

A Systematic Review: Impact of Nurse Led Clinics on Scope, Feasibility and Cost Effectiveness

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Abstract:- The majority of NLCs are managed autonomously by nurses, with the assistance of a multidisciplinary team with advanced training and expertise. In these clinics, nurses perform thorough physiological assessments, arrange the patient's care accordingly, administer therapies, monitor the patient's condition, administer medication, educate patients about their health, and refer patients to other colleagues as needed. The purpose of this systematic study was to determine the extent, viability, and cost-effectiveness of nurse-led clinics. The review's goal is to give the best available data on nurse-led clinics so that it may assess if adopting NLCs with a standardized structure is necessary to deliver rigorous treatment and support future attempts to establish nurse-led clinical services. A literature search was conducted using electronic databases such as Medline, Pubmed, Pubmed Central, CINAHL, and Google Scholar to gather information on the impact of Nurse-Led Clinics with respect to scope, feasibility, and cost effectiveness. The search was conducted in accordance with the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines. Two standards were used to evaluate the 117 articles that were found in the search results. First, papers that have been published and are readily available for peer review should be considered substantial information. Second, studies that focused just on the effects of NLC in respect to scope, practicability, and affordability. Studies on the breadth, viability, and cost-effectiveness of NLC were included in the search, whereas research publications published in languages other than English were disregarded. Following screening and the removal of duplicates, 13 papers were found to be eligible, and 10 studies were included in this review. The analysis indicates that access to healthcare has improved dramatically in nurse-led clinics across many specialized areas. Because NLCs are easily accessible, primary care settings are not as burdened and fewer needless emergency visits occur. Strong patient-provider relationships are fostered by nurses' all-encompassing, patient-centered approaches, which raise patient satisfaction and engagement in the healthcare process. The focus of effective nurse-led clinics is on interprofessional treatment and teamwork. Cooperation amongst nurses, doctors, pharmacists, and other medical professionals promotes collaborative decision-making, coordinated treatment, and better patient outcomes. The collaborative model, in which nurses play a crucial role as care coordinators,

guarantees that patients receive thorough and seamless care.

Keywords:- Nurse Led Clinic, Scope, Feasibility, Cost Effectiveness, Impact.

I. INTRODUCTION & BACKGROUND

With their increased competency and expertise, today's nurses serve as the foundation of hospitals. Focusing on the use of nursing services and knowledge in the areas where they are enhanced with core competences required for patient care is necessary to address the scarcity of doctors in developing nations. A nurse-led clinic seems like a novel concept that can promptly and affordably meet patients' healthcare needs. However, more concepts like competency-based modules and critical thinking among nurses need to be added in order to expand the scope of the nursing program.

Human society is united by the caring and affectionate tie of nursing. A career in nursing offers a wealth of obstacles as well as an oasis of moving tales. The scope of nursing work has broadened and surpassed the confines of hospitals. Nurses work with human life, which is the most valuable resource in the world. The purpose of the survey was to find out how health care professionals felt about Nurse Led Clinics (NLCs) and how much awareness they had.

A study was conducted to determine awareness and attitudes regarding nurse-led clinics, 105 health care professionals (30 nurses, 30 physicians, 30 dentists, and 15 physiotherapists) at Pravara Rural Hospital Loni Bk participated in a descriptive survey. Simple random selection was employed to choose the participants, and data were gathered using a self-prepared, content-validated structured questionnaire for awareness and a rating scale for attitude. Wherever necessary, the inferential statistics (chi square test) and descriptive statistics (mean, SD) were used. Result: The nurse's overall knowledge score was 7.56 ± 2.06 , the doctor's was 8.76 ± 2.96 , the dentist's was 9.0 ± 2.92 , and the physiotherapist's was 7.52 ± 2.97 . These scores are $>50\%$, showing an average level of knowledge on NLC. Accordingly, the nurse's overall attitude score was 85.8 ± 5.0 , the doctor's was 76.3 ± 11.6 , the dentist's was 79.1 ± 10.7 , and the physiotherapist's was 72.8 ± 7.56 . These results show that over 73% of respondents had an average to good attitude on NLC. At the 0.05 level, it was observed that the demographic factors—age, gender, prior knowledge, and job

experience—had a significant correlation with the subjects' knowledge and attitudes about NLC. The study showed that medical professionals understood nurse-led clinics and had generally good sentiments toward them. The study variables had a substantial correlation with the demographic factors of the healthcare professionals. The study variables showed a weak association with one another.

Daniel Kelly, Pauline Campbell, Claire Torrens et al 2022 conducted a study on the inconsistent quality of the data supporting the efficacy of nurse-led therapies for cancer-related symptoms. The purpose of this study was to categorize, assess, and determine the kind and efficacy of nurse-led therapies for cancer patients' symptoms. A meta-analysis and a systematic review. We looked through ten large databases (from 2000 to 2018; no language constraints). A priori selection criteria were used by two reviewers; design, population, cancer type, and symptoms associated with cancer were among the data extracted. Using content analysis of component parts and TIDieR reporting standards, interventions and providers were characterized. Cochrane risk of bias was used to evaluate the quality of the methods. Using mean and standardised mean differences with 95% confidence intervals, a meta-analysis was carried out. GRADE was used for assessing overall certainty. 149 studies (n = 107286 people) from 22 countries were qualified out of 29193 records. Numerous elements were used in the interventions; the most common ones were psychological and educational. In pooled meta-analyses, nurse-led interventions were found to be beneficial for measures of fatigue (MD - 4.63, 95% CI - 7.97 to - 1.30; 1208 participants; 11 trials; I² = 34%; P = 0.007), nausea and vomiting (MD - 1.97, 95% CI - 3.61 to - 0.33; 957 participants; 8 trials; I² = 12%; P = 0.02), and constipation (MD - 4.54, 95% CI - 8.08 to - 0.99; 645 participants; 6 trials; I² = 0%; P = 0.01); and fatigue (MD - 1.97, 95% CI - 3.61 to - 0.33; 957 participants; 8 trials; I² = 12%; P = 0.01). Anxiety, depression, and mood disorders—a psychological morbidity—all improved. Nevertheless, the certainty of the evidence was low or very low, the therapies were poorly specified, and few trials employed consistent outcome measures. To summarize certain cancer-related symptoms, such as psychological morbidity, are improved by nurse-led therapies. In order to create a minimal core dataset, improved reporting and cooperation would improve the Caliber of the evidence.

