

Nursing Research in India: Keeping Pace or Time to Catch Up

Leah Macaden¹

¹Department of Nursing and Midwifery, School of Health, Social Care and Life Sciences, University of the Highlands and Islands (Highland Campus), Centre for Health Science, Inverness, Scotland, UK

Abstract

The paradigms of health research have been constantly evolving, shifting and changing over the years with the implications for nursing research. Nurse academics in India are called to reflect critically on their research engagement and develop strategies to contribute towards an evidence base that is contextually relevant for nursing practice, education and management through collaborative research. The opportunities for health research are varied and multifaceted today ranging from infectious diseases to multimorbidity with significant scope for practitioners and nurse academics to become an integral part of research teams both nationally and internationally to make meaningful contributions. Researchers are required to navigate new frontiers such as interdisciplinarity, patient-public involvement and coproduction in their research to demonstrate impact at the academic, societal levels and beyond. The current digital age requires researchers to upskill their digital literacy to be able to fully exploit the potential that it offers towards global connectivity for interdisciplinary research engagement and knowledge exchange.

Keywords: Co-production, interdisciplinary, nursing research, patient public involvement, research

BACKGROUND

Health-care research has been dominated by the positivist research paradigm over several decades now.^[1] However, we are becoming increasingly conscious that all concepts and outcomes cannot be measured, and evidence does not need to be based exclusively with numerical data. Researchers are beginning to reconcile with the reality that causal explanation and standardised measurements of outcomes alone would no longer be able to answer research questions completely and are therefore beginning to seek a more fine-grained understanding of related concepts within phenomena.^[2] With an increasing emphasis on person-centred approaches to care delivery and patient preferences as the integral components of evidence-based practice, the research paradigm gradually began to shift to include qualitative approaches to inform health-care research.^[3] Following this shift, emerged a third research paradigm that emphasised the merits of using mixed methods, generating both quantitative and qualitative data that improved significant scope with both the depth and breadth of the data being collected, analysed and interpreted around the phenomenon of health in particular. More recently, a fourth paradigm is evolving with the premise that a comprehensive rendering of the world is possible through access to multiple data sources, including data gathered using technological

devices and social media.^[1] This paradigm is indeed evolving at an alarmingly rapid pace in this unprecedented COVID-19 era, which has required a ‘global lockdown’ and strict adherence with the mandated social distancing opening up the world of ‘online working’ using virtual environments that are technology enabled. Major national and international conferences are being hosted using live-streaming options facilitating the knowledge exchange connecting researchers virtually globally. This has the potential to become the ‘new normal’ post-COVID 19. Among these constantly evolving and dynamic paradigms, health researchers are required to engage in interdisciplinary research for the pooling of expertise, cross-fertilisation of ideas and integration of multidisciplinary approaches to answer research questions to inform policy and create impact.

The concept of patient public involvement (PPI) is another novel and yet very crucial component that health researchers

Address for correspondence:

Dr. Leah Macaden,
Department of Nursing and Midwifery, School of Health, Social Care and Life Sciences, University of the Highlands and Islands (Highland Campus), Centre for Health Science, Old Perth Road, Inverness IV2 3JH, Scotland, UK.
E-mail: leah.macaden@uhi.ac.uk

Submitted: 13-Apr-2020

Revised: 18-May-2020

Accepted: 19-May-2020

Published: 14-Sep-2020

Access this article online

Quick Response Code:



Website:
www.ijcne.org

DOI:
10.4103/IJCN.IJCN_41_20

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Macaden L. Nursing research in India: Keeping pace or time to catch up. *Indian J Cont Nsg Edn* 2020;21:6-11.

need to embrace to shift the power balance in the research. This is the broad research canvas within which nursing researchers are called to function as health research colleagues in contemporary times and possibly for the foreseeable future.

