OVERVIEW, STANDARD TERMS, AND DEFINITIONS IN PHARMACOVIGILANCE

Abstract

AS per the definition from World Health Organization (WHO), Pharmacovigilance is defined as "the science and activities related to the detection, assessment, understanding, and prevention of adverse effects or any other drug-related problems."Pharmacovigilance (PV) is a science or a process that is set up for safety monitoring of the medicines and drugs and then taking measures to maintain a positive benefit-to-risk ratio of the medicines. The knowledge of Adverse Drug Reactions can be expanded by several means such as Spontaneous reporting, database studies, and intensive monitoring. Several new processes are in development both at the scientific and regulatory level and are being developed keeping the strengthening of the PV system as the primary aim. On the scientific level, it includes increasing involvement of patients and transparency while on the regulatory level it includes risk management plans and conditional approval.

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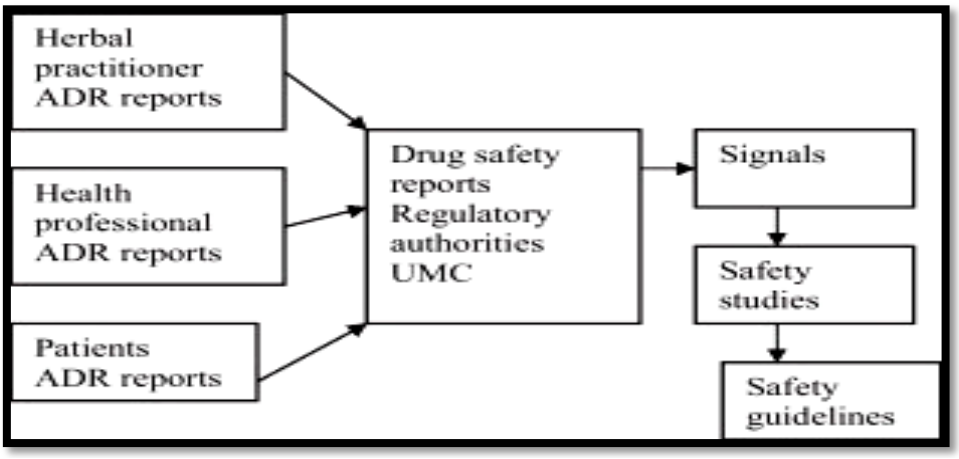
I. INTRODUCTION

The objective(s) of the chapter are as follows:

1. Present the case for pharmacovigilance importance
2. Recording the potential and the growth as a discipline in medical science
3. Impact on public health and overall welfare

Drug Safety is becoming a prime focus for several pharmaceutical companies and has been garnering a great deal of attention lately. It's almost every week that a new citation and journal publish articles on drugs and Adverse Drug reactions (ADRs). Although these articles led to a lot of apprehension in both the health professionals and the patients. A consequence that could be serious is probably when the patient restricts taking the medication that is prescribed which can lead to a more serious situation than the ADR which was previously diagnosed. Recent developments in the field of drug safety and pharmacovigilance have to be discussed.



II. STANDARD TERMINOLOGIES IN PHARMACOVIGILANCE

1. **Drug:** A drug is a substance that is the composition of a mixture of several substances and can be used for prevention, diagnosis, treatment, and relieving of symptoms. A drug can also be used for restoration, correction, and modification of animal and human being organ functioning.

2. **Adverse Event (AE):** It is a noxious or unprecedented event in a patient or a subject under a clinical investigation that occurs when the administration of a pharmaceutical product occurred but does not necessarily have to have a causal relationship with the intervention or the treatment.

   An AE could be a sign that may not be intended (abnormal laboratory finding), a symptom, or a disease that is associated temporally with to use of a medicinal product.

3. **Adverse Drug Reaction (ADR):** It is a noxious or unprecedented event in a patient or a subject under a clinical investigation that occurs when the administration of a

pharmaceutical product occurred and has established a causal relationship with the intervention or the treatment.

All the responses that are unintended or noxious are considered ADRs.

