichen simplex-chronicus,xanthelesma	11,29
xerosis	30
	0
seboric keratitis	22
skin tag	24
skin tag	24
	0
schamberg purpura,onycomycosis	20,17
tinea pedis	26
	0
tinea pedis	26
	0
	0
relocated	32
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sclerosis,skin tag,diabetic dermopathy	21,24,2
	0
skin tag	24
skin tag	24
	0
	0
	0
	0
xerosis	30
keloid	10

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skin tag,tinea pedis	24,26
	0
xanthelasma	29
	0
	0
skin tag	24
	0
	0
xanthelasma	29
	0
skin tag	24
skin tag	24
	0
skin tag	24
paronychia	18
ulcer, tinea paedis	6,26
	0
	0
xanthelasma	29
	0
died	31
	0
	0
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skin tag	24
	0
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lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
	0
	0
	0
skin tag,tinea pedis,acanthosis	24,26,1
	0
	0
	0
shamberg's purpura	23
	0
	0
	0
tinea pedis,hyperkeratosis	26,7
skin tag	24
folliculitis	4

	0
	0
skin tag	24
	0
skin tag,acanthosis nigricans	24,1
onychomycosis	17
	0
skin tag	24
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
	0
onychomycosis	17
	0
	0
skin tag	24
	0
tinea pedis	26
	0
	0
tinea pedis,skin tag	26,24
multiple scar, wound	14,28
	0
onychomycosi	17
	0
	0
	0
	0
psoriasis	19
vitiligo	27
skin tag	24
tinea paedis	26
paronychia, tinea paedis	18,26
	0
	0
skin tag	24
acanthosis nigricans	1
	0
tinea paedis	26
	0
skin tag	24
skin tag	24
	0
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skin tag	24
skin tag	24
	0
	0

tinea pedis	26
skin tag,acanthosis,tinea pedis	24,1,26
tinea paedis	26
	0
diabetic foot	3
skin tag	24
tinea paedis	26
paronychia	18
	0
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	0
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skin tag	24
	0
skin tag,acanthosis nigricans	24,1
	0
	0
skin tag, tinea paedis	24,26
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag	24
skin tag,acanthosis,tinea pedis	24,1,26
seboric keratoses	22
skin tag	24
skin tag	24
	0
schamberg purpura,onycomycosis	20,17
tinea paedis + skin tag	26,24
tinea paedis	26
tinea paedis	26

F6 - Oct

tinea paedis + skin tag
0
0
0
skin tag
tinea paedis
xerosis
diabetic foot
skin tag
tinea paedis
paronychia
0
necrobiosis lipoidica diabeticorum + tinea paedis
skin tag
skin tag
0
vitiligo
hypertrophied skin,skin tag
ulcer
0
0
vitiligo,tinea pedis
skin tag
0
lichen simplex-chronicus,xanthelesma
xerosis
0
seboric keratitis
skin tag
skin tag
0
schamberg purpura,onycomycosis
0
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tinea pedis
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relocated
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sclerosis,skin tag,diabetic dermopathy
0
skin tag
skin tag
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0
tinea pedi
0
xerosis
keloid

0
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skin tag
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xanthelasma
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skin tag
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xanthelasma
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skin tag
skin tag,pruritis
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skin tag
paronychia
ulcer, tinea paedis
0
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xanthelasma
acanthosis
died
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skin tag
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lipo atrophy,lipo hypertrophy,hyperpigmentation
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skin tag, onychomycosis
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skin tag,tinea pedis,acanthosis
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shamberg's purpura
0
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onychomycosis
tinea pedis,hyperkeratosis
skin tag
folliculitis

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skin tag
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skin tag,acanthosis nigricans
onychomycosis
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skin tag
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lipo atrophy,lipo hypertrophy,hyperpigmentation
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skin tag
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onychomycosis
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skin tag
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tinea pedis,skin tag
multiple scar
0
onychomycosi
0
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psoriasis
vitiligo
skin tag
tinea paedis
paronychia, tinea paedis
skin tag
0
skin tag
acanthosis nigricans
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tinea paedis
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skin tag
skin tag
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skin tag
skin tag
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tinea pedis
skin tag,acanthosis,tinea pedis
tinea paedis
0
diabetic foot
skin tag
tinea paedis
paronychia
folliculitis
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skin tag
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skin tag,acanthosis nigricans
0
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skin tag
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lipo atrophy,lipo hypertrophy,hyperpigmentation
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skin tag
skin tag,acanthosis,tinea pedis
seboric keratoses
skin tag
skin tag
0
schamberg purpura,onycomycosis
tinea paedis + skin tag
tinea paedis
tinea paedis

26,24

24
26
30
3
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26
18

15,26
24
24

27
9,24
6

27,26
24

11,29
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22
24
24

20,17

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32

21,24,2

24
24

26

30
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24

29

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24,5

24
18
6,26

29
1
31

24

12,13,8

24,17

24,26,1

23

17
26,7
24
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24

24,1
17

24

12,13,8

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26,24
14

17

19
27
24
26
18,26
24

24
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26

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24
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26
24,1,26
26

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26
18
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24

24,1

24

12,13,8

24
24,1,26
22
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24

20,17
26,24
26
26

F7 - Nov

tinea paedis + skin tag + dry skin

0

0

wound

skin tag

tinea paedis

0

diabetic foot

skin tag

tinea paedis

paronychia

0

necrobiosis lipoidica diabeticorum + tinea paedis

skin tag

skin tag

0

vitiligo

hypertrophied skin,skin tag

ulcer

0

0

vitiligo,tinea pedis

skin tag

0

lichen simplex-chronicus,xanthelesma

xerosis

0

seboric keratitis

skin tag

skin tag

0

schamberg purpura,onycomycosis

0

0

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0

relocated

0

sclerosis,skin tag,diabetic dermopathy

0

skin tag

skin tag

0

0

tinea pedi

tinea cruris

0

keloid

0
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skin tag
0
xanthelasma
0
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skin tag
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xanthelasma
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skin tag
skin tag
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skin tag
paronychia
ulcer, tinea paedis
0
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xanthelasma
acanthosis
died
0
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skin tag
xerosis
0
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lipo atrophy,lipo hypertrophy,hyperpigmentation
0
skin tag, onychomycosis
0
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tinea pedis
skin tag,tinea pedis,acanthosis
0
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shamberg's purpura
0
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onychomycosis
tinea pedis,hyperkeratosis
skin tag
abcess

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skin tag
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skin tag,acanthosis nigricans
onychomycosis
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skin tag
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lipo atrophy,lipo hypertrophy,hyperpigmentation
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skin tag
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onychomycosis
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skin tag,
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tinea pedis,skin tag
multiple scar
0
onychomycosi
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psoriasis
vitiligo
skin tag
tinea paedis
paronychia
skin tag
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skin tag
acanthosis nigricans
0
tinea paedis
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skin tag
skin tag
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skin tag
skin tag
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tinea pedis
skin tag,acanthosis,tinea pedis
tinea paedis
0
diabetic foot
skin tag
tinea paedis
paronychia
relocated
0
0
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skin tag
0
skin tag,acanthosis nigricans
0
0
skin tag
0
lipo atrophy,lipo hypertrophy,hyperpigmentation
0
skin tag
skin tag,acanthosis
seboric keratoses
skin tag
skin tag
0
schamberg purpura,onycomycosis
tinea paedis + skin tag + dry skin
tinea paedis
tinea paedis

26,24,34

28
24
26

3
24
26
18

15,26
24
24

27
9,24
6

27,26
24

11,29
30

22
24
24

20,17

32

21,24,2

24
24

26
25

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29

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29

24
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24
18
6,26

29
1
31

24
30

12,13,8

24,17

26
24,26,1

23

17
26,7
24
35

24

24,1
17

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12,13,8

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26,24
14

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27
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26
18
24

24
1

26

24
24

24
24

26
24,1,26
26

3
24
26
18
32

24

24,1

24

12,13,8

24
24,1
22
24
24

20,17
26,24,34
26
26

F8 - Dec

tinea paedis + skin tag + dry skin

0

0

tinea cruris

skin tag

tinea paedis

0

diabetic foot

skin tag

tinea paedis

paronychia

0

necrobiosis lipoidica diabeticorum + tinea paedis

skin tag

skin tag

xerosis

vitiligo

hypertrophied skin,skin tag

ulcer

0

0

0

skin tag

xerosis

lichen simplex-chronicus,xanthelesma

xerosis

0

seboric keratitis

skin tag

skin tag

0

schamberg purpura,onycomycosis

0

0

0

0

onychomycosis

relocated

0

sclerosis,skin tag,diabetic dermopathy

0

skin tag

skin tag

0

0

tinea pedi

tinea cruris

0

keloid

0
0
skin tag
0
xanthelasma
0
0
skin tag
0
0
xanthelasma
0
skin tag
skin tag
0
skin tag
paronychia
ulcer, tinea paedis
0
0
xanthelasma
acanthosis
died
0
0
0
0
skin tag
xerosis
acanthosis nigricans
0
0
0
lipo atrophy,lipo hypertrophy,hyperpigmentation
0
skin tag, onychomycosis
0
0
tinea pedis
skin tag,tinea pedis,acanthosis
0
0
0
shamberg's purpura
0
0
onychomycosis
tinea pedis,hyperkeratosis
skin tag
abcess

0
0
skin tag
0
skin tag,acanthosis nigricans
onychomycosis
0
skin tag
0
lipo atrophy,lipo hypertrophy,hyperpigmentation
0
skin tag
0
onychomycosis
0
0
skin tag
0
0
xanthelasma
0
skin tag
multiple scar
0
onychomycosi
0
0
skin tag
0
psoriasis
vitiligo
skin tag
tinea paedis
paronychia
skin tag
0
skin tag
acanthosis nigricans
xerosis
tinea paedis
0
skin tag
skin tag
0
0
0
skin tag
skin tag
0
0

tinea pedis
skin tag,acanthosis
tinea paedis
0
diabetic foot
skin tag
tinea paedis
paronychia
relocated
0
0
0
skin tag, xerosis
0
skin tag,acanthosis nigricans
0
0
skin tag
0
lipo atrophy,lipo hypertrophy,hyperpigmentation
0
skin tag
skin tag,acanthosis
seboric keratoses
skin tag
skin tag
xerosis
schamberg purpura,onycomycosis
tinea paedis + skin tag + dry skin
tinea paedis
tinea paedis