As the average age of the population rises, so too will the impact of coronary heart disease (CHD) on society. The survival rate of CHD patients has grown due to advancements in therapy and prevention. Patients who have already been diagnosed with congestive heart failure (CHF) may encounter further coronary events, which could ultimately affect their mortality. A large number of patients know what has to be done to enhance their health and so lower their morbidity. It is acknowledged that nurses can help patients establish and sustain new healthcare practices, which is a significant improvement in their degree of self-care. Using nurse-led clinics is a potential in CHD management that is not fully appreciated. It has been said that a nurse-led clinic prioritizes life management over

diagnosis and intervention, as well as health over illness. These characteristics must be precisely outlined in the clinic's mission and organization. Although nurse-led clinics are not new, little research has been done on their advantages or how they help patients achieve better results. Nurse-led clinics that prioritize cardiac care and health features have demonstrated advantages to patients that are both clinically sound and felt by the patient. Nurse-led clinics are a useful addition to general practitioner clinics; nevertheless, in order for the nurses to properly manage each patient's preventative care in accordance with previously established clinic rules, they must receive the necessary training. Although the financial advantages have not been sufficiently examined, it is anticipated that increased cardiac health and potential reductions in hospital admissions will lessen the financial strain that an increasing number of CHD patients will place on the healthcare system. As the preferred type of care, nurse-led clinics would be supported by current community criteria.

Non-communicable diseases (NCDs) pose a serious danger to global public health due to their prevalence and anticipated rise. As health educators, nurses are in a good position to assist with initiatives aimed at prevention and health promotion. The goal is to comprehend the motivation, obstacles, and supportive elements that enable nurses to fulfill their crucial role in tackling the NCD pandemic.

A comparison of a pediatric gastroenterology clinic and a nurse-led clinic for intractable constipation revealed that parent satisfaction was significantly higher for those who attended the nurse-led clinic. This has also been demonstrated in rheumatology nurse-led clinics. Numerous nurse-led clinics have also been linked to improved patient satisfaction with care.

Because they can increase access to care and so meet the growing demand for healthcare services, especially in underprivileged areas, nurse-led clinics are crucial. Better health outcomes are promoted by the strong nurse-patient relationships that these clinics build through the provision of patient-centered and holistic care. The general health of the community is greatly enhanced by nurse-led clinics because of their emphasis on health promotion and prevention. Furthermore, their efficient handling of everyday chores, cooperative approach with other healthcare experts, and cost-effective healthcare delivery all help to improve patient satisfaction, decrease wait times, and streamline the healthcare system. Additionally, nurse-led clinics work as hubs for innovation and research, producing insightful analyses and evidence-based procedures that raise the standard and accessibility of healthcare even further.

➤ Objectives

The purpose of this systematic study was to determine the extent, viability, and cost-effectiveness of nurse-led clinics.

II. RESEARCH METHODOLOGY

➤ Searching Strategy:

By following the guidelines for recommended reporting items for systematic reviews and meta-analyses (PRISMA). A review of the literature on the effects of nurse-led clinics in terms of scope, viability, and cost-effectiveness was done using the electronic databases of Medline, Pubmed, Pubmed Central, CINAHL and Google Scholar. Finding studies through database searches was the first step; screening abstracts to choose works that satisfied the inclusion requirements was the second; and determining eligibility was the final step.

➤ Selection Benchmarks

Two criteria were used to evaluate the articles that were found in the search results. First, papers that have been published and are readily available for peer review should be considered substantial information. Second, studies that focus only on how NLC affects scope, feasibility, and cost effectiveness are conducted.

➤ Inclusion Criteria:

Included articles must:

- The impact of NLC on scope, feasibility, and cost effectiveness has only been studied.
- Publish empirical research articles that undergo peer review; literature reviews and editorials were included.
- Released from 2018 until 2023
- Released in English

➤ Expected Outcome:

In order to assess whether adopting nurse-led clinics with a standardized structure is necessary to provide rigorous treatment that can support additional efforts to set up nurse-led clinical services, the best available evidence about nurse-led clinics is to be presented.

➤ Data Extraction And Synthesis:

Two stages of data analysis were conducted: a general mapping that outlined the salient features and important discoveries of each study, and a thorough evaluation that examined the results of every study.

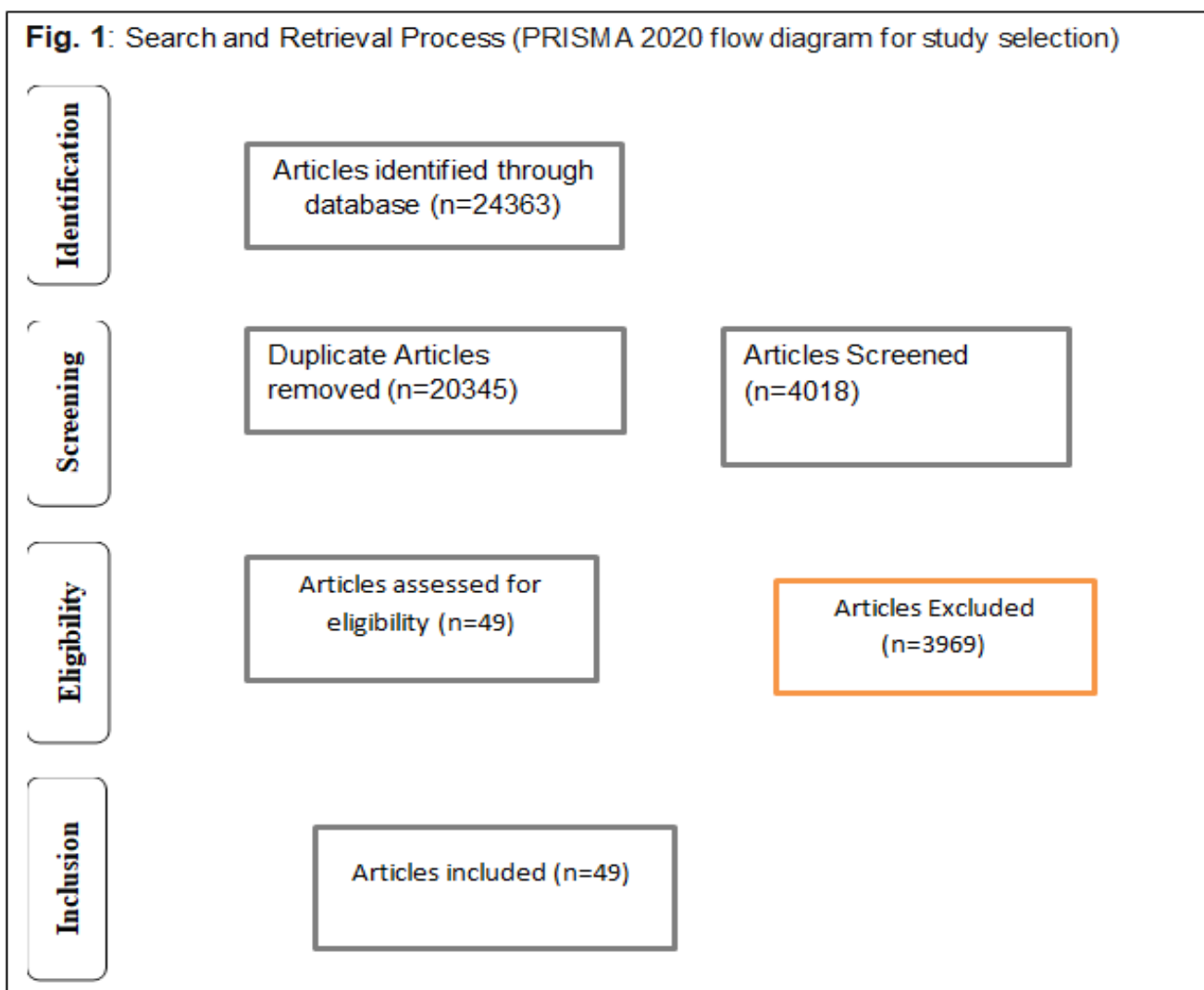


Fig.1: PRISMA Flow Chart for the Included Studies

Table 1 Study Characteristics:

