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MS in King khaild Hospital –Najran prevalence among patients population risk factors and outcome in 5 years duration from 2011-2017

Dr. Maha Esmeal Ahmed , PhD – associate- prof Najran University- Kingdom of Saudia Arabia

College of Applied Medical College
-Radiological sciences department (female)
Mobile : 0568648465
Email: maha_esmeal@yahoo.com

Abstract: Multiple sclerosis (MS) is part of a spectrum of idiopathic inflammatory demyelinating diseases (IIDDs) of the central nervous system that vary from each other by lesion size and number, pathology and clinical outcome, a recent study in Najran –king khlied hospital Diagnosis for 5 years latter (2011-2017)is achieved using consensus clinical and magnetic resonance imaging (MRI) criteria that document white matter disease disseminated in time and space .The clinical manifestations, temporal course and pathology of MS are heterogeneous, in part because it results from complex interactions of multiple genetic and environmental factors. Researcher review recent advances in understanding the incidence rate of the disease in Najran base on the genetic and environmental epidemiology and the natural history of MS. The first incidence study in Najran provience at king kalied hospital ,Study achieved that multiple sclerosis is common in women rather than men have tendency for later disease onset with worse prognosis in the study researcher find that women who have MS in sample was 84.6% of the sample and men were 15.4% only of the sample so the findings agree with literature review The study reveal that MS below 19 years was 38.5% of the sample have disability form ,100% all the study cases have relapsing remitting (RRMS)multiple sclerosis type so the study findings agree with literatre review 85% of MS cases were (RRMS). The first clinical study of MS in an Arab country was in 1958 and largely reflects the practice of a neurologist in Baghdad, Iraq. In summary, the aetiology of MS is complex and probably involves interaction between certain genetic factors and an environmental trigger(s). It is reasonable to conclude that MS is less common in Arabs than western countries, while acknowledging that rural and remote cases, especially mild, have not been captured for Arab populations.
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Introduction:

Multiple sclerosis (MS) is one of the commonest conditions of the central nervous system (CNS) occurring in young adults, reported to affect over 1 million people worldwide.(1,2) Prevalence rates vary according to latitude (increased rates with increasing distance from the equator) and ancestry: prevalence rates of 1:600 are reported for those of Northern European ancestry with much lower rates reported in populations of African and East Asian ancestry. Most patients develop MS between 20 and 40 years of age and women have about a 3-fold increased risk compared with men.(1,2**)**

Multiple sclerosis (MS) is a chronic inflammatory brain and spinal cord disease and one of the commonest neurological diseases in young people. An interaction of environmental and genetic factors is proposed to explain geographic variation, and latitude is a well established factor: increased distance from the equator increases the prevalence of the disease. Also, ethnicity may affect the frequency of MS among people living in the same area (3).Migration from a high to a low risk area before the age of fifteen reduces theMS risk but the effect of migration in the opposite direction is not clear (3)

The Arab world covers two continents, Africa and Asia the Arab population is around 315 million with 12 million in Europe and North America. Non-Arab ethnic groups such as Berbers, Kurds and Black Africans co-inhabit the same geographic areas (4).Arabs living in different Arab countries share the same language and have similar cultural and to some extent ethnic backgrounds; the majority are Muslim. Over the last four decades living standards,

education and health services have improved in most Arab countries, especially the oil-rich ones. Increased health awareness would increase diagnosis rates for several disorders, including MS. The first clinical study of MS in an Arab country was in 1958 and largely reflects the practice of a neurologist in Baghdad, Iraq. Shaby and Al-Wetri established one of the earlier neurological services in the region in the late 1930s. Although the study was not epidemiological,
its 96 reported MS patients (mostly north/mid Iraq rather than south) formed 0.2% of neurological hospital admissions (5). To researcher knowledge, no previous systematic reviews of MS in Najran Province –saudi Arabia –king Khalid hospital - populations have been undertaken.