26,24,34

25
24
26

3
24
26
18

15,26
24
24
30
27
9,24
6

24
30
11,29
30

22
24
24

20,17

17
32

21,24,2

24
24

26
25

10

24

29

24

29

24
24

24
18
6,26

29
1
31

24
30
1

12,13,8

24,17

26
24,26,1

23

17
26,7
24
35

24

24,1
17

24

12,13,8

24

17

24

29

24
14

17

24

19
27
24
26
18
24

24
1
30
26

24
24

24
24

26
24,1
26

3
24
26
18
32

24,30

24,1

24

12,13,8

24
24,1
22
24
24
30
20,17
26,24,34
26
26

F9 - Jan

tinea paedis + skin tag + dry skin

0

0

tinea cruris

skin tag

tinea pedis

0

diabetic foot

skin tag

tinea paedis

paronychia

0

0

skin tag

skin tag

0

vitiligo

hypertrophied skin,skin tag

diabetic foot

0

0

0

skin tag

xerosis

lichen simplex-chronicus,xanthelesma

xerosis

0

seboric keratitis

skin tag

skin tag

0

schamberg purpura,onycomycosis

0

0

0

0

onychomycosis

relocated

0

sclerosis,skin tag,diabetic dermopathy

0

skin tag

skin tag

0

0

tinea pedi

tinea cruris

0

keloid

0
0
skin tag
0
xanthelasma
0
0
skin tag
0
0
xanthelasma
0
skin tag
skin tag
0
skin tag
paronychia
ulcer, tinea paedis
0
0
xanthelasma
acanthosis
died
0
xerosis
0
0
skin tag
xerosis
acanthosis nigricans
0
0
0
lipo atrophy,lipo hypertrophy,hyperpigmentation
0
skin tag, onychomycosis
0
0
tinea pedis
skin tag,tinea pedis,acanthosis
0
0
0
shamberg's purpura
skin tag
xerosis with crack heels
onychomycosis
tinea pedis,hyperkeratosis
skin tag
keloid

0
0
skin tag
0
skin tag,acanthosis nigricans
onychomycosis
0
skin tag
0
lipo atrophy,lipo hypertrophy,hyperpigmentation
0
skin tag,xerosis
0
onychomycosis
0
0
skin tag
0
0
xanthelasma
0
skin tag
multiple scar
0
onychomycosi
0
0
skin tag
folliculitis
psoriasis
vitiligo
skin tag
tinea paedis
paronychia
skin tag
0
skin tag
acanthosis nigricans
xerosis
tinea pedis
0
skin tag
skin tag
0
0
0
skin tag,xerosis
skin tag
0
0

tinea pedis
skin tag,acanthosis
tinea pedis
0
diabetic foot
skin tag
tinea paedis
paronychia
relocated
0
0
0
skin tag, xerosis
0
skin tag,acanthosis nigricans
0
0
skin tag
0
lipo atrophy,lipo hypertrophy,hyperpigmentation
0
skin tag,xerosis
skin tag,acanthosis
seboric keratoses
skin tag
skin tag
xerosis
schamberg purpura,onycomycosis
tinea paedis + skin tag + dry skin
tinea pedis
tinea pedis

26,24,34

25
24
26

3
24
26
18

24
24

27
9,24
3

24
30
11,29
30

22
24
24

20,17

17
32

21,24,2

24
24

26
25

10

24

29

24

29

24
24

24
18
6,26

29
1
31

30

24
30
1

12,13,8

24,17

26
24,26,1

23
24
30
17
26,7
24
10

24

24,1
17

24

12,13,8

24,30

17

24

29

24
14

17

24
4
19
27
24
26
18
24

24
1
30
26

24
24

24,30
24

26
24,1
26

3
24
26
18
32

24,30

24,1

24

12,13,8

24,30
24,1
22
24
24
30
20,17
26,24,34
26
26

F10 - Feb	
tinea paedis + skin tag	26,24
	0
	0
	0
skin tag	24
tinea pedis	26
	0
diabetic foot	3
skin tag	24
tinea paedis	26
paronychia	18
	0
	0
skin tag	24
skin tag	24
	0
vitiligo	27
hypertrophied skin,skin tag	9,24
diabetic foot	3
	0
	0
vitiligo	27
skin tag	24
xerosis	30
lichen simplex-chronicus,xanthelesma	11,29
xerosis	30
	0
seboric keratitis	22
skin tag	24
skin tag	24
	0
schamberg purpura,onycomycosis	20,17
	0
	0
	0
	0
onychomycosis	17
relocated	32
	0
sclerosis,skin tag,diabetic dermopathy	21,24,2
	0
skin tag	24
skin tag	24
	0
	0
tinea pedis	26
tinea cruris	25
	0
xerosis, keloid	30,10

	0
	0
skin tag	24
	0
xanthelasma	29
	0
	0
skin tag	24
	0
	0
xanthelasma	29
	0
skin tag	24
skin tag	24
	0
skin tag	24
paronychia	18
diabetic foot	3
	0
	0
xanthelasma	29
acanthosis	1
died	31
	0
xerosis, crack heels	30
	0
	0
skin tag	24
xerosis	30
acanthosis nigricans	1
onychomycosis	17
	0
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag, onychomycosis	24,17
	0
	0
tinea pedis,pruritis	26,5
skin tag,tinea pedis,acanthosis	24,26,1
	0
	0
folicutis	4
shamberg's purpura	23
skin tag,xerosis	24,30
	0
onychomycosis	17
tinea pedis,hyperkeratosis	26,7
skin tag	24
keloid	10

	0
	0
skin tag	24
	0
skin tag,acanthosis nigricans	24,1
onychomycosis	17
	0
skin tag	24
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag,crack heels	24
	0
onychomycosis	17
	0
	0
skin tag	24
	0
	0
xanthelasma	29
	0
skin tag	24
multiple scar	14
	0
onychomycosi	17
	0
	0
skin tag	24
acanthosis nigricans	1
psoriasis	19
vitiligo	27
skin tag	24
tinea paedis	26
paronychia	18
skin tag	24
	0
skin tag	24
acanthosis nigricans	1
xerosis	30
tinea pedis	26
	0
skin tag	24
skin tag	24
	0
	0
	0
skin tag,crack heels	24
skin tag	24
	0
	0

tinea pedis,pruritis	26,5
skin tag,acanthosis	24,1
tinea pedis	26
	0
diabetic foot	3
skin tag	24
tinea paedis	26
paronychia	18
relocated	32
	0
	0
	0
skin tag, xerosis	24,30
	0
skin tag,acanthosis nigricans	24,1
	0
	0
skin tag	24
	0
lipo atrophy,lipo hypertrophy,hyperpigmentation	12,13,8
	0
skin tag,crack heels	24
skin tag,acanthosis	24,1
seboric keratoses	22
skin tag	24
skin tag	24
	0
schamberg purpura,onycomycosis	20,17
tinea paedis + skin tag	26,24
tinea pedis	26
tinea pedis	26