S.no	Author	Year	Title of the study	Method, Tool, Setting	Participants & Study Design	Result	Conclusion/Remarks
1.	Pauline Campbell, Claire Torrens	2022	A study on evidence for effectiveness of nurse-led interventions for cancer-related symptoms is of variable quality	Cochrane risk of bias was used to evaluate the quality of the methods.	From 29193 records, 149 studies (n = 107286 participants) from 22 countries were eligible. A systematic review and meta-analysis	Numerous elements were used in the interventions; the most common ones were psychological and educational. In pooled meta-analyses, nurse-led interventions were found to be beneficial for measures of fatigue (MD – 4.63, 95% CI – 7.97 to – 1.30; 1208 participants; 11 trials; I 2 = 34%; P = 0.007), nausea and vomiting (MD – 1.97, 95% CI – 3.61 to – 0.33; 957 participants; 8 trials; I 2 = 12%; P = 0.02), and constipation (MD – 4.54, 95% CI – 8.08 to – 0.99; 645 participants; 6 trials; I 2 = 0%; P = 0.01); and fatigue (MD – 1.97, 95% CI – 3.61 to – 0.33; 957 participants; 8 trials; I 2 = 12%; P = 0.01). Anxiety, depression, and mood disorders—a psychological morbidity—all improved. Nevertheless, the certainty of the evidence was low or very low, the therapies were poorly specified, and few trials employed consistent outcome measures.	Positive effects on patient outcomes, patient satisfaction, access to care, and cost-effectiveness have been mostly demonstrated by nurse-led clinics.
9	Kavita Bhokna 11,T Sivabalan	2022	Knowledge and Perception of Nurse-Led Clinics (NLCs) Among Medical Professionals	simple random sampling technique, and self-prepared and content validated structured questionnaire (for awareness) and rating scale (for attitude)	05 health care professional (30 Nurses, 30 Physicians, 30 Dentist and 15 Physiotherapist Descriptive Study Design	The nurse's total knowledge score was 7.56±2.06, the doctor's was 8.76±2.96, the dentist's was 9.0±2.92, and the physiotherapist's was 7.52±2.97). These scores are >50%, showing an average level of knowledge on NLC. Accordingly, the nurse's overall attitude score was 85.8±5.0, the doctor's was 76.3±11.6, the dentist's was 79.1±10.7, and the physiotherapist's was (72.8±7.56), all of which are >73%, showing an average to good attitude on NLC. At the 0.05 level, it was observed that the demographic factors—age, gender, prior knowledge, and job experience—had a significant correlation with the subjects' knowledge and attitudes about	The level of nursing support provided in clinics may have an impact on their efficacy.

						NLC.	
J. Ramachandran, Sharon Lawan et al	2022	A Qualitative Analysis of Nurse-Led Clinics as an Innovative Approach to Treating Compensated Liver Cirrhosis	In depth Interview	The nurse-led cirrhosis clinic is supervised by three experienced specialist nurses, four hepatologists, one attending physician who works in both hospital and nurse clinics, and eight patients. a qualitative approach based on extensive interviews	Patients said the nurse-led cirrhosis clinic was satisfactory and that they understood it well.	Because of its greater accessibility and the special nurse-patient interaction, they preferred it to hospital clinics.	In India, it is possible for qualified nurses to manage follow-up clinics for epilepsy patients, and these patients should be satisfied using this method.
4	H. Holm Gyldenvang, M. Guldager Christensen, M. Jarden,	2022	Experiences and perspectives of patients and clinicians in nurse-led clinics in an oncological setting: A sequential multi-methods study	A survey of the participating physicians is conducted after a study-specific questionnaire is given to patients with breast or gynaecological cancer in a sequential multi-methods study. Ultimately, the viewpoints of clinical nurse specialists were investigated through two focus group	patients (n = 109), physicians (n = 12) and clinical nurse specialists (n = 10).	They stated that they could control their emotions (68.8%) and adverse effects (89.8%) by using self-management techniques. The clinical nurse experts explained their approach to trying to use a person-centered strategy during the discussions. Increased sentiments of professionalism were the outcome of the broadened area of nursing practice. Physicians felt at ease sending patients to nurse-led consultations because they valued the clinical nurse specialists' abilities and knowledge.	A culture of person-centered nursing practice can be established mostly through nurse-led discussions. It is advisable to devise a plan for executing nurse-led consultations and to make sure that all parties involved understand and have the same expectations. Nurse-led consultations have the potential to improve clinical nurse specialists' professional identities and job satisfaction while also providing higher-quality treatment.

				interviews.			
5	Claire Middleton, Stephanie Dunleavy	2022	Nurses leading male lower urinary tract symptom (LUTS) clinics: A scoping review	The Joanna Briggs Institute's methodological principles and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-SCR) checklist are adhered to in this scoping review.	Four publications satisfied the inclusion requirements for this scoping review after a thorough evaluation of the literature. The format, resources and assessment, and efficacy of the nurse-led male LUTS clinic emerged as the four papers' common themes.	Regarding the investigations and assessments the nurse should conduct, there was unambiguous consensus throughout the literature. Sufficient training and education in theory, observation, and practice are necessary to guarantee that the nurse is capable of managing a male LUTS clinic.	The evaluated articles demonstrated that the nurse supported the consultant in their duties. Nonetheless, there seems to be evidence that autonomous practice is becoming more prevalent. The existing body of research on the role of nurses in nurse-led male LUTS clinics and the factors that support and hinder them is lacking.
6	Jane Currie, Lucy McWilliams	2023	A cross-sectional study examined nurses' assessments of the abilities, information, and qualities needed to maximize their scope of practice and enhance the care they can provide to Australians who are homeless.	A 222-item electronic survey, which was part of a broader study, was sent through nursing societies, colleges, and social media.	The participants consisted of one enrolled nurse, twelve nurse practitioners, and fifty-four registered nurses. A nationwide cross-sectional survey of Australian nurses	There were 67 surveys included in the final analysis. Interpersonal qualities (n = 66.5, 99%), identifying presenting symptoms (n = 64, 95%), and interpreting diagnostic test results (n = 63, 93%) were the items evaluated as greatest priority and implemented in practice to optimize access to care. Organizationally, it is said that assistance from managers (n = 57, 85%), coworkers (n = 58, 87%), and explicit clinical recommendations (n = 46, 69%) is crucial. The majority of participants (93%, n = 62) expressed a willingness to pursue additional education in the field of caring for the homeless.	Interpersonal skills, diagnosis, and treatment should be prioritized when creating a nursing education framework to maximize nurses' scope of practice and enhance access to care for those experiencing homelessness, according to the findings.