Epidemiology of multiple sclerosis

MS affects approximately 1 000 000 people between 17and 65 years old worldwide. In 2000, the projected prevalence rate of MS for the white US population was 191 per 100 000 and the incidence rate was 7.3 per 100 000 person years at risk(6). MS is twice as common in women then men. Men have a tendency for later disease onset with worse prognosis, supporting gender-dependent factors in etiology and phenotypic variability (7). In 1994, the annual cost of MS in the USA in terms of direct care and lost productivity was estimated at $6.8 billion and total lifetime cost per patient was $2.2 million (8). Despite the introduction of disease-modifying treatments with modest effects on overall disease outcome (9–11), current costs are certainly much higher.

MS clinical subtypes

Four different subtypes of MS are clinically distinguishable: relapsing remitting MS (RRMS), primary progressive MS (PPMS), secondary progressive MS (SPMS) and progressive relapsing MS (PRMS). RRMS represents 85% of MS cases; it is characterised by unpredictable relapsing episodes, alternating with periods of remission. Moreover, cranial focal areas of inflammation and demyelination can be resolved overtime, as the damage is reversible. PPMS comprises around 10 to 15% of MS cases, in which steady accumulation of neurological disability, mainly progressive myelopathy, appears from disease onset. Some patients develop superimposed relapses. These amount to nearly 5% of MS cases, and are said to display PRMS, which, similarly to PPMS patients, have progressive disability from the onset of symptoms, but with acute attacks or relapses. SPMS represents a stage subsequent to RRMS, wherein patients convert from RRMS to SPMS with time and show progressive neurological decline, either with or without relapses after the initial relapsing remitting pattern. Despite many prognostic indicators for progression that have been well studied, expectations for patients conversing into SPMS remain difficult without a definitive biomarker. A recent study done locally by Alroughani et al. has pointed to few disease progression predictors, of those:
patients' age at disease onset ≥ 40, male gender, spinal cord symptoms at disease onset, and ≥3 relapses (12). The neurological disabilities unknown reason, axonal degeneration occurs with irreversible damages (13,14,15). The clinical manifestations of MS subtypes may vary between patients, even between those that settle in the same MS clinical subtype. For example, some patients with RRMS may have mild symptoms and low Expanded Disability Status Scale (EDSS) score and have developed the disease over a period of more than 20 years, benign MS; others may progress in few years and even develop to SPMS, malignant MS. Reasons for such variation remain elusive and long-term clinical results of MS remain challengeable (16). Neurologists usually assess patient disability by Expanded Disability Status Scale (EDSS). The EDSS was first assigned in 1983 by John F. Kurtzke. The disability is measured in eight functional systems (FS): pyramidal, cerebellar, brainstem, sensory, bowel and bladder, visual, cerebral and others. Score values range from 1.0 to 10.0, with 10.0 equating to death due to MS. Neurologists usually refer EDSS scores of 1.0 to 4.5 to fully ambulatory patients, whereas scores of 5 to 9.5 are assigned to patients with impaired ambulation (17).

Pathogenesis:

The pathology of MS is characterised by the presence of large, multifocal, demyelinated plaques, with oligodendrocyte loss and axonal degeneration (18). During the early phases of the disease, the integrity of the blood-brain barrier is compromised, permitting the invasion of monocytes and T cells into the brain parenchyma, resulting in the demyelination characteristic of MS lesions(19). The aetiology of MS is still unproven. Although 15-20% of patients report a family history of MS (i.e. much higher than expected prevalence rates) it has been very difficult to identify specific genetic factors which are consistently associated with an increased risk of MS (20). The human leukocyte antigen (HLA) system is thought to play a role(21). an Irish study showed a strong association between MS and the presence of certain HLA haplotypes(22) However, genetic factors cannot fully explain the geographic variation in MS frequency and the remarkable differences in risk among people of common ancestry who migrate to areas of high or low MS prevalence.(23,24)
Environmental risk factors are divided into infectious and non-infectious factors. The most

important evidence to support infection as a possible cause is the high levels of IgG identified in the brain and cerebrospinal fluid (CSF) of >90% of MS patients.(25) Non-infectious factors have also been implicated in the development of MS, e.g. low vitamin D levels which would tie in with the association between latitude and MS risk.(26). However the lower risk of MS in black populations, who often have lower levels of vitamin D, indicate that this is not the only cause. Clinical studies have shown an association between cigarette smoking and a more severe disease course.(23,26). The mechanism is unknown but may be related to neurotoxic and immunomodulatory effects or the increased frequency of respiratory infections (which have also been linked to MS risk).(26) Vitamin D and smoking are important modifiable risk factors. Other environmental factors that have shown conflicting results include diets high in saturated fats or low in antioxidant foods and hepatitis B vaccination-induced MS.(26) In summary, the aetiology of MS is complex and probably involves interaction between certain genetic factors and an environmental trigger(s).(27)