A well-versed definition of an Adverse Drug Reaction is cited in WHO Technical Report 498 and states:

A drug response that is noxious and unintended and which occurs at doses normally used in the patient for prophylaxis, diagnosis, or therapy of disease or modification of physiological function.

- **Unexpected/Unlisted adverse drug reaction:** It is a type of adverse drug reaction that pertains to not being consistent and has whose severity nature is not matched with the information given on the product such as Investigator's Brochure and Summary of Product Characteristics (SmPC) for the products that are marketed).

- **Listed / Expected adverse drug reaction:** It is an Adverse Drug reaction whose specificity, nature, and outcome are per the information in the Company Core Safety Information (CCSI).

4. **Challenge:** Challenge means the administration of suspected products, drugs, medicine, intervention, and treatment by any route.

5. **Dechallenge:** It is the process of withdrawing the suspected product, drug, medicine, intervention, or treatment from a patient's regimen of therapy.

    - **Negative dechallenge:** The continued presence of an adverse experience after withdrawal of the suspect product.

    - **Positive dechallenge:** The disappearance of an adverse event partially or completely when the suspected drug, product, medicine, intervention, or treatment is withdrawn.

6. **Rechallenge:** It is basically to reintroduce the suspected drug, medication, treatment, or product which was suspected to have caused the adverse event before a positive dechallenge.

    - **Negative rechallenge:** It is the failed attempt of the product, drug, medicine, or treatment upon reintroduction in an attempt to produce any event such as symptoms or signs that were in similarity to those observed when the suspected product was introduced previously.

    - **Positive rechallenge:** When the signs and symptoms reoccur those were similar to the previous adverse event when the suspected product, medication, drug, or treatment is reintroduced.

III. SERIOUS ADVERSE EVENT

A serious adverse event is any noxious or unprecedented event that at any dose falls under the criteria below:

1. death
2. Life-threatening
3. Hospitalization or prolonged hospitalization
4. Disability
5. Birth effect/ Congenital anomaly
6. Medically Significant/ Important Medical event

IV. CASE REPORT ASSESSMENT/VALIDITY

The minimum requirements that need to be p[resent in case reports for it to be reportable:

1. Patient Details
2. Reporter Details
3. Adverse Event
4. Suspected Medication/Drug(s)

V. IDENTIFIABLE PATIENT AND IDENTIFIABLE SOURCE

One of the most crucial parts of the patient and reporter is identifiability and for this, it is important to avoid case duplication, detection of fraud cases, and proper facilitation of follow-ups for proper information gathering of appropriate cases.

The identifiability of a patient can be by:

1. Name or Initials
2. Date of Birth or Age
3. Gender
4. The identification number of Patient

The information source can be categorized as follows:

- Primary source
- Secondary source

The source or person from which the information of adverse event arises primarily is called the Primary source.

The source which transmits the information is called Secondary sources such as industry to the regulatory authority.

The sources that are considered identifiable reporting sources are:

- Health care professionals
- Consumers
- Care Takers
- Lawyers
- Literature Reports
- Clinical study reports, etc...

VI. EXPECTEDNESS DETERMINATION

One of the most integral parts of the case processing is the determination of adverse event expectedness that were reported in the relevant Reference safety information documents that were relevant to the product that had medicinal use.

The symptoms, signs, and diagnoses that are mentioned in the case and are present in the list even a synonym of the adverse event in the RSI document will be categorized as ‘‘Expected’’ whereas if the symptoms, signs, or diagnosis is not present in RSI and reported as the case with different severity criteria (severe, moderate, mild) in the adverse event list of RSI will be categorized as ‘‘Unexpected’’.

Reference Safety Information may be present as follows:

1. CCSI (Company’s core safety information)
2. IB (Information Brochure)
3. The local data sheet such as Package Insert in the US, and Summary of Product Characteristics (SPC) in the EU.

- ADRs referred to in IB/CCSI are termed as Listed/Unlisted.
- ADRs referred to in PI/SmPC are termed as Labeled/Unlabeled

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