S.no	Author	Year	Title of the study	Method, Tool, Setting	Participants	Result	Conclusion/Remarks
1	Bernice West, Lynn Adams, Leslie Samuel;2016	2016	Patient Evaluation of Nurse-Led Oncology Review Clinics	An organized Questionnaire Demographics, a series of judgmental remarks, patient concerns, and an overall assessment of service quality and identification of areas for improvement made up the final questionnaire's four components.	48 men and 29 women A qualitative study	A total of 103 surveys were obtained. For colon cancer (75% of patients; 48 men and 29 women), and prostate cancer (25% of patients), follow-up was necessary. Just 34% of patients thought the service was very good, and 60% of them thought it was exceptional; no one thought it was fair or subpar. There was disagreement over the benefits of visiting a clinic nearer to one's residence. Ninety percent of those surveyed had no worries whatsoever about using a nearby follow-up clinic instead of the Aberdeen Royal Infirmary's main clinic.	The results of this assessment of nurse-led cancer review clinics showed that patients were quite satisfied with the caliber of care they received. A framework for service creation that can be applied to different patient kinds and locations is provided by such an approach. Oncology follow-up led by non-specialist nurses can serve as a model for developing services both locally and throughout Scotland.
2	Poonam Joshi, Bindu Sarojini, Meena Joshi, and Anu Thukral	2020	Nurse-Led Neonatal Follow-Up Clinic: A New Emerging Concept in a Developing Country	successive examination The neonatologist and newborn nurse completed structured recording sheets, which were based on the Integrated Management of newborn and Childhood	105 steady mother-child pairs A prospective observational study involved a newborn nurse with over ten years of experience receiving ten hours of rigorous interactive orientation and case-scenario-based education from a nurse educator and a neonatologist.	There was a range of agreement between 87 and 100% between the neonatologist and the trained neonatal nurse. The areas with the greatest agreement were newborn evaluation and counselling on ENC (93.3%–100%) and therapy prescription (87%). The mothers' mean acceptability scores for NLNFC ranged from 25 to 35, with a maximum score of 35.	It is possible to establish NLNFCs in underdeveloped nations. Mothers will undoubtedly be pleased with this kind of clinic, and nurses can be trusted with the duty of monitoring stable newborns here.

				Illnesses recommendations, as study instruments.			
3	A C Rahn, S Köpke, I Backhaus	2017	Immunotherapy under the direction of nurses DECISION Coaching In Individuals with Multiple Sclerosis (DECIMS): Mixed methods process evaluation, pilot randomised controlled trial, and feasibility testing	Two German university centers for multiple sclerosis conducting a parallel pilot randomised controlled trial and feasibility testing	(n = 38) or control group (n = 35) Mixed Method	73 (63%) of the 116 multiple sclerosis patients who met the inclusion criteria were included. At baseline, the groups were comparable. For the primary endpoint, information on 51 individuals with multiple sclerosis (70%) was available. After six months, 15 out of 31 (48%) MS patients in the intervention group and 6 out of 20 (30%) MS patients in the control group were able to make an informed decision. The process assessment data showed that the coaching program was well-received and that it was well-accepted.	The intervention was deemed feasible and acceptable by individuals with multiple sclerosis, the majority of nurses, and doctors, according to the pilot phase's encouraging findings. The effectiveness of patient-physician consultations may improve if trained nurses are given some decision-making authority over immunotreatments. This could lead to increased informed choice and participation.
4	Usha P, Gopichandran L, Pathak P	2017	Research to Assess the Viability of a Nurse-Led Follow-Up Clinic for Patients Receiving Treatment for Myocardial Infarction in the Cardiology Outpatient Department at the CN Center, AIIMS, New Delhi	Practical sampling Using post-MI clinical protocols, the interventions involved the assessment, recording, and recommendations of post-MI patients in follow-up clinics led by nurses and cardiologists	Quasi-experimental evaluation design – only posttest with 79 participants	The inter-rater agreement as a whole falls between 87.34% and 99.8%. It was discovered that the kappa score was extremely significant (P = 0.0001). With a mean score of 34.47 ± 6.15 , 86% of patients reported being extremely satisfied and only 14% reporting moderate satisfaction.	With the right nursing training, a nurse-led clinic with post-MI patients was viable.

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5	Kashyap N, Kavita K, Saini S,	2022	In a nurse-led noncommunicable diseases clinic in Chandigarh's peri-urban community, task sharing is used to manage common noncommunicable diseases.	Situational analysis and stakeholders' interview	A quasi-experimental study with 455 samples	In a nurse-led NCD clinic, screening rates increased significantly from 0.29% to 3.7%. Among those examined, there was a significant mean change in body mass index, waist circumference, random blood sugar (33.36 ± 38.49 mg/dl), diastolic blood pressure (4.4 ± 3.71 mm Hg), and systolic blood pressure (18.75 ± 6.92 mm Hg) ($P < 0.01$). After two months of a nurse-led NCD clinic, medication adherence increased dramatically from 7.8% to 76.4% ($P < 0.01$).	In a nurse-led NCD clinic, task sharing for managing common NCDs was practical and successful in raising screening rates, medication adherence, and risk factor modification in the population under study.
6	Liril Jacob	2017	Nurse-led clinics for atrial fibrillation: managing risk factors	The three pillars of rate control, rhythm control, and anticoagulation have been the emphasis of AF management.		Due to a lack of medical resources, nurse-led clinics can improve patient education and long-term follow-up care, leading to better results and addressing the present shortcomings in AF risk-factor management.	This article discusses the major cardiovascular risk factors. Using data from the literature, this paper addresses the main cardiovascular risk factors linked to AF and examines the practicality and effects of establishing community-based nurse-led clinics for managing risk factors in AF patients.
STUDIES RELATED TO COST EFFECTIVENESS OF NURSE LED CLINICS							