Management of MS-Related Symptoms

Management of MS-related symptoms constitutes a major part of the overall care of a patient with MS, since they can seriously adversely impact on a person's QoL.(28) Symptoms are classified as "primary" i.e. those directly related to demyelination and "secondary" i.e. those that result from complications of / medication for primary MS symptoms or due to the presence of a chronic condition.(29) This interdependence between MS symptoms requires a balance in the management plan for the patient to ensure that treatment of one symptom does not lead to deterioration in another symptom.(28)

Table 1 outlines the most common MS-related symptoms and management options in clinical practice.(28-35)

Fatigue in MS may be defined as a "subjective lack of physical and/or mental energy that is perceived by the individual or caregiver
to interfere with the usual and desired activity".(29) **Fatigue is not linked to the level of disability and can result in significant reductions in QoL**.(28) Specialised
radiological testing has suggested a link between the level of fatigue and functional and structural changes of cerebral grey matter, especially in the frontal cortex and basal ganglia. It may have identifiable precipitating factors (see Table 1); a daily diary may help to identify potential triggers. Treatment involves education of the MS patient and caregiver in **fatigue management** (see Table 1), which has been shown to improve QoL.(28,37) Fitness is an important part of fatigue management: a study of RRMS patients noted an inverse relationship between fatigue and exercise during an 18-month follow-up period.(31) **Several useful booklets on fatigue and fitness programmes are available from Multiple Sclerosis Ireland (www.ms- society.ie)**.(32)

Spasticity is caused by a velocity-dependent increase in tonic stretch reflexes, due to the upper motor neurone syndrome, seen with nerve damage in MS.(28) It can result in painful spasms, may impact on mobility and interfere with sleep. **Treatment involves pharmacological and non-pharmacological interventions, appropriate to the individual clinical presentation** (see Table 1). Pharmacotherapy options include
(1) **baclofen** (a gamma-amino butyric acid B agonist) which acts particularly at spinal level to relieve spasticity and (2) **tizanidine** (an alpha-2-adrenergic agonist) which is a centrally-acting muscle relaxant.(30,31) Each drug must be titrated according to the individual response; due to their different modes of action they may be combined in some patients to increase effect and reduce toxicity.(34 **)Botulinum toxin** may be used to produce neuromuscular block in specific muscles (effective for 3-4 months).(36) These medicines may exacerbate other MS-related symptoms and care must be taken to ensure that a reduction in spasticity doesn't worsen mobility. **Cannabinoids** are known to produce effects on neurotransmission.52 A medicinal oromucosal spray formulation is currently licensed as second-line therapy for moderate to severe MS-related spasticity in several EU countries.(34, 37)

The sale of cannabis substances in Ireland is currently prohibited under the Misuse of Drugs Act 1977.(37) this Act is under review at present

Bladder dysfunction is more likely to occur as MS advances although it can be present from initial diagnosis in up to 10% of patients. (29 ,28) Poor bladder control is seen as one of the most constraining aspects of MS. Treatment depends on the predominant features i.e. overactive bladder or incomplete emptying (see Table 1) and involves MDT input from urology / continence specialists. (see Table 1 for further MS-related symptoms)

Table 1 : Most commonly occurring MS-related symptoms and their management 2,13,20,