Age	Age	Sex	Religion	Education	Occupation	SES	Skin Lesion	Onset	Progression	Associated factors	Duration of DM	Mode of Rx	Past History	Type of past illness	Diet	Smoking	Alcohol	Family history	Relative	Height	Weight	BMI	Built	Pallor	Hair	Nails	BP - Systolic		BP - Diastolic		BP	Diagnosis Code	F9 - Mar	F10 - Apr	F1 - May	F2 - June	F3 - July	F4 - Aug	F5 - Sept	F6 - Oct	F7 - Nov	F8 - Dec
67	5	2	2	1	1	4	1	1	2	2	2	1	0	0	2	2	2	0	0	1.52	71	30.73060942	4	1	1	1	122	P	78	N	P	26,24	0	0	0	0	0	0	0	0	5	0
56	4	2	2	2	3	1	2	0	0	0	1	1	1	2	2	2	2	1	1,3	1.37	50	26.6396718	3	2	1	1	156	H	70	N	H	0	0	0	0	0	0	0	0	0	0	32
67	5	2	2	1	1	1	2	0	0	0	2	1	0	0	2	2	2	0	0	1.62	65	24.76756592	3	1	1	1	134	P	70	N	P	0	0	0	0	0	0	0	0	0	0	0
42	2	2	2	2	1	2	2	0	0	0	2	1	1	2	2	2	2	1	1,2	1.57	75	30.42719786	4	2	1	1	124	P	70	N	P	0	0	0	25	0	0	0	0	0	28	25
70	5	2	1	1	1	2	2	0	0	0	4	2	1	3	2	2	2	0	0	1.57	65	26.37023814	3	2	1	1	122	P	68	N	P	0	0	0	0	0	24	0	0	0	0	0
64	4	2	1	1	1	4	1	1	2	2, 4	4	1	1	2	1	2	2	0	0	1.47	67	31.00559952	4	2	1	1	124	P	94	H	H	26	0	0	18	0	0	0	0	0	0	0
61	4	2	2	1	1	5	1	3	1	1,2,3	4	1	1	2	2	2	2	1	3	1.45	65	30.91557669	4	1	1	1	140	H	68	N	H	5	0	0	25	0	0	0	30	0	0	0
62	4	1	2	4	2	3	1	3	1	2	1	1	1	3	2	2	2	0	0	1.71	71	24.28097534	3	1	1	1	136	P	84	P	P	3	0	0	0	0	0	0	0	0	0	0
76	6	2	2	2	1	3	1	3	1	1	2	1	1	3	2	1	2	0	0	1.53	77	32.89333162	4	2	1	1	120	P	90	H	H	24	0	0	0	0	0	0	0	0	0	0
55	4	2	1	1	1	2	1	1	2	3	1	1	1	1	2	2	2	0	0	1.4	49	25	3	1	1	1	120	P	84	P	P	26	0	0	0	0	0	0	0	0	0	0
50	3	2	2	1	1	1	1	2	1	2	2	1	1	1	2	2	2	0	0	1.44	60	28.93518519	4	2	1	2	124	P	82	P	P	18	0	0	0	0	0	0	0	0	0	0
66	5	2	2	5	1	1	1	1	1	1,3	2	1	1	2	2	2	2	0	0	1.58	82	32.84730011	4	1	1	1	110	N	78	N	N	4	0	0	0	0	0	0	0	0	0	0
65	5	2	1	1	1	2	1	2	1	1	3	1	0	0	1	2	2	0	0	1.4	57	29.08163265	4	1	1	1	112	N	70	N	N	15	0	0	0	0	26	0	0	0	0	0
72	5	1	2	1	1	3	1	2	1	1	2	1	0	0	2	1	1	1	3	1.7	105	36.33217993	4	1	1	1	114	N	70	N	N	24,5	0	0	0	0	0	0	0	0	0	0
60	4	2	2	1	4	4	1	2	1	5	2	1	1	1,3	2	2	2	1	4	1.31	60	34.96299749	4	2	1	1	110	N	60	N	N	24,5	0	0	0	0	0	0	0	0	0	0
70	5	2	2	2	1	4	1	3	2	1,3	3	1	1	1	2	2	2	0	0	1.73	70	23.38868656	3	1	1	1	120	P	78	N	P	5	0	0	0	0	0	0	0	0	0	30
65	5	2	2	1	1	4	1	2	1	5	3	1	0	0	2	2	2	0	0	1.52	75	32.46191136	4	1	1	1	130	P	90	H	H	27	0	0	0	0	0	0	0	0	0	0
69	5	1	2	2	1	5	1	2	1	1	3	1	1	3	2	2	2	0	0	1.64	66	24.5389649	3	1	1	1	136	P	68	N	P	29,24	0	0	0	0	0	0	0	0	0	0
40	2	1	1	5	4	4	1	3	1	5	4	1	1	3	2	1	1	1	1,2,3	1.75	57	18.6122449	2	1	1	1	142	H	90	H	H	28	3	0	0	0	6	0	0	0	0	0
72	5	1	1	3	1	2	2	0	0	0	2	1	1	1	1	1	1	1	2	1.64	65	24.1671624	3	2	1	1	124	P	78	N	P	0	0	0	0	0	0	0	0	0	0	0
57	4	2	1	2	1	1	2	0	0	0	2	1	1	3	2	2	2	1	1,2	1.57	60	24.34175829	3	1	1	1	120	P	70	N	P	0	0	0	0	0	0	0	0	0	0	0
50	3	2	1	1	1	1	2	0	0	0	2	1	0	0	2	2	2	1	3	1.45	60	28.53745541	4	1	1	1	120	P	88	P	P	0	0	27	0	5	0	0	0	27,26	0	0
62	4	2	1	2	1	4	1	1	2	5	3	1	0	0	1	2	2	0	0	1.38	70	36.75698383	4	1	1	1	110	N	90	H	H	24	0	0	0	0	0	0	0	0	0	0
41	2	2	1	4	1	2	2	0	0	0	2	1	0	0	2	2	2	1	1,4	1.52	55	23.80540166	3	2	1	1	100	N	70	N	N	0	0	0	0	0	0	0	0	0	0	30
63	4	2	1	3	1	1	1	3	1	1	3	1	1	3	1	2	2	1	1	1.52	65	28.13365651	4	2	1	1	106	N	60	N	N	11,29	0	0	0	0	0	0	0	0	0	0
63	4	2	1	3	1	2	2	0	0	0	4	1	1	3	1	2	2	1	4	1.58	61	24.43518667	3	2	1	1	108	N	78	N	N	0	0	0	0	0	0	30	0	0	0	0
63	4	1	1	5	4	3	2	0	0	0	4	1	0	0	2	2	1	0	0	1.67	65	23.30668005	3	2	1	1	104	N	90	H	H	0	0	0	0	0	0	0	0	0	0	0
60	4	1	2	1	4	3	1	1	2	5	2	1	0	0	2	1	2	0	0	1.67	68	24.38237298	3	1	1	1	120	P	68	N	P	22	0	0	0	0	0	0	0	0	0	0
70	5	2	2	2	1	3	1	1	2	5	4	1	0	0	2	2	2	0	0	1.7	80	27.6816609	3	1	1	1	128	P	76	N	P	24	0	0	0	0	0	0	0	0	0	0
64	4	2	2	2	1	4	1	1	2	5	2	1	1	1	2	2	2	0	0	1.58	75	30.0432623	4	1	1	1	108	N	78	N	N	24	0	0	0	0	0	0	0	0	0	0
62	4	2	1	1	1	4	1	2	2	1	3	1	1	1	1	2	2	1	2	1.45	50	23.78121284	3	2	1	1	144	H	70	N	H	5	0	0	0	0	0	0	0	0	0	0
64	4	2	1	2	1	4	1	1	1	2,3	4	1,2	1	1	1	2	2	0	0	1.53	75	32.03895937	4	2	1	2	120	P	88	P	P	20,17	0	0	25	0	0	0	0	0	0	0
76	6	2	2	1	1	2	2	0	0	0	4	1	1	3	2	1	2	1	3,4	1.52	40	17.31301939	2	2	1	1	126	P	90	H	H	0	0	0	0	0	0	26	0	0	0	0
52	3	1	2	3	2	1	2	0	0	0	4	1	1	3	2	2	2	1	1,2,3	1.67	73	26.17519452	3	2	1	1	148	H	90	H	H	0	0	0	0	0	0	0	0	0	0	0
58	4	2	1	2	1	4	1	2	2	1,3	3	1	0	0	2	2	2	1	3,4	1.61	55	21.21831719	2	1	1	1	120	P	78	N	P	26	0	0	0	0	0	0	0	0	0	0
75	6	2	1	1	1	1	2	0	0	0	3	1	0	0	1	2	2	0	0	1.64	65	24.1671624	3	1	1	1	110	N	70	N	N	0	0	0	0	0	0	0	0	0	0	0
69	5	1	3	3	1	1	2	0	0	0	2	1	1	3	2	1	1	0	0	1.7	68	23.52941176	3	1	1	1	112	N	68	N	N	0	0	0	0	0	0	0	0	0	0	17
40	2	1	1	5	2	2	2	0	0	0	1	1	0	0	1	1	2	1	1	1.54	72	30.35925114	4	2	1	1	108	N	68	N	N	0	0	0	0	0	0	23	0	0	0	0
74	5	2	1	2	1	2	2	0	0	0	2	1	1	1	1	2	2	0	0	1.53	58	24.77679525	3	1	1	1	136	P	70	N	P	0	0	0	0	0	0	0	0	0	0	0
54	3	2	2	2	1	2	1	1	2	5	2	1	0	0	2	2	2	1	4	1.58	62	24.8357635	3	2	1	1	146	H	70	N	H	21,24,2	0	0	0	0	0	0	0	0	0	0
69	5	1	1	1	1	2	2	0	0	0	4	1	0	0	2	2	2	1	3,4	1.62	70	26.6727633	3	1	1	1	150	H	68	N	H	0	0	0	0	0	0	0	0	0	0	0
61	4	2	1	1	1	3	1	1	2	5	2	1	0	0	1	2	2	0	0	1.47	66	30.54282938	4	1	1	1	140	H	94	H	H	24	0	0	0	0	0	0	0	0	0	0
46	3	2	2	1	1	3	1	1	2	5	2	1	1	1	2	2	2	1	3	1.56	64	26.29848784	3	1	1	1	166	H	68	N	H	24	0	0	0	0	0	0	0	0	0	0