1	Kotronoulas, G., Papadopoulou, C	2018	The viability and acceptability of a nurse-led consultation strategy for providing patients with lung cancer with improved supportive care using patient-reported outcome measures	In Part 1, stakeholder focus groups and literature reviews were utilized to help choose a population-appropriate assessment PRO measure. Part 2 details the three consecutive monthly consultations that lung cancer nurse specialists (CNS) had with patients. Data from exit interviews, PRO data, and recruitment/retention data were analyzed.	A two-part, repeated-measures, mixed-methods study on 33 samples	The PRO measure used in accordance with Part 1 data was the Sheffield Profile for Assessment and Referral to Care. Thirteen patients (65%) took part in all three consultations/assessments, while twenty patients (response rate: 26%) took part in Part 2. The PRO measure assisted patients in organizing their thoughts and encouraged them to talk about previously unreported and/or delicate subjects, such as death and dying or family matters. Lung CNS emphasized that PRO-measures-driven consultations were different from earlier ones in that they had a wider reach, enabling nurses to provide more individualized care. Over time, small-to-moderate decreases were observed in every area of need.	In order to properly identify and manage patients' requirements in the context of contemporary lung cancer care, nurse-led PRO-measures-driven consultations are both acceptable and conditionally possible. The regular collection and auditing of PRO data is necessary to enable the provision of supportive care to individuals suffering from lung cancer.
2	Michael Doherty, Wendy Jenkins	2018	A randomized controlled trial was conducted to compare the effectiveness and cost-effectiveness of nurse-led treatment for gout that involves patient participation, education, and a treat-to-target urate-lowering strategy vs standard therapy.	Adults who had flare-ups of gout within the last 12 months were randomized 1:1 to get conventional care directed by their GP or to receive nursing-led treatment. Patients were evaluated at baseline and again after one and two years.	A total of 517 patients were enrolled, 255 of whom received standard treatment and 262 nurse-led care.	High urate-lowering treatment uptake and adherence were linked to nurse-led care. At two years, blood urate concentrations were lower in patients receiving nurse-led care than in those receiving conventional care (95% vs 30%, RR 3.18, 95% CI 2.42-4.18, p<0.0001). After two years, the nurse-led group had the best secondary outcomes overall. At two years, the nurse-led intervention cost £5066 per QALY gained.	Comparing nurse-led gout care to standard care, it is more efficient and less expensive. Our results highlight the advantages of patient education and involvement in the management of gout and reinforce the significance of a treat-to-target urate-lowering treatment approach for

							better patient-centered outcomes.
3	Lena Saltbæk, Randi V. Karlse n	2018	MyHealth: specialist nurse-led follow-up in breast cancer. A randomized controlled trial – development and feasibility	All eligible patients in the Department of Clinical Oncology at Zealand University Hospital have been invited to participate, or will be, from January 2017 to January 2019.	In order to test the MyHealth intervention, 25 patients were enrolled in a row. This includes: (1) gathering PRO; (2) scheduling three to five initial GSD appointments with a nurse; and (3) managing symptoms and patient navigation.	Of the 32 patients who were invited, 25 agreed to take part. At the 18-month follow-up, 143 PRO surveys (mean 5.7/patient) had been completed, resulting in 59 nurse contacts (mean 2.4 per patient) and 14 project physician contacts (mean 0.6 per patient). Two patients had withdrawn.	High rates of recruitment and PRO response suggest that patients receiving treatment for early-stage breast cancer can benefit from follow-up supervised by specialized nurses, provided PRO is collected.
4	James P Raftery, Guiqing L Yao	2023	Cost effectiveness of nurse led secondary prevention clinics for coronary heart disease in primary care: follow up of a randomised controlled trial	19 general practices in north east Scotland	Cost-effectiveness analysis of 343 people, diagnosed with coronary heart disease but not terminal illness, under 80 years old (673 in the intervention group and 670 in the control group, as initially randomised). disease or dementia, but not confined to a home.	The intervention group's cost of clinics and medication was £136 (\$254; €195) more expensive per patient (1998–1999 values); nevertheless, the difference in other NHS costs, remained not statistically significant even though it was lower for the intervention group. The intervention group saw an overall decrease in mortality of 28, which resulted in an increase in mean life years per patient of 0.110 and 0.124 QALYs. £1097 was the incremental cost per QALY and £1236 was the incremental cost every life year saved.	When compared to the majority of healthcare interventions, nurse-led clinics for the secondary prevention of coronary heart disease in primary care appear to be more affordable. The core increases in years of life saved.

5	Molassiotis, A., Liu, X. L., & Kwok,	2021	Impact of advanced nursing practice through nurse-led clinics in the care of cancer patients: A scoping review	Randomised controlled trials Databases such as MEDLINE, CENTRAL, CINAHL, EMBASE and PsychINFO were searched based on MeSH terms.	Seventeen articles were included, published between 2001 and 2019.	Numerous of the assessed studies have methodological flaws. Five themes were found: (1) the justification for creating nurse-led clinics; (2) the manner in which nurse-led clinics are delivered; (3) the substance of nurse-led clinics; (4) the examination of patient outcomes; and (5) the degree to which nurse-led clinics are perceived as satisfactory.	The findings substantiate the efficacy of nurse-led clinics in enhancing self-reported responses from cancer patients, including distress levels, satisfaction, quality of life, depressive symptoms, worries, and vomiting. It is advised that a sound procedure be followed for the study as well as the reporting, and that future research concentrate more on the costs and efficacy of various care models provided by advanced practice nurses. More research with larger trials and a broader focus on nursing-sensitive clinical outcomes and costs is required to assess the efficacy of nurse-led clinics.
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6	Driscoll, A., Gao, L. & Watts, J.J.	2022	Clinical effectiveness and cost-effectiveness of ambulatory heart failure nurse-led services: an integrated review	EBSCO Host was used to search the following electronic databases for published papers up until June 22, 2021: CINAHL complete, Medline complete, Embase, Scopus, EconLit, Global Health, and Health source (Consumer and Nursing/Academic). The quality of the evidence and the reporting quality of the economic evaluation were assessed using the GRADE criteria and the CHEERS checklist.	453 studies	Eight studies—four conducted in heart failure clinics and four in telemonitoring programs—were included out of the 453 that were found. One cost comparison, two research involving economic modeling, and five cost-effectiveness evaluations. Five research gave the GRADE criterion a high rating, which looked at the financial viability of telemonitoring initiatives in four studies. Most economic evaluations were evaluated between 86 and 96% using the CHEERS checklist for reporting economic evaluation quality. With incremental cost effectiveness ratios ranging from \$18 259 (Canadian dollars)/life year gained to €40,321 per Quality Adjusted Life Years gained, all the studies concluded that the intervention was more affordable than standard care.	Telemonitoring programs and nurse-led heart failure clinics have been proven to be financially advantageous. This research has undoubtedly demonstrated the value for money that heart failure clinics and telemonitoring programs offer, with the greatest cost savings coming from a reduction in rehospitalizations.
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III. RESULTS

- Favorable effects on patient satisfaction, outcomes, and care access. There were reports of greater access. With inconsistent findings, cost-effectiveness was the least reported impact metric. Positive effects on patient outcomes, patient satisfaction, access to care, and cost-effectiveness have been mostly demonstrated by nurse-led clinics. A uniform framework must be used in future studies assessing NLCs in order to produce thorough assessments that can support more initiatives to establish community-based nurse-led clinical services.
- The findings demonstrated that the research population's health attitudes on many facets of type 2 diabetes varied. Patients with diabetes and associated complications are managed by the NLDC using a multidisciplinary approach, providing them with complete, all-inclusive one-stop treatment.