Symptom (prevalence)*	Management options** #
Fatigue (90%)	Keep a diary (good and bad days) to identify pattern if present; take frequent rests ; prioritise activities ; plan ahead ; adopt a healthy lifestyle (including individualised fitness programme and diet) ; organise living / work spaces ; manage heat-sensitive fatigue if present. Ensure precipitating factors are actively managed (e.g. poor sleep, depression, medication, active infection).
Spasticity (80%)	Non-pharmacological MDT programme: adapting daily activities to cope with spasms; managing triggers; passive and active stretching exercises to ensure good posture and optimise mobility; use of special splints / braces. Pharmacotherapy: baclofen, tizanidine (each dosage titrated according to response and other medicines). Concomitant use with other drugs, especially CNS-active medicines must be monitored carefully; tizanidine is metabolized by CYP 1A2 therefore there is a risk of DDI; baclofen is excreted unchanged through the kidney, therefore use with caution if renal dysfunction present. Neuromuscular block with botulinum toxin for spasms in specific muscles. Cannabinoids are used in certain countries (see text).
Mobility	May be due to weakness or tightness of muscles. Treatment includes physiotherapy, walking aids / splints, control of precipitating factors (e.g. spasticity, pain, medication that interferes with mobility). Fampridine is licensed in EU to improve walking in patients with EDSS of 4-7 (25-30% improvement in trials); not reimbursed in Ireland.
Bladder dysfunction (75%)	If urgency / frequency: rule out UTI ; keep voiding diary → fluid intake control, pelvic floor exercises may help. Check PVR: if <100mls treat with anti-muscarinic agents (e.g. oxybutynin, trospium, tolterodine, solifenacin); If PVR >100mls patient may need to be educated in CISC ; desmopressin may be used for nocturia; neuromuscular block with botulinum toxin may be indicated in specific patients.
Visual problems	Acute optic neuritis or diplopia → short course of high dose CS; chronic diplopia → special glasses / lenses.
Pain (30-90%)	Identify cause: treatment is tailored to the identified cause of pain (if known) and patient's general condition. If musculoskeletal pain, treat with analgesia (paracetamol , short-term NSAIDs, opiates) ; physiotherapy. If neuropathic pain, treat with gabapentin, pregabalin, carbamazepine. Nerve block / acupuncture / TENS / CBT / relaxation therapy may also be useful for certain patients.
Bowel problems (>50%)	More common with MS affecting lower limbs; look also for precipitating factors (e.g. medications, other MS symptoms). For constipation-predominant: ↑fluids and ↑fibre; establish a regular routine; laxatives as appropriate. For diarrhoea/faecal incontinence: rule out overflow incontinence due to excess laxatives ; pre-emptive bowel evacuation techniques may be useful in some patients.
Depression (28%+)	May be primary (i.e. due to demyelination) or secondary (depression of chronic disease or due to concomitant symptoms – e.g. pain, insomnia or medication). Treatment depends on the cause in each case: precipitating factors should be alleviated; management includes psychotherapy, family support +/- antidepressant therapy.
Cognitive problems	Deficits found on formal testing in up to 50% of MS patients. Management depends on domains affected and includes (1) cognitive "retraining" exercises (may be helpful to address dysfunction such as memory loss) and (2) compensatory mechanisms (e.g. use of reminder prompts) to help maintain normal functioning in ADL.
Psychosexual problems	May be primary (i.e. due to demyelination) or secondary (e.g. due to concomitant symptoms such as fatigue, spasticity, mobility problems) or tertiary (due to depression, changes within existing relationship because of MS). Management includes avoidance / control of precipitating factor(s) if possible, PDEs such as sildenafil, vardenafil, tadalafil (in male patients), counselling and support for MS patient and partner as appropriate.

Where shown, estimated from observational studies - options involve input of the multidisciplinary care team (MDT) Full details of each medicine listed are available in the individual Summary of Product Characteristics DDI=drug-drug interaction; UTI=urinary tract infection; PVR=post-void residual volume; CISC=clean intermittent self-catheterization; CS=Corticosteroids; TENS=transcutaneous electrical nerve stimulation; CBT=cognitive behavioral therapy; ADL=activities of daily living; PDEs=phosphodiesterase inhibitors

Material and method:

This study is retrospective analytic case series study in king khaled hospital in Najran province (K.S.A).from January 2011- March 2017

Area of study:

The study carried out in king khaled hospital in Najran province (K.S.A).