Age	Age	Sex	Religion	Education	Occupation	SES	Skin Lesion	Onset	Progression	Associated factors	Duration of DM	Mode of Rx	Past History	Type of past illness	Diet	Smoking	Alcohol	Family history	Relative	Height	Weight	BMI	Built	Pallor	Hair	Nails	BP - Systolic		BP - Diastolic		BP	Diagnosis Code	F9 - Mar	F10 - Apr	F1 - May	F2 - June	F3 - July	F4 - Aug	F5 - Sept	F6 - Oct	F7 - Nov	F8 - Dec
70	5	2	2	3	1	3	2	0	0	0	4	1	0	0	2	2	2	1	2	1.53	89	38.01956512	4	2	1	1	126	P	84	P	P	0	0	0	0	0	0	0	0	0	0	0
55	4	2	2	3	1	3	2	0	0	0	4	1	1	2,3	2	2	2	0	0	1.44	94	45.33179012	4	2	1	1	122	P	90	H	H	0	0	0	0	0	0	0	0	0	0	0
70	5	2	1	1	1	4	2	0	0	0	2	1	1	1	1	1	2	0	0	1.45	55	26.15933413	3	1	1	1	120	P	84	P	P	0	0	0	0	0	0	0	0	26	0	0
58	4	2	2	2	1	2	1	2	1	1	2	1	0	0	2	2	2	0	0	1.52	60	25.96952909	3	2	1	1	124	P	82	P	P	25	0	0	0	0	0	0	0	0	0	0
51	3	1	1	3	2	2	2	0	0	0	1	1	1	3	1	1	1	0	0	1.63	64	24.08822312	3	2	1	1	108	N	78	N	N	0	0	0	0	0	0	0	30	0	0	0
50	3	2	2	2	1	4	1	1	1	4	2	1	1	3	2	2	2	1	4	1.58	65	26.03749399	3	1	1	1	140	H	70	N	H	10	0	30	0	0	0	0	0	0	0	0
58	4	2	2	3	1	2	1	3	1	1,3	4	1,2	1	1	2	2	2	1	1	1.56	75	30.81854043	4	2	1	1	166	H	70	N	H	6	0	0	25	0	0	0	0	0	0	0
70	5	2	1	2	1	4	2	0	0	0	1	1	0	0	1	1	2	1	3	1.67	73	26.17519452	3	1	1	1	120	P	60	N	P	0	0	0	0	0	0	0	0	0	0	0
63	4	2	1	1	1	5	1	1	1	5	2	1	1	1	2	2	2	0	0	1.58	70	28.04037814	4	1	1	1	128	P	78	N	P	24,26	0	0	0	0	0	0	0	0	0	0
78	6	2	3	1	1	2	2	0	0	0	4	1	1	2	2	2	2	0	0	1.62	68	25.91068435	3	2	1	1	126	P	90	H	H	0	0	0	0	0	0	0	0	0	0	0
82	6	1	3	3	1	2	2	0	0	0	4	1	0	0	1	1	1	0	0	1.7	72	24.91349481	3	2	1	1	130	P	68	N	P	0	0	0	0	29	0	0	0	0	0	0
54	3	2	1	5	4	1	2	0	0	0	4	1	0	0	1	2	2	0	0	1.64	58	21.56454491	2	1	1	1	132	P	76	N	P	0	0	0	0	0	0	0	0	0	0	0
68	5	2	1	1	1	5	2	0	0	0	3	1	0	0	1	2	2	1	3,4	1.52	73	31.59626039	4	2	1	1	120	P	78	N	P	0	0	0	0	0	0	0	0	0	0	0
50	3	2	2	2	1	3	1	1	1	5	2	1	1	1	2	2	2	0	0	1.52	85	36.7901662	4	1	1	1	124	P	70	N	P	24	0	0	0	0	0	0	0	0	0	0
62	4	2	2	3	1	3	2	0	0	0	4	2	1	3	2	2	2	1	1	1.49	45	20.26935724	2	2	1	1	140	H	88	P	H	0	0	0	0	0	0	0	0	0	0	0
71	5	2	2	3	1	1	2	0	0	0	2	1	1	1	2	2	2	0	0	1.7	70	24.22145329	3	2	1	1	136	P	90	H	H	0	0	0	0	0	0	0	0	0	0	0
43	2	1	1	4	2	4	2	0	0	0	1	1	1	3	2	2	2	0	0	1.7	62	21.4532872	2	2	1	1	120	P	84	P	P	0	0	0	0	26	0	0	0	0	0	0
74	5	2	2	1	1	1	2	0	0	0	4	1	0	0	2	2	2	0	0	1.37	48	25.57408493	3	1	1	1	120	P	82	P	P	0	0	0	0	0	0	0	0	0	0	0
69	5	2	2	3	1	3	1	1	2	5	3	1	1	2	2	2	2	1	4	1.56	72	29.58579882	4	2	1	1	124	P	78	N	P	24	0	0	0	0	0	24	0	0	0	0
55	4	2	2	2	1	4	1	1	2	5	2	1	1	1	2	2	2	0	0	1.47	59	27.30343838	3	1	1	1	110	N	70	N	N	24	0	0	0	0	0	0	0	5	0	0
52	3	2	1	1	1	2	2	0	0	0	2	1	0	0	1	2	2	1	3	1.21	52	35.51669968	4	1	1	1	112	N	70	N	N	0	0	0	0	0	0	0	0	0	0	0
66	5	1	2	4	1	4	1	1	2	5	1	2	1	1,3	2	2	2	0	0	1.67	74	26.53375883	3	1	1	1	114	N	60	N	N	24	0	0	0	0	0	0	0	0	0	0
55	4	1	2	2	4	1	1	1	1	5	2	1	1	1	2	1	1	1	1	1.67	83	29.76083761	4	1	1	2	110	N	78	N	N	18	0	0	0	0	0	0	0	0	0	0
68	5	2	3	5	1	2	2	0	0	0	4	4	1	1	2	2	2	1	3	1.18	30	21.54553289	2	1	1	1	120	P	90	H	H	0	0	3	6	0	26	6	0	0	0	0
66	5	1	1	2	1	2	2	0	0	0	4	1	1	1	2	2	2	1	3	1.7	55	19.03114187	2	2	1	1	130	P	68	N	P	0	0	0	0	0	0	0	0	0	0	0
74	5	1	1	3	1	1	2	0	0	0	2	1	1	1	2	1	2	1	4	1.7	55	19.03114187	2	2	1	1	136	P	76	N	P	0	0	0	0	0	0	0	0	0	0	0
27	1	2	1	5	5	2	2	0	0	0	2	1,2	1	3	2	2	2	1	2,3	1.64	58	21.56454491	2	2	1	1	142	H	78	N	H	0	0	0	29	0	0	0	0	0	0	0
68	5	1	2	3	1	2	2	0	0	0	2	1	1	1	2	2	2	0	0	1.67	58	20.79672989	2	1	1	1	124	P	70	N	P	0	0	0	0	0	0	0	0	1,14	0	0
71	5	2	2	5	1	3	2	0	0	0	1	1	0	0	2	1	2	0	0	1.7	74	25.60553633	3	2	1	1	120	P	88	P	P	0	0	0	0	0	0	26	0	0	0	0
56	4	2	1	2	1	3	2	0	0	0	3	1	0	0	1	2	2	0	0	1.52	63	27.26800554	3	2	1	1	120	P	90	H	H	0	0	0	0	0	0	0	0	0	0	0
60	4	2	3	1	1	2	2	0	0	0	2	1	1	3	1	1	2	0	0	1.52	65	28.13365651	3	1	1	1	110	N	84	P	P	0	30	0	30	0	0	0	0	0	0	0
58	4	2	1	3	1	2	2	0	0	0	2	1	1	1,2	1	2	2	1	1	1.58	55	22.03172568	2	1	1	1	100	N	82	P	P	0	0	0	0	0	0	0	0	0	0	0
45	3	2	1	3	1	2	2	0	0	0	2	1	0	0	2	2	2	0	0	1.58	55	22.03172568	2	2	1	1	106	N	78	N	N	0	0	0	0	0	0	0	0	0	0	0
55	4	2	2	2	1	3	1	1	2	5	2	1	1	1	2	2	2	0	0	1.52	60	25.96952909	3	2	1	1	108	N	70	N	N	24	0	0	0	0	0	0	0	0	0	0
58	4	1	2	4	2	3	1	3	1	5	2	2	0	0	2	2	2	0	0	1.67	68	24.38237298	3	2	1	1	104	N	70	N	N	30	0	0	0	0	0	0	0	0	30	0
50	3	2	1	4	1	2	2	0	0	0	4	2	1	1	1	2	2	1	2,4	1.49	51	22.9719382	2	1	1	1	120	P	60	N	P	0	0	0	0	0	0	0	0	0	0	1
52	3	2	1	3	1	3	2	0	0	0	2	1	0	0	2	2	2	1	3	1.46	56	26.27134547	3	1	1	1	128	P	78	N	P	0	0	17	0	0	0	0	0	0	0	0
61	4	2	1	5	1	2	2	0	0	0	3	1	1	1	1	2	2	0	0	1.58	71	28.44095498	4	1	1	1	108	N	90	H	H	0	0	0	0	0	0	0	0	0	0	0
67	5	2	1	1	1	2	2	0	0	0	4	1	1	1	2	2	2	0	0	1.52	60	25.96952909	3	2	1	1	144	H	68	N	H	0	0	0	0	0	0	0	0	0	0	0
60	4	2	1	3	1	2	1	1	1	5	4	2	1	1	1	2	2	1	2,4	1.61	60	23.14725512	3	1	1	1	120	P	76	N	P	12,13	0	0	1	0	0	0	0	0	0	0
74	5	1	1	5	1	3	2	0	0	0	4	2	1	3	1	2	2	0	0	1.58	54	21.63114885	2	2	1	1	110	N	78	N	N	0	0	0	0	0	0	0	0	0	0	0
69	5	2	1	3	1	4	1	1	2	5	2	1	1	1	1	2	2	1	2,3,4,	1.58	58	23.23345618	3	1	1	1	100	N	70	N	N	24	0	0	0	0	0	0	0	17	0	0
55	4	2	2	4	1	3	2	0	0	0	3	1	1	3	2	2	2	1	1,3,4	1.61	80	30.86300683	4	2	1	1	106	N	88	P	P	0	0	0	0	0	0	0	0	0	0	0
50	3	2	1	1	1	3	2	0	0	0	2	1	1	2	1	2	2	0	0	1.58	94	37.65422208	4	1	1	1	108	N	90	H	H	0	0	0	0	0	0	0	0	0	0	0