NURSING AND RESEARCH

Research is not new to nursing. Nursing as a profession has sought to underpin practice with relevant theory even since the time of its founder and has borrowed theories from other disciplines to inform practice. Theoretical understanding was gleaned from clinical observations, experience of practitioners and philosophical positions.^[4] Whilst these theoretical perspectives helped articulate the nature of nursing and offered guidance for practice, they did not comprehensively guide nursing research.^[5] It became essential to generate a unique knowledge base for nursing that was evolving as a profession in its own right with disciplinary credibility.^[6] Whilst nursing research has progressed leaps and bounds in the developed world keeping pace with their counterparts in the health, education and social care sectors, a similar pace in progress has not been manifested in developing countries. Research has been in a vast majority of these countries, concerned with projects that are pursued towards academic requirements within undergraduate, postgraduate and doctoral programmes in nursing. Although western ideas such as evidence-based practice, quality assurance, and quality improvement that have been research-driven have been readily embraced by the nursing fraternity, there is paucity with pursuing active research to generate contextual evidence to inform practice despite the presence of large numbers of nursing faculty, with relevant training and experience in research in these countries.

TOO LITTLE, TOO LATE?

Nurse academics and practitioners in developing countries tend to often become too absorbed with delivering programmes, delivering care or managing people and organisations. Research may not be at the forefront unless it is an explicit requirement towards one's academic career progression. Nursing education or nursing practice being evidence led is based on the assumption that integrating research findings into education and or clinical practice will increase both quality and outcomes.^[7] However, evidence suggests that research utilization in practice continues to remain a challenge.^[8-10] Nurses' attitudes and availability,^[11] lack of time, lack of confidence and awareness of research findings^[12] are often the determinants of research utilisation. Other barriers to research engagement include characteristics of the adopter (nurses' research values, skills and awareness), characteristics of the organisation (research culture, priorities and research environment), characteristics of the innovation (quality and impact of research findings) and the characteristics of communication (dissemination and accessibility of the research).^[9]

Another issue that we need to contend with is a disconnect between nursing research, education and practice. It has,

therefore, become even more critical now than ever before to investigate how nursing education prepares nurses for research as part of their ongoing professional and career development. Myths such as one requiring a research degree to conduct nursing research can often discourage young, competent and inquisitive practitioners from engaging or participating in the research. Recommendations from a situational analysis of nursing education and workforce in India include active research engagement by nursing faculty towards developing a knowledge base both for evidence informed teaching and practice.^[13]

Nursing, like most health-care professions, has different domains and expertise, i.e., clinical practice, education, management and research. Although each of these strands warrant recognition in their own right, research is the one strand that can connect the other three strands more cohesively – for instance, pedagogical research in education can inform best practice in teaching a skill or subject which then informs, shapes or changes clinical practice [Figure 1]. Research needs to become integral and embedded across all domains seamlessly for nursing to progress as a profession keeping pace with other disciplines. Lack of a clear, well thought out, collaborative (both interdisciplinary and intradisciplinary and national and international) and strategic research agenda with active research engagement by nurse academics in developing countries poses a real and significant threat to being on par with nurse academics and other health researchers globally.

Health research priorities are highly context dependent and tend to vary based on culture, traditions, belief systems, resources, health-care systems, organisational structures and processes. The current model of nurse academia both in the developed and developing world has their own shortfalls in relation to progressing meaningful research that fosters utilisation of research evidence. 'Research without practice is like building castles in the air: Practice without research is building castles on slippery grounds'.^[14] Most nurse academics normally do not have a clinical role and equally most practitioners often do not have a teaching role. Organisation barriers, role profiles, academics' competing priorities and interests all contribute to this chasm, perpetuating the theory – practice gap even