Study Population and sampling:
This study w performed on multiple sclerosis patient, their age between (15- 54)years in king khaled hospital in Najran province (K.S.A) whose undergo to MRI scan. Data collected through medical record, based on patient's ID and data collection sheet

Definition of prevalence:
Individuals were considered prevalent if they had clinically definite or probable MS as defined by the Poser diagnostic criteria(37) and were resident within the county borders

Results:
Thirteen patients report were identified a case series study in king khaled hospital in Najran province (K.S.A) from January 2011- March 2017 for thirteen patient that were collected through medical record study found that all thirteen patients were diadnosed Definit MS all cases (Table 1)show gender distribution ther are 2male (15.3%) and 11 female (84.6%),(Table 2)shows the age distribution study showed that MS is decresed bleow 19 years (7.7%)and agree with theory of the disease (Table 3)shows the family history 12 patients (92.3%) there was no family history (Table 4) 8 patients (61.3%) there was no disability and 5 patients had diability (38.5%) Table 5 found that 10 of the patiens (76.9 %) had pain and 3 patients (23.1%) had no pain ,Table 6 achieved that 7 patients of the study (53.8%) complain of fatique and 6 patients (46.2%) there was no fatique ,Table 7 found that 12 patients (92.3%) did not complain of sleep and one patients (7.7%) complained of it ,Table 8-9 revealed that 6 patients (46.2%)complain of double vision and 5 patients (38.5%)complained of blurry vision Table 10one patient (7.7%) complain of swalling problem and 12 patients (92.3%) they did not ,Table 11 confirmed that 7 patients (53.8%) complain of dizziness and 6 patients of the study (46.2%) did not complain,Table 12 found that 4 patients (30.8%) complained of numbness and 9 patients(69.2%) didnot,Table 13 achieved that 9 patients (69.2%) complain of weakness and 4 patients (30.8%) did not ,Table 14 ther was 3 patients (23.1%) complained of falling , Table 15 found that 12 patients (92.3%)they did not complain of spasm and one patient (7.7%) complain of it,Table
16 revealed that one patient from the study sample (7.7%) complain of sexual problem, Table 17 achieved that 3 patients frm the study sample (23.1%) complain of depression while 10 patients (76.9%) did not,Table 18 confirmed that 12 patients (92.3%) they did not complain of anxiety and one patient (7.7%) complain of it,Table 19 found that 5 patients (38.5%) complained of headache and 8 patients (61.5%) did not , Table 20 confirmed that 2 patients (15.4%) complained of hypertension bout 11 patient (84.6%) did not have it. MRI of the brain and the spinal cord was carried out in all patients. T1, T2 and FLAIR sequences were performed. The cerebrospinal fluid (CSF) was examined to rule out infection in every patient and to look for oligoclonal bands to support the diagnosis in certain subjects. Visual evoked potentials were performed in some patients to support diagnosis or to assess visual function. Further investigations including blood counts, blood chemistry, ESR, antinuclear antibodies, C- and P-neutrophil cytoplasmic antigens antibodies, rheumatoid factor and syphilis serology were made to rule out conditions that may mimic MS
All research sample doesnot did csf analysis because it was not available .
Discussion:
The repoted prevelance in in king khaled hospital in Najran province (K.S.A) from January 2011- March 2017 for thirteen patient that were collected through medical record study found that all thirteen patients were diagnosed Definit MS. The reported prevalence of MS among Arabs varies over 10-fold, from 3.4 to 42 per 100,000. Factors contributing to this. Differences in education levels, and standards and accessibility of medical care in different Arab communities are additional issues. The vast geographical spread of the Arab population, over Africa and Asia, raises the possibility of unknown environmental and genetic factors. It is reasonable to conclude that MS is less common in Arabs than western countries, while acknowledging that rural and remote cases, especially mild, have not been captured for Arab populations.