- An major study gap on the impact of early post-discharge nurse-led assistance following percutaneous coronary intervention on patient and health service outcomes has been found by this review. It is advised to do more thorough studies with adequately powered sample numbers and precisely defined interventions, comparison groups, and outcomes to ascertain the efficacy of nurse-led clinics during the early discharge phase.
- The clinical nurse specialists explained how, during the consultations, they attempted to adopt a person-centered approach. Increased sentiments of professionalism were the outcome of the broadened area of nursing practice. Physicians felt at ease sending patients to nurse-led consultations because they valued the clinical nurse specialists' abilities and knowledge. A culture of person-centered nursing practice can be established mostly through nurse-led discussions. It was advised to create a plan for carrying out nurse-led consultations and to make sure that everyone engaged understood and shared the same expectations. Nurse-led consultations have the

potential to improve clinical nurse specialists' professional identities and job satisfaction while also providing higher-quality treatment.

- A total of 517 patients were enrolled, 255 receiving nurse-led care and 262 receiving standard treatment. High urate-lowering treatment uptake and adherence were linked to nurse-led care. At two years, blood urate concentrations were lower in more patients getting nurse-led care than in those receiving conventional care (95% vs 30%, RR 3.18, 95% CI 2.42–4.18, $p < 0.0001$). After two years, the nurse-led group had the best secondary outcomes overall. At two years, the nurse-led intervention cost £5066 per QALY gained. Comparing nurse-led gout care to standard care, it is more efficient and less expensive. Our results highlight the advantages of patient education and involvement in gout management.

IV. DISCUSSION

➤ *Scope of Nurse Led Clinics*

For patients with Coronary Heart Disease (CHD), nurse-led clinics provide the opportunity for patient education, support, and continuity of treatment to address and reduce risk factors. This evaluation updated an earlier systematic review with the goal of presenting the best current data on nurse-led cardiac clinics for individuals with congestive heart failure. From September 2002 to March 2008, twenty databases containing published material and eleven databases or websites containing unpublished literature were searched. In addition, relevant journals were manually searched and the reference lists of the papers that were retrieved were examined. A systematic review management tool was used to assess the methodological quality, data extraction, and synthesis (JBI-SUMARI). This systematic review was based on seven RCTs, yet there was often insufficient data to perform a meta-analysis. Health promotion through patient education and counseling was the main nurse-led intervention used in the clinics. Patients with congestive heart failure showed no adverse consequences from being in a nurse-led clinic. Attending a nurse-led clinic did not significantly lower several risk variables, and in the long run, no progress was shown in reducing risk factors. It was clear that there were challenges in changing behavior when it came to diet adherence and quitting smoking. The general health status, particularly physical functioning, and the perceived quality of life may be positively impacted by nurse-led clinics.

According to the findings, there was no increased risk of worse outcomes in nurse-led clinics, and the quality of care was comparable to that of non-nurse led clinics. The level of nursing support may have an impact on how successful clinics are. The available research supports the combination of counseling and routine evaluations of risk factors and health status provided at nurse-led clinics. Since the results were generally similar at nurse-led and other clinics, more research should look into how cost-effective the various care models are. Ultimately, considering the details of the healthcare system, funding possibilities, and

appropriate qualifications and responsibilities is essential before establishing a nurse-led clinic. Further investigation into the effectiveness of specific therapies within nurse-led clinics is imperative. There should be a thorough analysis of cost-effectiveness conducted. **Verena Schadewaldt, Tim Schultz;2010**

The changing requirements of people, communities, and healthcare systems have shaped the role and reach of nursing practice. The goal of health care today is to keep patients out of hospitals and in their communities whenever feasible. Community-based nurse-led clinics are in a prime position to pursue this objective. The original goal of these services was to improve patient access to care by offering a simplified, high-quality, and reasonably priced service. The purpose of this systematic study was to determine the extent, viability, and cost-effectiveness of nurse-led clinics. Using the MeSH terms nurse-managed centers, practice, patterns, nurse, and ambulatory care, an analysis of community-based nurse-led clinic research was conducted in Medline, CINAHL, and Embase. Documents were evaluated utilizing the Joanna Briggs Appraisal Criteria.

There were 15 studies totaling 3965 people in the final review. The majority of research looked at patient satisfaction, and they were generally favorable toward nurse-led clinics. Most patient outcomes that were reported came from self-report, while few studies also included positive objective clinical indicators. There were reports of greater access. With inconsistent findings, cost-effectiveness was the least reported impact metric. Positive effects on patient outcomes, patient satisfaction, access to care, and cost-effectiveness have been mostly demonstrated by nurse-led clinics.

➤ *Limitation*

Subsequent studies assessing nurse-led clinical services (NLCs) should utilize a standardized framework to yield thorough assessments that can justify more endeavors to establish community-based NLCs. **Randall, Sue; Crawford, Tonia; Currie, et al ; 2017**

H. Holm Gyldenvang a,*, **M. Guldager Christiansen a**, **M. Jarden b,c**, **K. Piil a,d et al** 2022 sought to investigate how satisfied patients were with nurse-led consultations and how healthcare professionals felt about the increased scope of nursing practice. A sequential multi-methods study consists of a survey among the participating physicians and a study-specific questionnaire given to patients with breast or gynecological cancer. Ultimately, the viewpoints of clinical nurse specialists were investigated through two focus group interviews. Patients (n = 109), doctors (n = 12), and clinical nurse specialists (n = 10) made up the study participants.

Patients said that extremely delicate and highly personal topics were discussed, and that their questions and concerns were answered. They stated that they could control their emotions (68.8%) and adverse effects (89.8%) by using self-management techniques. In the consultations, the clinical nurse specialists explained how they tried to adopt a

person-centered approach. Increased sentiments of professionalism were the outcome of the broadened area of nursing practice. Physicians felt at ease sending patients to nurse-led consultations because they valued the clinical nurse specialists' abilities and knowledge.

It was summarized that a culture of person-centered nursing practice can be established mostly through nurse-led discussions. It was advised to create a plan for carrying out nurse-led consultations and to make sure that everyone engaged understood and shared the same expectations. Nurse-led consultations have the potential to improve clinical nurse specialists' professional identities and job satisfaction while also providing higher-quality treatment.

