



Effectiveness of Planned Teaching on Knowledge Regarding Noonan Syndrome among Nursing Students

Pragati Alnewar^{1*}, Seema Singh¹ and Vaishali Tembhare¹

¹Department of Medical Surgical Nursing, Smt. Radhikabai Meghe Memorial College of Nursing, Datta Meghe Institute of Medical Sciences (Deemed to be University) Sawangi (M), Wardha, India.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Study Protocol

ABSTRACT

Background: Noonan syndrome is a genetic multisystem disorder characterized by distinctive facial features, developmental delay, learning difficulties, short stature, congenital heart disease, renal anomalies, lymphatic malformation and bleeding difficulties, mutations that cause Noonan syndrome alter genes encoding proteins with roles in the RAS-MAPK pathway, leading to pathway dysregulation. estimated prevalence of Noonan syndrome 1 in 1000-2500. Nursing student having insufficient knowledge regarding Noonan syndrome most responders perceive serious deficiencies in their preparation to care such patients As genetic advances increasingly impact nursing care, nurses are expected to have necessary knowledge to interpret genetic and genomic information and technology with translation into nursing care. The aim of the study is to aware a future nurse for Noonan syndrome, carrying the role of counsellor, care manager and teacher for patient and their families' nurses will have an opportunity to expand as well as to create new leadership role in health care. Therefore, the development of educational program for nursing knowledge is essential for future nurses.

Objectives:

1. To assess the existing knowledge level regarding Noonan Syndrome among Basic B.Sc. nursing students.

2. To evaluate the effectiveness of planned teaching on knowledge regarding Noonan syndrome among Basic B.Sc. nursing students.

3. To associate posttest knowledge score with selected demographic variable.

Materials and Methods: A one group pre-test and post-test design was adopted to assess the existing knowledge level regarding Noonan Syndrome among Basic B.Sc. nursing students. In this study, evaluatory research approach will be used. convenient sampling technique will be used to collect data. Pre-test will be conducted to assessed primarily for the existing knowledge level regarding Noonan Syndrome among Basic B.Sc. nursing students. And then planned teaching on Noonan syndrome will be given to selected sample by researcher as intervention. Post-test outcomes involve evaluation of effectiveness of planned teaching.

Expected Results: This study is planned to assess the effectiveness of planned teaching on knowledge regarding Noonan syndrome among nursing students. Conducting planned teaching will be effective for improving knowledge of the respondents.

Keywords: Effectiveness; planned teaching; knowledge; students; Noonan syndrome.

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 [1]. Noonan syndrome is a genetic disorder caused by one or more abnormalities in the genome, especially a condition that is present from birth (congenital). It is a common genetic disorder that causes multiple congenital abnormalities and a large number of potential health conditions [2]. Most genetic disorders are quite rare and affect one person in every several thousands or millions [3]. Noonan syndrome is (NS) fairly common (1 per 1,000-2,500 live births) autosomal dominantly inherited disorder and the most common syndrome cause of congenital heart disease after Down's syndrome [4]. Most affected individuals have characteristic facial features that evolve with age; a broad, webbed neck; increased bleeding tendency; and a high incidence of congenital heart disease, failure to thrive, short stature, feeding difficulties, sternal deformity, renal malformation, pubertal delay, cryptorchidism, developmental or behavioural problems, vision problems, hearing loss, and lymphedema. Most patients with Noonan syndrome are intellectually normal as adults, but some may require multidisciplinary evaluation and regular follow-up care [5].

1.1 Background of the Study

Advances in genetic science and technology have profound implication for health care and the growing importance and relevance of genetics for everyday nursing practice in increasingly recognized [6]. As genetic advances increasingly impact nursing care, nurses are expected to

have necessary knowledge to interpret genetic and genomic information and technology with translation into nursing care [7]. The aim of the study is to aware a future nurse for Noonan syndrome, carrying the role of counsellor, care manager and teacher for patient and their families' nurses will have an opportunity to expand as well as to create new leadership role in health care. Therefore, the development of educational program for nursing knowledge is essential for future nurses.

1.2 Need of the Study

Noonan syndrome is a common autosomal dominant multiple congenital anomaly syndrome that was initially described over 40 years ago [8]. Noonan syndrome was first described in 1883 and was named after American pediatric cardiologist Jacquelin Noonan, who described further cases in 1963 [9]. An estimated 1 in 1000 people are mildly affected by NS, while about 1 in 2,000 have a more severe form of the condition [10]. Nurses play a crucial role as a health educator and can spread knowledge to the entire community and should possess knowledge on Noonan syndrome. patient and their families are expecting information to be provided for proper decision making and need of guidance and counselling. The knowledge regarding Noonan syndrome is the very essential part of the future nurses as to help parents to make right decision at right time. It can help family planning especially in case of inherited disease, where several children in a family may be affected. Nursing student having insufficient knowledge regarding Noonan syndrome most responders perceive serious deficiencies in their preparation to care such patients.

2. METHODOLOGY

The study was based on evaluatory study approach with One group pre-test post-test design research design. A convenient sampling technique was used and 100 samples of B.Sc. Nursing students were selected selected College of Nursing,

2.1 Inclusion Criteria

1. The students who are willing to participate in the study.
2. The students who are available during data collection

2.2 Exclusion Criteria

1. The students who are sick

2.3 Randomization

All the al students will be assigned randomly by sequential numbered system.

