2.1Materials:

2.1.1Study design:

This study was designed as case control study.

2.1.2 Study population:

The study was conducted on pregnant Sudanese women in all trimester of pregnancy.

The total size included 70samples 60 samples from pregnant women and 10 samples from non pregnant ladies as control groups .

2.1.3 Inclusion criteria:

Any pregnant women in Al Turkey hospital.

2.1.4 Exclusion criteria:

Pregnant women who was suffered from Glomerulonephritis, renal failure, Nephrotic syndrome, sever liver disease, low protein intake, mal nutrition, Gastro intestinal Tract disorder, dehydration, Nephrotic syndrome and multiple myeloma were excluded from the study.

2.1.5 Study area:

The study was done in Khartoum state in Al Turkey Hospital.

2.1.6 Study period:

The study was carried between March - September 2015.

2.1.7 Blood Sample:

The type of this study was non probability sample, simple random sample.

2.1.8 Collection of blood:

2.5ml venous blood sample was obtained from each patients using standard venipuncture technique. Plasma specimens were collected as heparinized container after centrifugation at 3000 rpm for 5 minutes. The specimen freezed until analysis.

2.1.9 Tools of data collection and Data collection technique:

Questionnaire was specifically designed to obtain information which help in either including or excluding certain individual in or from the study respectively.

2.2 Method:

Albumin, Total protein and Urea was estimated by spectrophotometer device use differences procedure.

2.3Ethical consideration:

- Permission of this study was obtained from the local healthy authorities in the area of the study.
- The objective of the study were explained to all individuals participating in this study.
- An informed consent was obtained from all participants.

2.4 Statistical analysis:

The data collected in this study were analyzed using SPSS computer program. The means and the standard deviation of the plasma urea, total protein, and albumin were calculated and the (t) test was used for comparison. [(P) value of 0.05 is considered to be significant].

2.5 Quality control:

The precision and accuracy of all method used in this study were checked each time, a batch was analyzed by including commercially prepared control sera. This was done by using normal and pathological human control sera with analyzed values of plasma urea, total protein, and albumin.