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Original Research Paper

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TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING ON KNOWLEDGE REGARDING NOONAN SYNDROME AMONG GENERAL POPULATION.

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ABSTRACT

Noonan syndrome is a pleimorphic autosomal dominant disorder with cardinal features such as short strature, distinctive facial dysmorphia, webbed neck, and heart defects.

Objectives: To assess the existing knowledge regarding Noonan syndrome among general population. To assess the effectiveness of planned teaching on knowledge regarding Noonan syndrome among general population. To associate the knowledge scores with selected demographic variables.

Method and Material: The study design was one group pretest and posttest and quantitative evaluatory approach. Population was selected in Wardha. Sample size 200 people.

Result: The findings shows significant difference between pretest and post test knowledge scores interpreting effective planned teaching on knowledge regarding Noonan syndrome among general population. Mean value of pre test is 6.84 and post test is 14.75 and standard deviation of pre test is 2.459 and post test is 0.976. The calculated t-value is 42.199 and p-value is 0.000.

KEYWORDS : Knowledge, Effectiveness, Plan Teaching

1. INTRODUCTION

Genetics is the study of how living things receive common traits from previous generation. These traits are described by the genetic information carried by a molecule called DNA. The instructions for constructing and operating an organism are contained in the organism's DNA. Every living thing on earth has DNA in its cells. A gene is hereditary unit consisting of DNA that occupies a spot on chromosomes and determines a characteristics in an organism. Genes are passed from parent to child and are believed by many to be an important part of what decides looks and behavior.[1]

A genetic disorder is a genetic problem caused by one or more abnormalities in the genome, especially a condition that is present from birth (congenital). Most genetic disorders are quite rare and affect one person in every several thousands or millions.[2]

Noonan syndrome is (NS) fairly common (1 per 1,000-2,500 live births) autosomal dominantly inherited disorder and the most common syndromal cause of congenital heart disease after Down's syndrome. The clinical features vary with age, but typical signs of NS include characteristics facial features with hypertelorism, down-slanting palpebral fissures, low-set posteriorly rotated ears, chest and spinal deformities, short stature, specific heart defects, learning disabilities and mild mental retardation .This article gives a brief introduction to NS and its basic clinical features using the established and generally accepted NS scoring system based on family history and facial, cardiac, growth, chest wall and other criteria.[3]

2. Problem statement

To assess the effectiveness of planned teaching on knowledge regarding Noonan syndrome among general population.

3. Objectives

1. To assess the existing knowledge regarding Noonan Syndrome among general population.
2. To assess the effectiveness of planned teaching on knowledge regarding Noonan syndrome among general population.
3. To associate the knowledge scores with selected demographic variables

4. METHODOLOGY

Research approach- quantitative evaluatory approach

Research design- One group pretest-posttest design
Setting of study- Selected area of wardha
Sample- general population
Sample size- 200

Sampling techniques- Non probability convenience sampling
Tool- structured knowledge questionnaire including demographic variables will be used for the study.

Independent variable- planned teaching regarding Noonan syndrome.

Dependent variable- knowledge of people regarding Noonan syndrome.

SAMPLING CRITERIA

INCLUSION CRITERIA:

- People in selected area who are willing to participate in the study.
- People who are available at the time of data collection.
- People who can understand and write English, Marathi.

EXCLUSION CRITERIA:

- People who have already attended similar type of study

5. Result

- This section deals with the assessment of knowledge regarding Noonan syndrome. The level of knowledge is divided under following headings: poor, average, good, very good.

TABLE NO. 1 Assessment Of Pretest Knowledge Score Regarding Noonan Syndrome Among General Population

Level of knowledge score	Score	Percentage score	Pretest Knowledge score	
			Frequency	Percentage
Poor	0-5	0-20%	58	29%
Average	6-10	21-40%	134	67%
Good	11-15	41-60%	8	4%
Very good	16-20	61-80%	0	0%
Minimum score	2			
Maximum score	13			
Mean score	6.84 ± 2.459			
Mean Percentage	34.2 %			

The above table shows that none of them had poor level of knowledge score is 58(29%), average level of knowledge score 134(67%), good level of knowledge score is 8(4%) and very good level of knowledge score is 0(0%). The minimum score was 2 and the maximum score was 13, the mean score was 6.84± 3.453 with a mean percentage score of 34.2%