2.4 Intervention

Data collection will be conducted in selected nursing college among BSc nursing students. The permission will be taken from the principal of nursing college and class coordinator and first researcher will introduce about the study to study participants. By using convenience sampling technique 100 samples will be selected. Pretest will be conducted by using structured

questionnaire made by researcher for assessing the existing knowledge regarding Noonan syndrome among BSc nursing students then 30 min will be given to solve the structured questionnaire. The planned teaching will be conducted made by researcher and after that posttest will be conducted by using same structured questionnaire.

2.5 Statistical Analysis

Statistical analysis done by descriptive and inferential statics.

3. EXPECTED OUTCOME / RESULTS

This study is planned to assess the effectiveness of planned teaching on knowledge regarding Noonan syndrome among nursing students. Conducting planned teaching will be effective for improving knowledge of the respondents.

4. DISCUSSION

The case report was conducted on 10 years old girl child with the diagnosis as Noonan syndrome, x-ray chest reveled that cardiomegaly, pulmonary stenosis with arterial septal defect, cytogenetic analysis identifies 46, xx eliminating a turner syndrome. The clinical manifestation observed as short neck, short stature associated with distinct facial dysmorphism and congenital heart defect and excessive hair growth and skeletal anomalies [11].

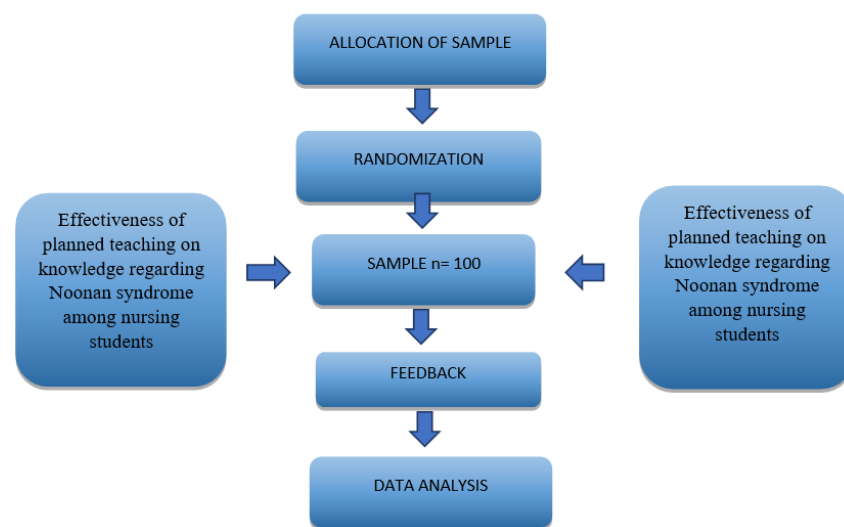


Fig. 1. Flow chart of sample analysis

A case report finding will be supported as it is essential to understand a good knowledge of clinical feature and use of facial analysis technology can help to identify Noonan syndrome earlier and help to manage as early as possible.

The review article conducted by Anne M Turner, Noonan syndrome is a common autosomal dominant condition, readily recognisable in childhood. It is characterised by a pattern of typical facial dysmorphism and malformations. Mildly affected adults may not be diagnosed until the birth of a more obviously affected child. Molecular confirmation of diagnosis is now possible for many families and has become increasingly important in guiding management. Increased awareness will lead to earlier diagnosis, and provide patients and their families with accurate genetic counselling, including options when planning pregnancy [12].

The above review article supported that, The knowledge regarding Noonan syndrome is the very essential part of the future nurses as to help parents to make right decision at right time. It can help family planning especially in case of Noonan syndrome, where several children in a family may be affected. Nurses can spread knowledge to the entire community and should possess knowledge on Noonan syndrome.

Nursing student having insufficient knowledge regarding Noonan syndrome most responders perceive serious deficiencies in their preparation to care such patients.

The study conducted to assess the effectiveness of planned teaching on knowledge regarding Noonan syndrome among general population. Noonan syndrome is a pleomorphic autosomal dominant disorder with cardinal features such as short stature, distinctive facial dysmorphism, 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 pre-test and post-test and quantitative evaluatory approach. Population was selected in Wardha. Sample size 200 people. The findings show significant difference between pre-test 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 2.45 and post-test is 0.976. the calculated value is 42.199 and p-value is 0.000[13].

As the literature related to assess the effectiveness of planned teaching on knowledge regarding Noonan syndrome among nursing students is not conducted but as it is essential So future nurses need intervention about Noonan syndrome therefore the present study aimed to aware a future nurse for Noonan syndrome, carrying the role of counsellor, care manager and teacher for patient and their families' nurses will have an opportunity to expand as well as to create new leadership role in health care. Therefore, the development of educational program for nursing knowledge is essential for future nurses.

5. CONCLUSION

Final conclusion will be drawn from the final result of the statistical review.

CONSENT

As per international standard or university standard, respondents' written consent will be collected and preserved by the author(s).

ETHICAL APPROVAL

Study was approved by the Institutional Ethics Committee (letter no –DMIMS (DU)/IEC/2021/304) and the study will be conducted in accordance with the ethical guidelines prescribed by institutional Ethics Committee on Human Research.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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