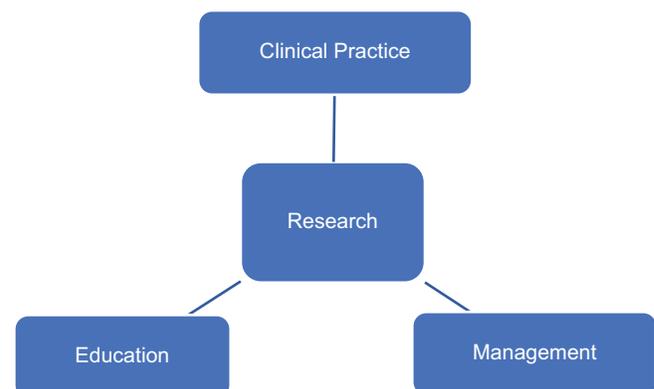


Figure 1: Research-led nursing

further whilst ironically research is intended to be a tool to bridge this gap. Cognisant of the challenges involved, it is timely, relevant and appropriate to rethink how nursing research can be progressed through collaborative working between those involved in practice, education and management within nursing. A wider collaboration with related disciplines will further promote research and generate evidence that informs and strengthens nursing within various contexts. For example, introduction of an evidence-based practice guideline on optimising medication safety will benefit from collaboration with practitioners, educators (what is taught in the curriculum) and managers to assess resources required towards implementation (IT, human and infrastructural resources and staff training,) and the integration of appropriate systems to monitor and report the errors and safety breaches. Evaluation of adherence to this evidence-based guideline would be stronger if the research team includes practitioners, educators and managers. Collaboration at the another level could be with similar teams evaluating across various departments within the organisation to adopt best practice based on the evidence generated collectively which then helps set standards to optimise medication safety for the entire organisation.

OPPORTUNITIES AND SCOPE FOR NURSING RESEARCH

Prioritization of health research is helpful with both planning and achieving effective and impactful research given the resource constraints and competing research interests.^[15] However, it is critical to engage with relevant and a wide representation of key stakeholders including patient groups to identify research priorities systematically using a robust and transparent methodology.

Non-communicable diseases (NCDs) such as diabetes, cardiovascular diseases and obesity are reaching epidemic proportions alongside communicable/infectious diseases, that are increasingly becoming drug resistant increasing the health-care burden in developing countries.^[16] New infections such as SARS and recent pandemics such as COVID-19 are on the rise. Multimorbidity is one of the greatest challenges facing health and social care services at present globally and will continue to rise in the future. Whilst health systems have become better in recognising multimorbidity, there is an urgent need for applied health research to develop and implement evidence informed policies^[17] both to prevent and effectively manage multimorbidity. There is increased recognition of the bidirectionality of mental and physical health in people living with multimorbidity^[17] creating opportunities to integrate physical and mental health for service delivery alongside research around lived experiences of multimorbidity, trajectories and patterns of multimorbidity in relation to social determinants of health from a public health perspective.^[17]

People are living longer with a huge transition in the population demographics globally. Sensory and cognitive impairments pose huge challenges in this population in addition to other multiple complex care needs. Loneliness, social isolation,

neglect and abuse are other the significant issues that need solutions to care. Disability is no longer only confined to trauma but can be a sequel to any of the NCDs or their related comorbidities.^[16] Issues around mental health such as depression and stress-related disorders resulting from the breakdown of family and social networks have significant implications for research around health-care needs that are complex and diverse.

The unprecedented growth in digital technology has huge potential to revolutionise provision of health care, education, access to information, facilitate early intervention through real-time data capture^[18] and global connectivity to share evidence informed and best practice. Accessibility to technological devices even at an individual level across all ages in the developing world is at all time high with a smart phone for instance being considered no longer a luxury but a necessity. The discourse around the benefits versus risks on recent technological revolution continues to remain controversial like any new discovery that is adopted in large numbers globally. However, it is an asset that is being constantly exploited in creative, novel, time efficient and cost-effective ways to capture large data related to public health, as we are currently witnessing with the COVID-19 pandemic. This in addition facilitates interdisciplinary collaboration between technologists and health researchers to pool relevant expertise rather than disciplines working in silos to find solutions in a time efficient manner.

Technology enabled learning, virtual learning environments, blended approaches to teaching and learning have now become the norm compared to traditional approaches such as didactic lectures and face to face delivery of nursing programmes. This offers immense potential and widens the scope for pedagogical research in nurse education and the opportunity for shared learning on evidence informed best practice for global health issues.