➤ *Feasibility of Nurse Led Clinics*

In India, there is a 90% treatment gap for epilepsy. The majority of people find it nearly impossible to receive treatment for epilepsy due to a lack of doctors, particularly in rural areas. Even in more rural and smaller towns, there are comparatively more nurses on staff. The purpose of the pilot study was to determine whether or not patients would find a nurse-led epilepsy follow-up clinic acceptable in India. A postgraduate student in the second year of nursing received eight hours of didactic instruction specifically designed for the follow-up of epileptic patients. Subsequently, the student observed the epilepsy clinic under the supervision of a neurologist before taking charge of independent epilepsy follow-up clinics. Included were patients with epilepsy who were at least 10 years old and under 6 months of follow-up. Both the neurologist's clinic and the nurse-led clinic had independent follow-ups on them.

The outcome was expressed as the interrater agreement (kappa) between the nurse's and neurologist's recommendations across five dimensions. Additionally, the nurse-led clinic's patient satisfaction was assessed. In a follow-up study with 175 recruited patients, the trained nurse and neurologist had an interrater agreement of 76-94%; the highest level of agreement ($\kappa=94\%$) was observed in recognizing the adverse effects of AEDs, while the lowest level of agreement ($\kappa=76\%$) was observed in choices to change AEDs. The maximum possible score was 40, and the mean patient satisfaction score was 37.63 ± 3.26 . In summary, patients with epilepsy attending follow-up clinics in India can likely find satisfaction with this approach, as it is viable for qualified nurses to oversee these clinics.

➤ *Preethy Paul, Meena Agarwal et al (2014)*

Manju Joshi, Dr. Usha Ukande; 2018; carried out a mixed-method study to evaluate the viability of a nurse-led diabetes clinic in the chosen Indore hospital and community health center by assessing stakeholder attitudes and opinions on the viability of the NLDC. The study's target group included people with diabetes (PWD) and stake holders who worked in particular government, private, or independent hospitals. Physicians, nurses, diabetes educators, dietitians, and individuals with type 2 diabetes mellitus who met the inclusion criteria were the study's accessible populations. These individuals came from the outpatient departments and

inpatient departments of particular government hospitals, private hospitals, and clinics in Indore. The researcher conducted in-person interviews with each sample, employing a semi-structured questionnaire to gather both quantitative and qualitative data.

Also, a pamphlet titled "Self-Care Management of Diabetes" has been created for individuals with diabetes. The findings demonstrated that there are differences in the research population's various health attitudes about various components of type 2 diabetes. Ultimately, the practicality of NLDC was validated by qualitative findings. Stakeholder opinions indicated that there is support for the viability of NLDC and that educating and training stakeholders through the involvement of nurses in diabetes care is important.

Traditionally, women receiving treatment for breast cancer (BC) have been monitored through routine outpatient clinic visits supervised by oncologists, with an emphasis on symptom management, psychological support, recurrence detection, and new main BC. Nevertheless, the cost of this follow-up regimen has been questioned, as has its efficacy. As a result, different follow-up initiatives have been tried. It has been demonstrated that individuals with chronic diseases, including cancer, can better manage their own treatment when they use the Guided Self-Determination technique (GSD), which fosters a partnership between the patient and the healthcare professional. Another technique that is being utilized more and more to enhance patient-provider communication, symptom monitoring, and control is patient-reported outcomes (PRO). GSD and PRO together might be able to accomplish the goals of BC follow-up.

The MyHealth research, a randomized controlled trial that contrasts a nurse-led follow-up program based on GSD, PRO collection, and patient navigation with regular oncologist-led follow-up, was created by the authors to test this. The development process of the intervention was explained, and it is presently being tested to see if the MyHealth protocol can be implemented in terms of patient navigation, recruitment, adherence to the intervention, and PRO collection. The MyHealth intervention was tested on the first 25 consecutively enrolled participants. This includes: (1) gathering PRO; (2) scheduling one to three first GSD appointments with a nurse; and (3) managing symptoms and patient navigation. First light of the randomized experiment came in January 2017. Results: Of the 32 patients invited, 25 agreed to participate in the feasibility study.

At the 18-month follow-up, 143 PRO surveys (mean 5.7/patient) had been completed, resulting in 59 nurse contacts (mean 2.4 per patient) and 14 project physician contacts (mean 0.6 per patient). Two patients had withdrawn. Additionally, it was determined that a high rate of recruitment and responsiveness to PRO suggests that follow-up supervised by specialized nurses and predicated on PRO collection is both practicable and acceptable for patients receiving treatment for early-stage breast cancer. **Saltbæk, L., Karlson, R. V., Bidstrup, P. E et.al (2019)**

Xiaobin Lai, Frances Kam Yuet Wong et al (2015) developed and evaluated the viability of a nurse-led care program for cancer patients in a chemotherapy day center. This was a pilot study. Cancer patients getting chemotherapy as an outpatient have difficulties, as do healthcare workers, due to the growing number of cancer patients and poor communication within clinics. One suggested solution to at least some of these issues is a nurse-led care program. The pilot study's goals were to investigate the acceptability of this program and evaluate the viability of the subject recruitment, care, and data collection processes. A pretest-posttest design with one group was used in a pilot research. There were five cancer patients who were attending a chemotherapy day facility.

Prior to starting chemotherapy, each patient got a nurse consultation. Following the first and second cycles of chemotherapy, each patient received two phone calls. In order to assess the patients' quality of life, self-efficacy, symptom experiences, and satisfaction with care, four questionnaires were used. Before and after the second cycle of treatment, questionnaires were filled out. In order to get their opinions on the service, the subjects were also questioned. The procedures for data gathering, care, and recruitment were all successfully finished. Self-efficacy and quality of life showed minor shifts. The care was well received by all five of the subjects. The program for nurse-led care is workable and appropriate. An open, single-center randomized controlled study will be conducted to assess the impact of the nurse-led care program. If the positive outcomes hold up, it could be a useful strategy for raising the standard of ambulatory chemotherapy care. It would also provide insight into how nurse-led care has evolved in other domains.

➤ *Cost Effectiveness of Nurse Led Clinics*

IKatina Coronis-Watkins, Marie Cooke et al 2020 performed a thorough analysis of controlled trials that were both quasi-randomized and randomised. Early in the post-discharge phase following percutaneous coronary intervention, readmission is frequently observed and is frequently associated with insufficient opportunities for education and self-care readiness. One way to improve health outcomes after discharge could be to visit a nurse-led clinic within 30 days. The study's objective was to compile the body of research on nurse-led clinics' efficacy for patients undergoing percutaneous coronary intervention during their early discharge—up to 30 days after surgery. PubMed, OVID, CINAHL, EMBASE, the Cochrane Library, SCOPUS, and ProQuest were among the databases.