Age	Age	Sex	Religion	Education	Occupation	SES	Skin Lesion	Onset	Progression	Associated factors	Duration of DM	Mode of Rx	Past History	Type of past illness	Diet	Smoking	Alcohol	Family history	Relative	Height	Weight	BMI	Built	Pallor	Hair	Nails	BP - Systolic		BP - Diastolic		BP	Diagnosis Code	F9 - Mar	F10 - Apr	F1 - May	F2 - June	F3 - July	F4 - Aug	F5 - Sept	F6 - Oct	F7 - Nov	F8 - Dec
48	3	2	1	2	1	2	2	0	0	0	2	1,2	1	3	2	2	2	0	0	1.52	64	27.70083102	3	1	1	1	104	N	78	N	N	0	0	5	0	0	0	0	0	0	26	0
58	4	2	2	3	1	3	1	1	1	5	2	1	1	1	2	2	2	0	0	1.56	68	27.94214333	3	2	1	1	120	P	70	N	P	24,26,1	0	0	0	0	0	0	0	0	0	0
74	5	1	1	5	1	2	2	0	0	0	1	1	1	1	1	2	2	0	0	1.63	73	27.47562949	3	2	1	1	128	P	88	P	P	0	0	0	0	0	0	0	0	0	0	0
68	5	2	2	1	1	3	2	0	0	0	2	1	1	1	2	2	2	0	0	1.45	55	26.15933413	3	1	1	1	108	N	90	H	H	0	0	0	0	0	0	0	0	0	0	0
48	3	2	1	2	1	4	2	0	0	0	2	1	0	0	1	2	2	0	0	1.46	65	30.49352599	4	1	1	1	144	H	84	P	H	0	0	4	0	0	0	0	0	0	0	0
61	4	2	1	1	1	5	1	1	1	5	2	1	0	0	1	2	2	0	0	1.52	63	27.26800554	3	1	1	1	146	H	82	P	H	23	0	0	0	0	26	0	0	0	0	0
62	4	2	2	1	1	3	2	0	0	0	3	1	0	0	2	2	2	1	1	1.54	72	30.35925114	4	1	1	1	150	H	78	N	H	0	24	30	0	0	0	0	0	0	0	0
69	5	2	2	1	1	2	2	0	0	0	3	1	0	0	2	2	2	1	2	1.52	68	29.43213296	4	1	1	1	140	H	70	N	H	0	30	0	0	0	0	0	0	0	0	0
58	4	2	2	1	1	3	2	0	0	0	2	1	0	0	2	2	2	0	0	1.54	69	29.09428234	4	1	1	1	166	H	70	N	H	0	0	0	0	0	0	0	0	17	0	0
51	3	1	2	5	4	4	1	1	1	2,3,5	1	1	1	1	2	1	2	0	0	1.63	80	30.1102789	4	2	1	1	126	P	60	N	P	26,24	0	0	0	0	0	0	0	0	0	0
65	4	2	2	3	4	3	1	1	2	5	3	1	1	1	2	2	2	0	0	1.56	65	26.70940171	3	2	1	1	122	P	78	N	P	24	0	0	0	0	0	0	0	0	0	0
48	3	2	2	1	1	4	2	0	0	0	3	1	1	3	2	2	2	1	3,4	1.48	43	19.6311176	2	1	1	1	120	P	90	H	H	0	10	0	0	0	0	0	4	0	4	0
56	4	2	2	2	1	2	2	0	0	0	3	1	0	0	2	2	2	1	3	1.52	62	26.83518006	3	2	1	1	124	P	68	N	P	0	0	0	0	0	0	0	0	0	0	0
70	4	1	2	2	4	2	2	0	0	0	4	2	1	3	2	2	2	0	0	1.79	85	26.52851035	3	1	1	1	108	N	76	N	N	0	0	0	0	0	0	0	0	0	0	0
53	6	2	3	1	1	4	1	1	2	5	2	2	0	0	2	2	2	0	0	1.56	58	23.8330046	3	2	1	1	140	H	78	N	H	24	0	0	26	0	0	0	0	0	0	0
55	6	2	1	3	1	5	2	0	0	0	4	1	0	0	1	2	2	1	1,3	1.47	45	20.82465639	2	1	1	1	166	H	70	N	H	0	0	0	0	0	0	0	0	0	0	0
60	4	2	2	1	1	3	1	2	1	1	3	1	0	0	2	2	2	1	1	1.56	85	34.92767916	4	1	1	1	120	P	88	P	P	25,24,1	0	0	0	0	0	0	0	0	0	0
66	4	2	2	1	1	2	2	0	0	0	3	1	0	0	2	2	2	0	0	1.54	90	37.94906392	4	1	1	1	128	P	90	H	H	0	0	0	0	0	17	0	0	0	0	0
56	4	2	1	1	1	1	2	0	0	0	2	1	0	0	2	2	2	0	0	1.54	60	25.29937595	3	2	1	1	126	P	84	P	P	0	0	0	0	0	0	0	0	0	32	0
49	2	1	1	5	4	4	1	1	2	1	2	1	0	0	2	2	2	1	1,4	1.67	58	20.79672989	2	1	1	1	130	P	82	P	P	24	0	0	0	0	0	0	0	0	0	0
56	2	1	1	2	4	3	2	0	0	0	2	1	1	3	2	2	2	0	0	1.72	60	20.2812331	2	2	1	1	124	P	78	N	P	0	0	0	0	0	0	0	0	0	0	0
47	3	2	1	2	1	3	1	2	1	2,3	4	1	0	0	2	2	2	1	2	1.67	72	25.81663021	3	1	1	1	140	H	70	N	H	12,13,5	0	0	0	0	0	0	0	0	0	0
60	5	2	2	1	1	2	2	0	0	0	2	1	1	1	2	2	2	0	0	1.46	75	35.18483768	4	2	1	1	136	P	70	N	P	0	0	0	0	0	0	0	0	0	0	0
63	2	2	2	3	1	3	1	1	1	5	2	1	1	1	2	2	2	1	1	1.62	88	33.53147386	4	2	1	1	120	P	60	N	P	24	30	0	0	0	0	0	0	0	0	0
81	5	1	2	2	1	3	2	0	0	0	2	1	1	3	2	2	2	0	0	1.64	80	29.74419988	4	2	1	1	120	P	78	N	P	0	0	0	0	0	0	0	31	0	0	0
85	4	1	2	2	1	3	2	0	0	0	1	1	0	0	2	1	2	0	0	1.58	65	26.03749399	3	2	1	1	124	P	90	H	H	0	0	0	0	0	0	17	0	0	0	0
55	4	2	2	2	1	4	2	0	0	0	1	1	0	0	2	2	2	0	0	1.47	56	25.91512796	3	2	1	1	110	N	68	N	N	0	0	0	0	0	0	0	0	0	0	0
55	5	1	2	2	1	3	2	0	0	0	1	1	0	0	2	2	2	0	0	1.62	71	27.05380277	3	2	1	1	112	N	76	N	N	0	0	0	0	0	0	0	0	0	0	0
61	4	2	2	1	1	3	1	1	1	5	2	1	1	1	2	2	2	1	1	1.54	79	33.310845	4	2	1	1	114	N	78	N	N	24	0	0	0	0	0	0	0	0	0	0
44	1	1	1	2	4	3	2	0	0	0	2	1	0	0	2	2	2	1	3	1.56	63	25.88757396	3	2	1	1	110	N	70	N	N	0	0	0	0	0	0	0	0	0	0	0
38	6	1	1	5	1	4	1	1	2	5	4	2	1	1	1	2	2	1	1,2,3	1.62	69	26.29172382	3	1	1	1	120	P	88	P	P	26	0	0	0	0	0	0	0	0	0	0
52	5	2	1	2	1	4	2	0	0	0	4	1	1	1	2	2	2	1	4	1.45	48	22.82996433	2	1	1	1	130	P	90	H	H	0	0	0	0	0	0	0	0	0	0	29
70	5	2	1	3	1	3	2	0	0	0	1	1	1	1	1	2	2	0	0	1.54	84	35.41912633	4	2	1	1	136	P	84	P	P	0	0	0	0	0	0	0	0	0	0	0
44	2	2	2	2	2	4	1	1	1	5	1	1	1	1	2	2	2	0	0	1.52	80	34.62603878	4	2	1	1	142	H	82	P	H	26,24	0	0	0	0	0	0	0	0	0	0
68	4	1	1	3	4	4	1	2	2	5	3	1	1	1	2	2	2	0	0	1.6	64	25	3	1	1	1	124	P	78	N	P	29	0	0	0	0	0	28	0	0	0	0
59	3	1	2	2	4	3	2	0	0	0	4	1	1	3	2	2	2	0	0	1.67	70	25.0995016	3	1	1	1	120	P	70	N	P	0	0	0	0	0	0	0	0	0	0	0
55	3	2	2	1	1	4	1	1	1	1,3	2	1	0	0	2	2	2	1	3,4	1.55	87	36.21227888	4	1	1	1	120	P	70	N	P	25	0	0	0	0	0	0	17	0	0	0
65	6	1	1	1	1	2	2	0	0	0	4	1	0	0	1	2	2	0	0	1.59	52	20.56880661	2	1	1	1	110	N	60	N	N	0	0	0	0	0	0	0	0	0	0	0
59	3	2	2	2	1	2	2	0	0	0	2	1	1	3	2	2	2	0	0	1.5	80	35.55555556	4	2	1	1	100	N	78	N	N	0	0	0	0	0	0	0	0	0	0	0
27	6	1	2	3	1	3	2	0	0	0	3	1	0	0	2	2	2	0	0	1.57	63	25.5588462	3	1	1	1	106	N	90	H	H	0	0	0	0	0	0	0	0	0	0	24
75	5	1	2	2	1	2	2	0	0	0	2	1	1	1	2	2	2	0	0	1.67	82	29.4022733	4	2	1	1	108	N	68	N	N	0	4	1	0	0	0	0	0	0	0	0
66	4	1	2	2	4	3	1	1	2	5	3	1	0	0	2	1	2	1	1	1.65	69	25.34435262	3	2	1	1	104	N	84	P	P	19	0	0	0	0	0	0	0	0	0	0
66	5	2	2	1	1	4	1	2	1	5	3	1	0	0	2	2	2	0	0	1.52	75	32.46191136	4	1	1	1	120	P	82	P	P	27	0	0	0	0	0	0	0	0	0	0
40	6	2	2	2	1	3	1	3	1	1	2	1	1	3	2	1	2	0	0	1.53	77	32.89333162	4	2	1	1	128	P	78	N	P	24	0	0	0	0	0	0	0	0	0	0