Table (1) patient sex

Patient sex

Patient sex		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	2	15.4	15.4	15.4
	Female	11	84.6	84.6	100.0
	Total	13	100.0	100.0	

Table (2)patient age

Patient age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15-19	1	7.7	7.7	7.7
	20-24	3	23.1	23.1	30.8
	25-29	4	30.8	30.8	61.5
	35-39	2	15.4	15.4	76.9
	40-44	2	15.4	15.4	92.3
	50-54	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

Table (3) Family history

Family history

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No family history	12	92.3	92.3	92.3
	Yes family history	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

Table (4) progress and disability

Progress and disability

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No disability	8	61.5	61.5	61.5
	Disability	5	38.5	38.5	100.0
	Total	13	100.0	100.0	

Table (5) pain

Pain

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Pain	10	76.9	76.9	76.9
	No pain	3	23.1	23.1	100.0
	Total	13	100.0	100.0	

Table (6)Fatique

Fatique

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fatique	7	53.8	53.8	53.8
	No fatique	6	46.2	46.2	100.0
	Total	13	100.0	100.0	

Table (7) Sleep

Sleep

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sleep	1	7.7	7.7	7.7
	No sleep	12	92.3	92.3	100.0
	Total	13	100.0	100.0	

Table(8) Double vision

Double vision

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Double vision	6	46.2	46.2	46.2
	No double vision	7	53.8	53.8	100.0
	Total	13	100.0	100.0	

Table (9)Blurry vision

Bulrry vision

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Blurry vision	5	38.5	38.5	38.5
	No blurry vision	8	61.5	61.5	100.0
	Total	13	100.0	100.0	

Table(10) Swalling problem

Swalling problem

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Swalling	12	92.3	92.3	92.3
	Swalling problem	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

Table (11) Dizziness

Dizziness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dizziness	7	53.8	53.8	53.8
	No dizziness	6	46.2	46.2	100.0
	Total	13	100.0	100.0	

Table (12)Numbness

Numbness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Numbness	4	30.8	30.8	30.8
	No Numbness	9	69.2	69.2	100.0
	Total	13	100.0	100.0	

Table (13)Weakness

Weakness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Weakness	9	69.2	69.2	69.2
	No weakness	4	30.8	30.8	100.0
	Total	13	100.0	100.0	

Table (14)Falling

Falling

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Falling	3	23.1	23.1	23.1
	No Falling	10	76.9	76.9	100.0
	Total	13	100.0	100.0	

Table (15)Spasm

Spasm

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Spasm	1	7.7	7.7	7.7
	no spasm	12	92.3	92.3	100.0
	Total	13	100.0	100.0	

Table (16)Sexual problem

Sexual problem

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sexual	12	92.3	92.3	92.3
	Sexual problem	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

Table (17)Depression

Depression

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Depression	3	23.1	23.1	23.1
	No depression	10	76.9	76.9	100.0
	Total	13	100.0	100.0	

Table (18)Anxiety

Anxiety

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Anxiety	1	7.7	7.7	7.7
	No anxiety	12	92.3	92.3	100.0
	Total	13	100.0	100.0	

Table(19)Headache

Headache

		Percent	Valid Percent	Cumulative Percent
Valid	Headache	38.5	38.5	38.5
	No headache	61.5	61.5	100.0
	Total	100.0	100.0	

Table (20)Hypertension

Hypertension

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Hypertension	2	15.4	15.4	15.4
	No hypertension	11	84.6	84.6	100.0
	Total	13	100.0	100.0	

Conclusion:

In conclusion, in MS in Najran provience-king khalied hospital during (January 2011- to march 2017) the onset age, gender distribution, clinical presentation and response to corticosteroids are essentially not different from those reported from elsewhere. The disease appears to be more common in Arab than in African races. Larger epidemiological cross sectional and long-term longitudinal studies are needed to determine the prevalence pattern of MS in different ethnic groups and the presence of any changing trend in incidence.

The first incidence study in Najran provience at king kalied hospital ,Study achieved that multiple sclerosis is common in women rather than men have tendency for later disease onset with worse prognosis in the study researcher find that women who have MS in sample was 84.6% of the sample and men were 15.4% only of the sample so the findings agree with literature review The study reveal that MS below 19 years was 38.5% of the sample have disability form ,100% all the study cases have relapsing remitting (RRMS)multiple sclerosis type so the study findings agree with literatre review 85% of MS cases were (RRMS). The first clinical study of MS in an Arab country was in 1958 and largely reflects the practice of a neurologist in Baghdad, Iraq. In summary, the aetiology of MS is complex and probably involves interaction between certain genetic factors and an environmental trigger(s). It is reasonable to conclude that MS is less common in Arabs than western countries, while acknowledging that rural and remote cases, especially mild, have not been captured for Arab populations.

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