Searches were conducted through November of 2018. Two impartial reviewers used the Cochrane risk-of-bias method to evaluate the papers. Only four studies, totaling 244 participants, out of 2970 reviewed publications satisfied the review inclusion requirements. There was a low to moderate risk of bias in three of these investigations, while it was unclear in the other. Individualized instruction and physical evaluations were among the interventions. Quality of life, medication compliance, attendance at cardiac rehabilitation, and psychosocial symptoms were among the

reported outcomes. Because of the differences in the interventions, outcome measurements, and research reporting, statistical pooling was not possible. There were some self-management behaviors and some gains in life quality, but these changes did not last over time.

The finding shows that an essential study gap on the impact of early post-discharge nurse-led assistance following percutaneous coronary intervention on patient and health service outcomes has been found by this review. It is advised to do more thorough studies with adequately powered sample numbers and precisely defined interventions, comparison groups, and outcomes to ascertain the efficacy of nurse-led clinics during the early discharge phase.

Rafferty, J. P., Yao, G. L., Murchie, P., Campbell, N. C., & Ritchie, L. D. (2005) We out a cost-effectiveness analysis based on a randomised controlled trial's four-year follow-up to determine the cost-effectiveness of nurse-led secondary prevention clinics for coronary heart disease. The location was northeast Scotland, specifically 19 general practices. 1343 individuals, under the age of 80, with a diagnosis of coronary heart disease who were not housebound, did not have dementia, and were 673 in the intervention group and 670 in the control group when they were first randomly assigned. The Intervention comprised Clinics run by nurses to support secondary prevention's lifestyle and medical components. expenditures associated with clinics, total health service expenditures, cost per life year, and quality adjusted life year (QALY) gained—expressed as incremental gain in the intervention group relative to the control group—were among the primary outcome variables. The results showed that the cost of the intervention (drugs and clinics) was 195 euros (1998–9) higher per patient in the intervention group, but the difference in other NHS costs was not statistically significant, even though it was lower for the intervention group. The intervention group saw an overall decrease in mortality of 28, which resulted in an increase in mean life years per patient of 0.110 and 0.124 QALYs. 1236 pounds sterling was the incremental cost saved per life year, and 1097 pounds sterling was saved each QALY. Consequently, it was determined that nurse-led clinics in primary care for the secondary prevention of coronary heart disease appear to be more cost-effective than most other health care interventions, with the principal benefit being the number of years of life preserved.

Only 40% of patients in the UK receive urate-lowering treatment, typically without titration to reach a target serum urate concentration, making gout management suboptimal. In primary care, nurses successfully manage a wide range of disorders.

This study compared the typical care provided by general practitioners (GPs) to nurse-led gout treatment for community members. Research nurses received training in gout best practices, which includes educating patients on an individual basis and involving them in joint decision-making. Adults who had flare-ups of gout within the past 12

months were randomized 1:1 to receive usual care supervised by their GP or to receive nursing-directed treatment. Patients were evaluated at baseline and again after one and two years. The percentage of patients who attained blood urate concentrations less than 360 $\mu\text{mol/L}$ (6 mg/dL) at two years was the main outcome. The existence of tophi, flare frequency in year 2, quality of life, and cost per quality-adjusted life-year (QALY) gained were the secondary outcomes.

Based on the intention to treat with multiple imputations, risk ratios (RRs) and 95% confidence intervals (CIs) were computed. A total of 517 patients were enrolled, 255 of whom received standard treatment and 262 nurse-led care. High urate-lowering treatment uptake and adherence were linked to nurse-led care. At two years, blood urate concentrations were lower in patients receiving nurse-led care than in those receiving conventional care (95% vs 30%, RR 3.18, 95% CI 2.42-4.18, $p < 0.0001$). After two years, the nurse-led group had the best secondary outcomes overall. At two years, the nurse-led intervention cost £5066 per QALY gained. Comparing nurse-led gout care to standard care, it is more efficient and less expensive. The results highlight the advantages of patient education and involvement in gout management and reinforce the significance of a treat-to-target urate-lowering treatment approach for better patient-centered outcomes. **Doherty, M., Jenkins, W., Richardson, H., Sarmanova, A., Abhishek, A., et. al (2018).**

V. CONCLUSION

India has significantly improved its population's access to healthcare in recent years. However, issues like a lack of healthcare experts, lengthy wait periods, and restricted access to specialist care still exist. Global interest in the adoption of nurse-led clinics has increased in response to these problems. In order to improve healthcare efficiency and accessibility, this research paper will examine the idea of a nurse-led feasibility clinic in India. Using the knowledge and abilities of nurses, the main goal of a nurse-led feasibility clinic is to deliver fast, effective, and patient-centered care.

This clinic concept seeks to increase patient happiness, decrease waiting times, improve healthcare access, and optimize resource allocation by enabling nurses to take on more duties and responsibilities. This comprises: Improved Access to Care: Nurse-led clinics make healthcare more accessible by relieving primary care physicians of some of their workload and giving patients prompt attention, which cuts down on wait times.

Effective Resource Allocation: The feasibility clinic reduces the burden on tertiary care facilities by optimizing resource allocation within the healthcare system by employing the talents of nurses in a targeted and structured manner. **Cost-Effectiveness:** Nurse-led clinics provide high-quality care at a substantially lower cost. Because nurses are skilled in both diagnosis and treatment of common diseases,

they can use resources more efficiently and refer patients to specialists less frequently.

Patient Satisfaction: Nurse-led clinics' patient-centered approach, which places a strong emphasis on empowerment, education, and individualized care, increases patients' sense of satisfaction and involvement in their healthcare process. According to the results of this systematic review, a nurse-led feasibility clinic can effectively solve many of the issues facing the healthcare system and offer patients easily accessible and effective care. This strategy optimizes resource allocation, decreases waiting times, and improves patient satisfaction by utilizing the experience of nurses. The implementation and scaling up of nurse-led clinics is imperative for policymakers, healthcare organizations, and nursing associations to enhance healthcare outcomes and address the changing wants of the Indian populace.

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- [2]. *Indian Journal of Public Health Research & Development* Volume 13 Issue 3 July-September 2022 DOI: <http://dx.doi.org/xxxxx/ijphrd.xxxx.13221.1> Awareness and Attitude about Nurse Led Clinic (NLC) among Health Care Professionals Kavita Bhoknal1 ,T Sivabalan2 1 Assistant Professor, Pravara Institute of Medical Sciences (DU), Smt.Sindhutai Eknathrao Vikhe Patil College of Nursing 2 Principal Loni (Bk), Tal.Rahata, Dist. Ahmednagar, Maharashtra How to cite this article: Kavita Bhoknal, T Sivabalan et al. Awareness and Attitude about Nurse Led Clinic (NLC) among Health Care Professionals. Volume 13 Issue 3 July-September 2022
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