Age	Age	Sex	Religion	Education	Occupation	SES	Skin Lesion	Onset	Progression	Associated factors	Duration of DM	Mode of Rx	Past History	Type of past illness	Diet	Smoking	Alcohol	Family history	Relative	Height	Weight	BMI	Built	Pallor	Hair	Nails	BP - Systolic		BP - Diastolic		BP	Diagnosis Code	F9 - Mar	F10 - Apr	F1 - May	F2 - June	F3 - July	F4 - Aug	F5 - Sept	F6 - Oct	F7 - Nov	F8 - Dec
64	4	2	1	1	1	2	1	1	2	3	1	1	1	1	2	2	2	0	0	1.4	49	25	3	1	1	1	108	N	70	N	N	26	0	0	0	0	0	0	0	0	0
50	3	2	2	1	1	1	1	2	1	2	2	1	1	1	2	2	2	0	0	1.44	60	28.93518519	4	2	1	2	144	H	70	N	H	18	0	0	0	0	0	26	0	0	0	0
47	5	2	2	5	1	1	1	1	1	1,3	2	1	1	2	2	2	2	0	0	1.58	82	32.84730011	4	1	1	1	146	H	60	N	H	4	0	0	0	0	0	0	0	0	0	24
75	5	2	1	2	1	4	2	0	0	0	1	1	0	0	1	1	2	1	3	1.67	73	26.17519452	3	1	1	1	150	H	78	N	H	0	0	0	0	0	0	0	0	0	0	0
45	4	2	1	1	1	5	1	1	1	5	2	1	1	1	2	2	2	0	0	1.58	70	28.04037814	4	1	1	1	140	H	90	H	H	24,26	0	0	0	0	0	0	0	0	0	0
87	6	2	3	1	1	2	2	0	0	0	4	1	1	2	2	2	2	0	0	1.62	68	25.91068435	3	2	1	1	166	H	68	N	H	0	0	0	0	0	0	0	1	0	0	0
70	6	1	3	3	1	2	2	0	0	0	4	1	0	0	1	1	1	0	0	1.7	72	24.91349481	3	2	1	1	126	P	76	N	P	0	0	0	0	0	4	0	0	0	0	30
56	4	2	1	1	1	4	1	1	2	2, 4	4	1	1	2	1	2	2	0	0	1.47	67	31.00559952	4	1	1	1	122	P	78	N	P	26	0	0	0	0	0	0	0	0	0	0
67	5	2	1	1	1	5	2	0	0	0	3	1	0	0	1	2	2	1	3,4	1.52	73	31.59626039	4	2	1	1	120	P	84	P	P	0	0	0	0	0	0	0	0	0	0	0
48	3	2	2	2	1	3	1	1	1	5	2	1	1	1	2	2	2	0	0	1.52	85	36.7901662	4	1	1	1	124	P	82	P	P	24	0	0	0	0	0	0	0	0	0	0
37	2	1	1	5	4	4	1	1	2	1	2	1	0	0	2	2	2	1	1,4	1.67	58	20.79672989	2	2	1	1	108	N	78	N	N	24	0	0	0	0	0	0	0	0	0	0
41	2	1	1	2	4	3	2	0	0	0	2	1	1	3	2	2	2	0	0	1.72	60	20.2812331	2	2	1	1	140	H	70	N	H	0	0	0	0	0	0	0	0	0	0	0
51	3	2	1	2	1	3	1	2	1	2,3	4	1	0	0	2	2	2	1	2	1.67	72	25.81663021	3	1	1	1	166	H	70	N	H	4	0	0	0	0	0	0	0	0	0	0
72	5	2	2	1	1	2	2	0	0	0	2	1	1	1	2	2	2	0	0	1.46	75	35.18483768	4	2	1	1	120	P	60	N	P	0	0	0	0	0	0	0	0	0	0	0
37	2	2	2	3	1	3	1	1	1	5	2	1	1	1	2	2	2	1	1	1.62	88	33.53147386	4	2	1	1	128	P	78	N	P	24	30	0	0	0	0	0	0	0	0	0
66	5	2	1	3	1	4	1	1	2	5	2	1	1	1	1	2	2	1	2,3,4,	1.58	58	23.23345618	3	1	1	1	126	P	90	H	H	24	0	0	0	0	0	0	0	0	0	0
61	4	2	2	4	1	3	2	0	0	0	3	1	1	3	2	2	2	1	1,3,4	1.61	80	30.86300683	4	2	1	1	130	P	68	N	P	0	0	0	0	0	0	0	0	0	0	0
48	3	2	1	1	1	3	2	0	0	0	2	1	1	2	1	2	2	0	0	1.58	94	37.65422208	4	1	1	1	146	H	76	N	H	0	0	0	0	0	0	0	0	0	0	0
48	3	2	1	2	1	2	2	0	0	0	2	1,2	1	3	2	2	2	0	0	1.52	64	27.70083102	3	1	1	1	150	H	78	N	H	0	0	5	0	0	26	0	0	0	0	0
60	4	2	2	3	1	3	1	1	1	5	2	1	1	1	2	2	2	0	0	1.56	68	27.94214333	3	1	1	1	140	H	70	N	H	24,26,1	0	0	0	0	0	0	0	0	0	0
59	4	2	1	1	1	4	1	1	2	2, 4	4	1	1	2	1	2	2	0	0	1.47	67	31.00559952	4	2	1	1	166	H	88	P	H	26	0	0	0	0	0	0	0	0	0	0
58	4	2	2	1	1	5	1	3	1	1,2,3	4	1	1	2	2	2	2	1	3	1.45	65	30.91557669	4	1	1	1	126	P	90	H	H	5	0	0	0	0	0	0	0	0	0	0
62	4	1	2	4	2	3	1	3	1	2	1	1	1	3	2	2	2	0	0	1.71	71	24.28097534	3	1	1	1	122	P	78	N	P	3	0	0	0	0	0	0	0	0	0	0
77	6	2	2	2	1	3	1	3	1	1	2	1	1	3	2	1	2	0	0	1.53	77	32.89333162	4	1	1	1	120	P	70	N	P	24	0	0	0	0	0	0	0	0	0	0
64	4	2	1	1	1	2	1	1	2	3	1	1	1	1	2	2	2	0	0	1.4	49	25	3	1	1	1	124	P	82	P	P	26	0	0	0	0	0	0	0	0	0	0
47	3	2	2	1	1	1	1	3	1	2	2	1	1	1	2	2	2	0	0	1.44	60	28.93518519	4	1	1	2	108	N	68	N	N	18	0	0	0	0	0	0	0	0	0	0
66	5	2	2	5	1	1	1	1	1	1,3	2	1	1	2	2	2	2	0	0	1.58	82	32.84730011	4	1	1	1	140	H	78	N	H	4	0	0	0	0	0	0	0	4	5	0
70	5	2	3	5	1	2	2	0	0	0	4	4	1	1	2	2	2	1	3	1.18	30	21.54553289	2	1	1	1	166	H	70	N	H	0	0	0	0	0	0	0	0	0	0	0
67	5	1	1	2	1	2	2	0	0	0	4	1	1	1	2	2	2	1	3	1.7	55	19.03114187	2	2	1	1	120	P	72	N	P	0	0	0	0	0	0	0	0	0	0	0
69	5	1	1	3	1	1	2	0	0	0	2	1	1	1	2	1	2	1	4	1.7	55	19.03114187	2	2	1	1	128	P	70	N	P	0	0	0	0	0	0	0	0	0	0	0
77	6	2	3	1	1	4	1	1	2	5	2	2	0	0	2	2	2	0	0	1.56	58	23.8330046	3	2	1	1	126	P	68	N	P	24	0	0	0	0	0	0	0	0	0	30
80	6	2	1	3	1	5	2	0	0	0	4	1	0	0	1	2	2	1	1,3	1.47	45	20.82465639	2	1	1	1	130	P	94	H	H	0	0	0	0	0	0	0	0	0	0	0
58	4	2	2	1	1	3	1	2	1	1	3	1	0	0	2	2	2	1	1	1.56	85	34.92767916	4	1	1	1	146	H	68	N	H	25,24,1	0	0	0	0	0	0	0	0	0	0
60	4	2	2	1	1	2	2	0	0	0	3	1	0	0	2	2	2	0	0	1.54	90	37.94906392	4	1	1	1	150	H	84	P	H	0	0	0	0	0	0	0	0	0	0	0
60	4	2	1	1	1	1	2	0	0	0	2	1	0	0	2	2	2	0	0	1.54	60	25.29937595	3	2	1	1	140	H	90	H	H	0	0	0	0	0	0	0	0	0	0	0
36	2	1	1	5	4	4	1	1	2	1	2	1	0	0	2	2	2	1	1,4	1.67	58	20.79672989	2	2	1	1	166	H	84	P	H	24	0	0	0	0	26	0	0	0	0	0
37	2	1	1	2	4	3	2	0	0	0	2	1	1	3	2	2	2	0	0	1.72	60	20.2812331	2	2	1	1	126	P	82	P	P	0	0	0	0	0	0	0	0	0	0	0
47	3	2	1	2	1	3	1	2	1	2,3	4	1	0	0	2	2	2	1	2	1.67	72	25.81663021	3	1	1	1	122	P	78	N	P	12,13,5	0	0	0	0	0	0	0	0	0	0
66	5	2	2	1	1	2	2	0	0	0	2	1	1	1	2	2	2	0	0	1.46	75	35.18483768	4	2	1	1	120	P	70	N	P	0	0	0	0	0	0	0	0	0	0	0
40	2	2	2	3	1	3	1	1	1	5	2	1	1	1	2	2	2	1	1	1.62	88	33.53147386	4	2	1	1	124	P	70	N	P	24	30	0	0	0	0	0	0	0	0	0
60	4	2	2	3	1	3	1	1	1	5	2	1	1	1	2	2	2	0	0	1.56	68	27.94214333	3	1	1	1	108	N	60	N	N	24,26,1	0	0	0	0	0	0	0	0	0	0
60	4	1	2	1	4	3	1	1	2	5	2	1	0	0	2	1	2	0	0	1.67	68	24.38237298	3	1	1	1	140	H	78	N	H	22	0	0	0	0	0	0	0	0	0	0
68	5	2	2	2	1	3	1	1	2	5	4	1	0	0	2	2	2	0	0	1.7	80	27.6816609	3	2	1	1	166	H	90	H	H	24	0	0	0	0	0	0	0	0	0	24
60	4	2	2	2	1	4	1	1	2	5	2	1	1	1	2	2	2	0	0	1.58	75	30.0432623	4	2	1	1	120	P	68	N	P	24	0	0	0	0	0	0	0	0	0	0

Age	Age	Sex	Religion	Education	Occupation	SES	Skin Lesion	Onset	Progression	Associated factors	Duration of DM	Mode of Rx	Past History	Type of past illness	Diet	Smoking	Alcohol	Family history	Relative	Height	Weight	BMI	Built	Pallor	Hair	Nails	BP - Systolic		BP - Diastolic		BP	Diagnosis Code	F9 - Mar	F10 - Apr	F1 - May	F2 - June	F3 - July	F4 - Aug	F5 - Sept	F6 - Oct	F7 - Nov	F8 - Dec
60	4	2	1	1	1	4	1	2	2	1	3	1	1	1	1	2	2	1	2	1.45	50	23.78121284	3	1	1	1	128	P	76	N	P	5	0	0	25	4	0	0	0	0	0	30
62	4	2	1	2	1	4	1	1	1	2,3	4	1,2	1	1	1	2	2	0	0	1.53	75	32.03895937	4	2	1	2	126	P	78	N	P	20,17	0	0	26	0	0	0	0	0	0	0
80	5	2	2	1	1	4	1	1	2	2	2	1	0	0	2	2	2	0	0	1.52	71	30.73060942	4	1	1	1	130	P	70	N	P	26,24	0	0	0	0	0	0	0	0	30	0
60	4	2	1	1	1	4	1	1	2	2, 4	4	1	1	2	1	2	2	0	0	1.47	67	31.00559952	4	1	1	1	140	H	88	P	H	26	0	0	0	0	0	0	0	0	0	0
64	4	2	1	1	1	4	1	1	2	2, 4	4	1	1	2	1	2	2	0	0	1.47	67	31.00559952	4	2	1	1	144	H	90	H	H	26	0	0	0	0	0	0	0	0	0	0

59.88888889	126.5111111
11.06299327	15.76379023

77.11111111
8.909783016

tailor	3
auto driver	2
shop keeper	4
truck driver	2
aya at school	4
OT assistant	4
salesman	4
mechanic	4
driver	2
ASI officer	4
farmer	4
jailor	4
security guard	4
watchman	4
teacher	4
cobbler	4
businessman	4
government officer	4
auotdriver	2
treasury	4