NEW FRONTIERS TO NAVIGATE IN THE WORLD OF NURSING RESEARCH

Interdisciplinarity

Several contemporary health issues and challenges related to health-care provision are becoming increasingly complex and diverse. The World Health Organisation's definition of health came under heavy criticism that this definition at a conceptual level implied more about happiness than health and an alternative definition of health emerged as 'Health is a condition of well-being free of disease or infirmity and a basic and universal human right'.^[19] Medical care can diagnose, treat illnesses and extend life whilst social and economic factors are significant considerations where population health is involved. The dynamic interaction between the physical, emotional, social, psychological, spiritual, occupational, sexual and environmental domains contribute to one's health and well-being. If this was to be the case, one can argue that what affects one domain (a job loss for example) will most

certainly have an impact on one's emotional, psychological and social health and well-being initially with further consequences to the overall health and well-being of the individual, their family and their community. The solutions required then, need to be multifaceted and integrated. Interdisciplinary research is one such solution that is gaining significant momentum both to the academic community and policy development by governments.^[20] By way of definition, 'Interdisciplinary research is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts and/or theories from two or more disciplines or bodies of specialised knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice'.^[21] However, this can be very complex and challenging posing significant barriers given the differences in educational approaches, training and research culture across disciplines.^[22] Opportunities towards interdisciplinary and interprofessional engagement must be actively pursued and modelled by nurse academics within clinical practice, education and management. These could be the building blocks to influence and shape students' interprofessional engagement, possibly facilitate a smoother transition towards interdisciplinary/interprofessional working in clinical practice and lay a solid foundation for interdisciplinary research among future practitioners.

The United Nations' Sustainable Development Goals^[23] integrating education, health, social protection, employment and environment could serve as a blueprint for health promotion through interdisciplinary research, especially for issues around health inequalities, health and well-being. Interdisciplinarity in the research can be adopted in nursing in India at least on two different levels – intradisciplinary and interdisciplinary. For example, intradisciplinary research focussing on health and well-being of primary school children under 5 years of age could bring researchers with their relevant subject and methodological expertise from maternity, paediatric and community health nursing to design a project including prenatal health that is one of the critical determinants of the child's health and well-being in later years. Including psychologists, parents, dietitians, teachers, dentists (oral health), school nurses as part of the research team would strengthen the interdisciplinary expertise on the same project.

The above model could then be extended to include relevant experts at the state, national and international level to scale up and extend the scope of research and comparisons to generate evidence on best practice.

Patient public involvement

PPI is currently a vital and integral part of health research and considered best practice in the world of research. The purpose of PPI is to enhance quality, relevance and impact of the research findings; PPI also has the potential to improve both transparency of the research process and accountability of the researchers to service users, funding bodies and the research community.^[24]

Researchers are increasingly expected to demonstrate incorporating the tenet of PPI in their research grant applications to research councils and funding bodies. This emphasises the important fact that key stakeholders and experts such as patients, service users, students and family caregivers are integral to research with their input right from the beginning, i.e., conceptualisation and design of the project. We seem to have embraced the concept of 'therapeutic alliance'^[25] and are getting comfortable with it gradually in clinical practice incorporating patients' experiences to inform clinical decision-making as part of our adherence to evidence-based practice. Similarly, moving towards an 'educational alliance' and 'research alliance' rather than a traditional teacher – student/researcher – participant hierarchy will help shift the balance of power, stabilise the power disequilibrium that has been an inherent part of nursing for centuries and will significantly improve the quality and impact of nursing education and research.

PPI in research is research being carried out 'with' or 'by' members of the public rather than 'to', 'about' or 'for' them^[26] both for ethical and pragmatic reasons. PPI involves including representation of the public or people living with certain conditions depending on the research focus, i.e., someone who has survived cancer being actively sought to represent cancer related research priorities. This can be demonstrated by involving public/patient representation in a range of research-related activities, for example, to provide input as lay volunteers to screen research applications, identify research priorities from service users' perspectives, offer advice and guidance as members of a project advisory/steering group^[27] conduct some interviews with research participants, support with recruitment of participants to the proposed study and assist with dissemination of the findings to relevant wider audience through participation in public engagement events.

Co-production

For research findings to be relevant beyond academic purposes, research is increasingly required to be accessible and understandable for practitioners, policy-makers and other relevant stakeholders.^[28,29] There has been a tendency to move away from the medical origins of evidence in general with a shift towards valuing experiential and practical knowledge particularly around evidence-informed policy.^[30,31]

The purposes of co-production can be four-fold:^[29]

- a. Substantive: To help improve the quality of research and create new knowledge together with relevant stakeholders
- b. Instrumental: To help improve research utilization, upskilling and building research capacity amongst non-academics and empower potential users with the evidence generated
- c. Normative: To promote accountability to funders, pursue research to serve public interests and create opportunities to share expertise with fairness and equity
- d. Political: To promote users' sense of inclusivity, empowerment, ownership and authority to share and implement research findings.