TABLE NO. 2 Assessment Of Posttest Knowledge Score Regarding Noonan Syndrome Among General Population

Level of knowledge score	Score	Percentage score	Posttest Knowledge score	
			Frequency	Percentage
Poor	0-5	0-20%	0	0%
Average	6-10	21-40%	0	0%
Good	11-15	41-60%	158	79%
Very good	16-20	61-80%	42	21%
Minimum score	12			
Maximum score	16			
Mean score	14.75 ± 0.976			
Mean Percentage	73.75 %			

The above table shows that of sample were none of them had poor level of knowledge score, none of them had average level of knowledge, 158(79%) of them had good level of knowledge score, 42(21%) have very good level of knowledge. The minimum score was 12 and the maximum score was 16, the mean score was 14.75±0.976 with a mean percentage score of 73.75%.

6. DISCUSSION

Findings of the study were based on the objectives of the study Mean value of pretest is 6.84 and posttest is 14.75 and standard deviation of pretest is 2.459 and posttest is 0.976. The calculated t-value is 42.199 and p-value is 0.000. The findings shows that there is a significant difference between pretest and post test knowledge scores. Thus it is concluded that planned teaching was effective in increasing the knowledge of the general population regarding Noonan syndrome.

The SH2 domain-containing protein-tyrosine phosphatase PTPN11 (Shp2) is required for normal development and is an essential component of signaling pathways initiated by growth factors, cytokines, and extracellular matrix. In many of these pathways, Shp2 acts upstream of Ras. About 50% of patients with Noonan syndrome have germ-line PTPN11 gain of function mutations. Associations between Noonan syndrome and an increased risk of some malignancies, notably leukemia and neuroblastoma, have been reported, and recent data indicate that somatic PTPN11 mutations occur in children with sporadic juvenile myelomonocytic leukemia, myelodysplasic syndrome, B-cell acute lymphoblastic leukemia, and acute myelogenous leukemia (AML). Juvenile myelomonocytic leukemia patients without PTPN11 mutations have either homozygotic NF-1 deletion or activating RAS mutations. Given the role of Shp2 in Ras activation and the frequent mutation of RAS in human tumors, these data raise the possibility that PTPN11 mutations play a broader role in cancer. We asked whether PTPN11 mutations occur in other malignancies in which activating RAS mutations occur at low but significant frequency. Sequencing of PTPN11 from 13 different human neoplasms including breast, lung, gastric, and neuroblastoma tumors and adult AML and acute lymphoblastic leukemia revealed 11 missense mutations. Five are known mutations predicted to result in an activated form of Shp2, whereas six are new mutations. Biochemical analysis confirmed that several of the new mutations result in increased Shp2 activity. Our data demonstrate that mutations in PTPN11 occur at low frequency in several human cancers, especially neuroblastoma and AML, and suggest that Shp2 may be a novel target for antineoplastic therapy.[4]

7. CONCLUSION

The researcher as a part of her post graduate programmed, conducted an intervention research on the topic to assess the effectiveness of planned teaching on knowledge regarding Noonan syndrome among general population. The researcher aimed to improve the level of knowledge of general population. He predetermined certain objectives, to precede the study. Those objectives were adequate to reach into the findings. A particular time period has been allocated for each step. Investigator had presented her hypothetical views about the study in its beginning. The study had done by separating the topic into 5 chapters. And finally the researcher reached into her findings. The result of this study shows that 158(79%) having good level of knowledge, 42 (21%) having very good level of knowledge. To find the effectiveness of planned teaching 't' test was applied and t value was calculated, post test score was significantly higher at 0.05 level than that of pretest score. Thus it was concluded that planned teaching on knowledge regarding the Noonan syndrome was found effective as a teaching strategy.

8. Recommendation

On the basis of findings of the study, it is recommended that the following studies can be conducted –

- Recommendations for further study Based on the findings of the study the following recommendations could be made-
- To assess the effectiveness of planned teaching on knowledge regarding the Noonan syndrome among general population.
- A similar study on a cohort study was conducted to find the trends in incidence and case fatality rates of Noonan syndrome.
- A study was conducted on incidence and prevalence of Noonan syndrome in India.
- A study was conducted on early intervention and prevention of Noonan syndrome. Although there has been a decline in the incidence of Noonan syndrome.
- Cross sectional study conducted to assess the knowledge of people regarding Noonan syndrome.

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