26-35	1
36-45	2
46-55	3
56-65	4
66-75	5
76-85	6

mother	1
father	2
sister	3
brother	4

Underweig	17.5
Normal	17.5-22.99
Overweigh	23-27.99
Obese	28

Hypertensio	1	acanthosis nigricans	1
Hysterectomy	2	diabetic dermopathy	2
others	3	diabetic foot	3
		folliculitis	4
		generalised pruritis	5
		healing ulcer	6
		granuloma annulare	7
		bullosis diabeticorun	8
		eruptive xanthoma	9
		keloid	10
		lichen simplex-chron	11
		lipo atrophy	12
		lipo hypertrophy	13
1		Finger pebbles	14
2		necrobiosis lipoidica	15
3		Diabetic rubesis	16
4		onycomycosis	17
		paronychia	18
		psoriasis	19
		schamberg purpura	20
		sclerosis	21
		seboric keratitis	22
		Tinea corporis	23
		skin tag	24
		tinea cruris	25
		tinea paedis	26
		vitiligo	27
		Onychodystrophy	28
		xanthelesma	29
		xerosis	30

Diagnosi	Diagnosi	F1 - May	F2 - June	F3 - July	F4 - Aug	F5 - Sept	F6 - Oct	F7 - Nov	F8
tinea pae	26,24	tir	26,24	tii	26,24	tir	26,24	t	26,24	tii	26,24	tin	26,24	tii	26,24,34	tir
	0		0		0		0		0		0		0		0	0
	0		0		0		0		0		0		0		0	0
	0	tir	25	tii	25	tir	25		0		0		0	w	28	tir
	0		0		0	sk	24	s	24	sk	24	ski	24	sk	24	sk
tinea pae	26	tir	26	tii	26	tir	26	t	26	tii	26	tin	26	tii	26	tir
pruritis	5	nc	16	nc	16	nc	16	n	16	xe	30	xe	30		0	0
diabetic f	3	di	3	di	3	di	3	d	3	di	3	di	3	di	3	di
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
tinea pae	26	tir	26	tii	26	tir	26	t	26	tii	26	tin	26	tii	26	tir
paronych	18	pa	18	pa	18	pa	18	p	18	pa	18	pa	18	pa	18	pa
folliculitis	4	fo	4	fo	4		0				0		0		0	0
necrobio	15	ne	15	nc	15	ne	15,26	n	15,26	nc	15,26	ne	15,26	nc	15,26	ne
skin tag ,	24,5	ski	24,5	sk	24,5	sk	24	s	24	sk	24	ski	24	sk	24	sk
skin tag, ł	24,5	ski	24,5	sk	24,5	sk	24	s	24	sk	24	ski	24	sk	24	sk
generalis	5	ge	5	ge	5		0				0		0		0	xe
vitiligo	27	vit	27	vi	27	vit	27	v	27	vi	27	vit	27	vi	27	vi
hypertro	9,24	hy	9,24	hy	9,24	hy	9,24	h	9,24	hy	9,24	hy	9,24	hy	9,24	hy
wound	28	wc	28	w	28	ul	6	u	6	ul	6	ulc	6	ul	6	ul
	0		0		0		0		0		0		0		0	0
	0		0		0		0		0		0		0		0	0
	0		0	ge	5		0				0	vit	27,26	vi	27,26	0
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
	0		0		0		0		0		0		0		0	xe
lichen sin	11,29	lic	11,29	lic	11,29	lic	11,29	li	11,29	lic	11,29	lic	11,29	lic	11,29	lic
	0		0		0		0	x	30	xe	30	xe	30	xe	30	xe
	0		0		0		0				0		0		0	0
seboric k	22	se	22	se	22	se	22	s	22	se	22	sel	22	se	22	se
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
generalis	5	ge	5	ge	5		0				0		0		0	0
schambe	20,17	scl	20,17,33	sc	20,17,33	scl	20,17	s	20,17	sc	20,17	scl	20,17	sc	20,17	sc
	0		0		0		0	t	26	tii	26		0		0	0
	0		0		0		0				0		0		0	0
tinea ped	26	tir	26	tii	26	tir	26	t	26	tii	26	tin	26		0	0
	0		0		0		0				0		0		0	0
	0		0		0		0				0		0		0	or
	0		0		0		0	r	32	re	32	rel	32	re	32	re
	0		0		0		0				0		0		0	0
sclerosis,	21,24,2	scl	21,24,2	sc	21,24,2	scl	21,24,2	s	21,24,2	sc	21,24,2	scl	21,24,2	sc	21,24,2	sc
	0		0		0		0				0		0		0	0
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
	0		0		0		0				0		0		0	0
	0		0		0		0				0		0		0	0

0		0		0		0				0		tin	26	tir	26	tir				
tinea cru	25	tir	25	tir	25	tir	25			0		0		tir	25	tir				
0		0		0		0				xe	30	xe	30	0		0				
keloid	10	ke	10	ke	10	ke	10	k	10	ke	10	ke	10	ke	10	ke				
healing u	6	sc	14	sc	14	sc	14	s	14	0		0		0		0				
0		0		0		0				0		0		0		0				
skin tag,t	24,26	ski	24,26	sk	24,26	sk	24,26	s	24,26	sk	24,26	ski	24	sk	24	sk				
0		0		0		0				0		0		0		0				
0		0		xa	29	xa	29	x	29	xa	29	xa	29	xa	29	xa				
0		0		0		0				0		0		0		0				
0		0		0		0				0		0		0		0				
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk				
0		0		0		0				0		0		0		0				
0		0		0		0				0		0		0		0				
0		0		tir	26	tir	26	x	29	xa	29	xa	29	xa	29	xa				
0		0		0		0				0		0		0		0				
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk				
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24,5	sk	24	sk				
0		0		0		0				0		0		0		0				
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk				
paronych	18	pa	18	pa	18	pa	18	p	18	pa	18	pa	18	pa	18	pa				
0		wo	28	w	28	wo	28,26	u	6,26	ul	6,26	ulc	6,26	ul	6,26	ul				
0		0		0		0				0		0		0		0				
0		0		0		0				0		0		0		0				
0		xa	29	xa	29	xa	29	x	29	xa	29	xa	29	xa	29	xa				
0		0		0		0				0		ac	1	ac	1	ac				
0		0		0		0		d	31	di	31	die	31	di	31	di				
0		0		0		0				0		0		0		0				
0		xe	30	xe	30	xe	30			0		0		0		0				
0		0		0		0				0		0		0		0				
0		0		0		0				0		0		0		0				
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk				
xerosis	30	0		0		0				0		0		xe	30	xe				
0		0		0		0				0		0		0		ac				
0		0		0		0				0		0		0		0				
0		0		0		0				0		0		0		0				
0		0		0		0				0		0		0		0				
lipo atrop	12,13	lip	12,13,8	lip	12,13,8	lip	12,13,8	li	12,13,8	lip	12,13,8	lip	12,13,8	lip	12,13,8	lip				
0		0		0		0				0		0		0		0				
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24,17	sk	24,17	sk				
0		0		0		0				0		0		0		0				
0		0		0		0				0		0		0		0				
0		0		0		0				0		0		tir	26	tir				
skin tag,t	24,26,1	ski	24,26,1	sk	24,26,1	sk	24,26,1	s	24,26,1	sk	24,26,1	ski	24,26,1	sk	24,26,1	sk				
0		0		0		0				0		0		0		0				
0		0		0		0				0		0		0		0				
0		0		0		0				0		0		0		0				

shamberg	23	sh	23	sh	23	sh	23,26	s	23,26	sh	23	sh	23	sh	23	sh
	0		0		0		0				0		0		0	
	0		0		0		0				0		0		0	
	0		0		0		0				0	on	17	or	17	or
tinea ped	26,7	tir	26,7	tir	26,7	tir	26,7	t	26,7	tir	26,7	tin	26,7	tir	26,7	tir
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
	0		0		0		0			fo	4	fol	4	ab	35	ab
	0		0		0		0				0		0		0	
	0		0		0		0				0		0		0	
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
	0		0		0		0				0		0		0	
tinea cru	25,24,1	tir	25,24,1	tir	25,24,1	tir	25,24,1	s	24,1	sk	24,1	ski	24,1	sk	24,1	sk
	0		0		0	on	17	c	17	or	17	on	17	or	17	or
	0		0		0		0				0		0		0	
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
	0		0		0		0				0		0		0	
lipo atro	12,13,8	lip	12,13,8	lip	12,13,8	lip	12,13,8	li	12,13,8	lip	12,13,8	lip	12,13,8	lip	12,13,8	lip
	0		0		0		0				0		0		0	
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
	0		0		0		0				0		0		0	
	0		0		0		0	c	17	or	17	on	17	or	17	or
	0		0		0		0				0		0		0	
	0		0		0		0				0		0		0	
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
	0		0		0		0				0		0		0	
tinea ped	26	tir	26	tir	26	tir	26	t	26	tir	26		0		0	
	0		0		0		0				0		0		0	xa
	0		0		0		0				0		0		0	
tinea ped	26,24	tir	26,24	tir	26,24	tir	26,24	t	26,24	tir	26,24	tin	26,24	tir	26,24	sk
multiple s	14	mu		m	14	mu	14	n	14,28	m	14,28	mu	14	m	14	m
	0		0		0		0				0		0		0	
tinea cru	25	tir	25	tir	25		0			or	17	on	17	or	17	or
	0		0		0		0				0		0		0	
	0		0		0		0				0		0		0	
	0		0		0		0				0		0		0	sk
	0		0		0		0				0		0		0	
psoriasis	19	ps	19	ps	19	ps	19	p	19	ps	19	ps	19	ps	19	ps
vitiligo	27	vit	27	vi	27	vit	27	v	27	vi	27	vit	27	vi	27	vi
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
tinea pae	26	tir	26	tir	26	tir	26	t	26	tir	26	tin	26	tir	26	tir
paronych	18	pa	18	pa	18	pa	18	p	18,26	pa	18,26	pa	18,26	pa	18	pa
folliculitis	4	fol	4		0		0				0	ski	24	sk	24	sk
	0		0		0		0				0		0		0	
skin tag,t	24,26	ski	24,26	sk	24,26	sk	24,26	s	24,26	sk	24	ski	24	sk	24	sk
	0		0		0		0			ac	1	ac	1	ac	1	ac
	0		0		0	fo	4				0		0		0	xe
tinea pae	26	tir	26	tir	26	tir	26	t	26	tir	26	tin	26	tir	26	tir

0	0	0	0		0	0	0	0	
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
0	0	0	0		0	0	0	0	
folliculitis	4	fol	4	0	0		0	0	0	0	
0	0	0	0		0	0	0	0	
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
0	0	0	0		0	0	0	0	
0	0	0	0		0	0	0	0	
0	0	0	tir	26	t	26	tir	26	tin	26	tir	26	tir
skin tag,t	24,26,1	ski	24,1	sk	24,1	sk	24,1	s	24,1	sk	24,1,26	ski	24,1,26	sk	24,1,26	sk
tinea pae	26	tir	26	tir	26	tir	26	t	26	tir	26	tin	26	tir	26	tir
pruritis	5	0	0	0		0	0	0	0	
diabetic f	3	dia	3	di	3	dia	3	d	3	di	3	dia	3	di	3	di
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
tinea pae	26	tir	26	tir	26	tir	26	t	26	tir	26	tin	26	tir	26	tir
paronych	18	pa	18	pa	18	pa	18	p	18	pa	18	pa	18	pa	18	pa
folliculitis	4	fol	4	0	0		0	fol	4	re	32	re
0	0	0	0		0	0	0	0	
0	0	0	0		0	0	0	0	
0	0	0	0		0	0	0	0	
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
0	0	0	0		0	0	0	0	
tinea cru	25,24,1	tir	25,24,1	tir	25,24,1	tir	25,24,1	t	25,24,1	sk	24,1	ski	24,1	sk	24,1	sk
0	0	0	0		0	0	0	0	
0	0	0	0		0	0	0	0	
skin tag	24	ski	24	sk	24	sk	24,26	s	24,26	sk	24,26	ski	24	sk	24	sk
0	0	0	0		0	0	0	0	
lipo atrop	12,13,8	lip	12,13,8	lip	12,13,8	lip	12,13,8	li	12,13,8	lip	12,13,8	lip	12,13,8	lip	12,13,8	lip
0	0	0	0		0	0	0	0	
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
skin tag,t	24,26,1	ski	24,26,1	sk	24,1	sk	24,1	s	24,1,26	sk	24,1,26	ski	24,1,26	sk	24,1	sk
seboric k	22	se	22	se	22	se	22	s	22	se	22	se	22	se	22	se
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
skin tag	24	ski	24	sk	24	sk	24	s	24	sk	24	ski	24	sk	24	sk
generalis	5	ge	5	fo	4	0		0	0	0	xe
schambe	20,17	scl	20,17,33	sc	20,17,33	scl	20,17,33	s	20,17	sc	20,17	scl	20,17	sc	20,17	sc
tinea pae	26,24	tir	26,24	tir	26,24	tir	26,24	t	26,24	tir	26,24	tin	26,24	tir	26,24,34	tir
tinea pae	26	tir	26	tir	26	tir	26	t	26	tir	26	tin	26	tir	26	tir
tinea pae	26	tir	26	tir	26	tir	26	t	26	tir	26	tin	26	tir	26	tir

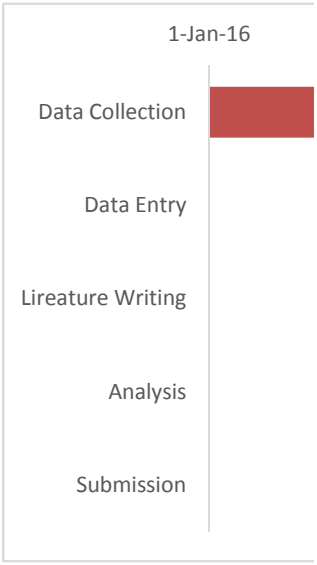
8 - Dec	F9 - Jan	F10 - Feb
26,24,34	tir 26,24,34	ti 26,24
	0	
	0	
25	tir 25	
24	sk 24	sk 24
26	tir 26	ti 26
	0	
3	di 3	di 3
24	sk 24	sk 24
26	tir 26	ti 26
18	pa 18	pa 18
	0	
15,26	0	
24	sk 24	sk 24
24	sk 24	sk 24
30	0	
27	vit 27	vi 27
9,24	hy 9,24	hy 9,24
6	di 3	di 3
	0	
	0	
	0	vi 27
24	sk 24	sk 24
30	xe 30	xe 30
11,29	lic 11,29	lic 11,29
30	xe 30	xe 30
	0	
22	se 22	se 22
24	sk 24	sk 24
24	sk 24	sk 24
	0	
20,17	sc 20,17	sc 20,17
	0	
	0	
	0	
	0	
17	or 17	or 17
32	re 32	re 32
	0	
21,24,2	sc 21,24,2	sc 21,24,2
	0	
24	sk 24	sk 24
24	sk 24	sk 24
	0	
	0	

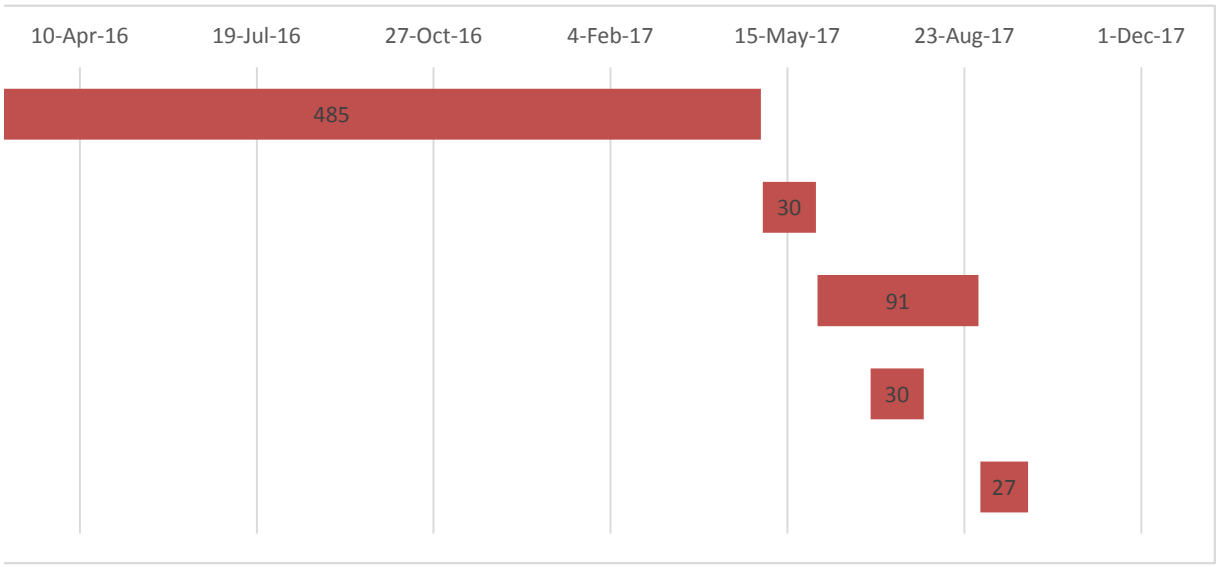
26	tir	26	ti	26	
25	tir	25	ti	25	
		0			
10	ke	10	x	30,10	
		0			
		0			
24	sk	24	sl	24	
		0			
29	xa	29	x	29	
		0			
		0			
24	sk	24	sl	24	
		0			
		0			
29	xa	29	x	29	
		0			
24	sk	24	sl	24	
24	sk	24	sl	24	
		0			
24	sk	24	sl	24	
18	pa	18	p	18	
6,26	ul	6,26	d	3	
		0			
		0			
29	xa	29	x	29	
1	ac	1	a	1	
31	di	31	d	31	
		0			
	xe	30	x	30	
		0			
		0			
24	sk	24	sl	24	
30	xe	30	x	30	
1	ac	1	a	1	
		0	o	17	
		0			
		0			
12,13,8	lip	12,13,8	li	12,13,8	
		0			
24,17	sk	24,17	sl	24,17	
		0			
		0			
26	tir	26	ti	26,5	
24,26,1	sk	24,26,1	sl	24,26,1	
		0			
		0			
		0	fc	4	

23	sh	23	sl	23	
	sk	24	sl	24,30	
	xe	30			
17	or	17	o	17	
26,7	tir	26,7	ti	26,7	
24	sk	24	sl	24	
35	ke	10	k	10	
		0			
		0			
24	sk	24	sl	24	
		0			
24,1	sk	24,1	sl	24,1	
17	or	17	o	17	
		0			
24	sk	24	sl	24	
		0			
12,13,8	lip	12,13,8	li	12,13,8	
		0			
24	sk	24,30	sl	24	
		0			
17	or	17	o	17	
		0			
		0			
24	sk	24	sl	24	
		0			
		0			
29	xa	29	x	29	
		0			
24	sk	24	sl	24	
14	m	14	m	14	
		0			
17	or	17	o	17	
		0			
		0			
24	sk	24	sl	24	
	fo	4	a	1	
19	ps	19	p	19	
27	vii	27	vi	27	
24	sk	24	sl	24	
26	tir	26	ti	26	
18	pa	18	p	18	
24	sk	24	sl	24	
		0			
24	sk	24	sl	24	
1	ac	1	a	1	
30	xe	30	x	30	
26	tir	26	ti	26	

	0		
24	sk	24	sk 24
24	sk	24	sk 24
	0		
	0		
	0		
24	sk	24,30	sk 24
24	sk	24	sk 24
	0		
	0		
26	tir	26	ti 26,5
24,1	sk	24,1	sk 24,1
26	tir	26	ti 26
	0		
3	di	3	di 3
24	sk	24	sk 24
26	tir	26	ti 26
18	pa	18	pi 18
32	re	32	re 32
	0		
	0		
	0		
24,30	sk	24,30	sk 24,30
	0		
24,1	sk	24,1	sk 24,1
	0		
	0		
24	sk	24	sk 24
	0		
12,13,8	lig	12,13,8	li 12,13,8
	0		
24	sk	24,30	sk 24
24,1	sk	24,1	sk 24,1
22	se	22	se 22
24	sk	24	sk 24
24	sk	24	sk 24
30	xe	30	
20,17	sc	20,17	sc 20,17
26,24,34	tir	26,24,34	ti 26,24
26	tir	26	ti 26
26	tir	26	ti 26

	Start date	End date	Duration
Data Collection	1-Jan-16	30-Apr-17	485
Data Entry	1-May-17	31-May-17	30
Lireature Writing	1-Jun-17	31-Aug-17	91
Analysis	1-Jul-17	31-Jul-17	30
Submission	1-Sep-17	28-Sep-17	27




10-Apr-16
19-Jul-16
27-Oct-16
4-Feb-17
15-May-17
23-Aug-17
1-Dec-17
485
30
91
30
27