Despite its several benefits, it is important for researchers to be mindful that co-production is both resource and labour intensive and not without its challenges such as shared decision-making, strained interpersonal, intrapersonal or organisational relationships, work load in terms of training multiple individuals, time constraints, ethics adherence and misinterpretations of findings.^[29]

Impact

There is again an increasing demand for researchers to clearly demonstrate the impact of their research findings, especially for publicly funded research that is aimed at influencing policy and practice. Impact, therefore, cannot be an afterthought any longer but rather needs to be thought through carefully while planning research and identifying key outcome measures. The Economic and Social Research Council broadly defines research impact as ‘the demonstrable contribution that excellent research makes to society and the economy.’^[32]

- Academic impact is the demonstrable contribution that excellent social and economic research make in shifting understanding and advancing scientific method, theory and application across and within the disciplines
- Economic and societal impact is the demonstrable contribution that excellent social and economic research makes to society and the economy, and its benefits to individuals, organisations and/or nations.

More specifically, impact can be defined^[32,33] as outlined in the Table 1.

Measuring impact is not always straightforward and assessing the context is critical whilst considering impact to ensure the evidence informs goals, strategy, policy design and implementation^[34] and adds value to any relevant work that has previously been undertaken on the subject. Whilst considering research impact, it would be helpful for researchers to the factor in key stakeholders such as policy-makers and assess their buy in into the research idea, the readiness of the policy environment in terms of frameworks, structures and processes for implementation and the wider global context in relation to the impact of the proposed research.^[33]

Dissemination and knowledge exchange

High-quality research generates high-quality evidence, but research findings are effective only if they are utilised as robust evidence to inform clinical, education and management practice, policy and further research. Research utilisation is

dependent upon communication of research findings using targeted dissemination and knowledge exchange strategies. It is, therefore, equally important to plan research communication strategies similar to thinking about impact at the start of one’s research journey. Researchers need to know their audience, identify effective communication channels, plan research outputs (not limited to only academic publications) and presentation of the research undertaken.

Researchers need to be strategically opportunistic in terms of identifying timescales and the right target audience to communicate their research findings. A range of strategies targeted at different audiences need to be identified by adopting a strategic approach for dissemination and maximising research impact.^[35]

A conventional approach for dissemination of nursing research findings and the most common research outputs have been presentation at conferences and peer-reviewed journal publications. A suite of channels has now become available to researchers using a combination of conventional approaches alongside keeping pace with the digital literacy that has become integral to research including social media that we are having to grapple with. Researchers can be creative in communicating their research through professional networks such as Linked In, Research Gate to enhance their research profile and use these networks for the purposes of interdisciplinarity, co-production and impact as described earlier. Other tools for research communication include creating websites dedicated to project or research themes, research toolkits, webinars and media releases^[33] as appropriate.

CONCLUSION

The world of health research is changing rapidly and radically in recent times. There is an ever-increasing emphasis for clinical practice, education and management to be evidence informed. It is imminently critical for nurse academics and practitioners to be research active to be able to contribute towards the knowledge and evidence base required for nursing. Research engagement can no longer be confined to completing a project towards an academic/programme requirement or research supervision of postgraduate research students. The world of nursing research has moved forward significantly in developed countries with nurses in academia, clinical practice and management being key players in research teams keeping pace with their counterparts in health care often driving the changes required with policy and practice. With the current research capacity in terms of the number of postgraduate and doctorate level qualified nurses in India, it is time that research moved forwards and begins to permeate as an active component of the profession to create a contextually relevant knowledge and evidence base that makes nursing in India more visible as an academic discipline within the global community of nursing.

Financial support and sponsorship

Nil.

Table 1: Definitions of types of impact

Type of impact	Description
Conceptual	Impacts on knowledge, understanding and attitudes
Instrumental	Impacts on changes in policy and practice
Capacity-building	Impacts on the ability of researchers to conduct similar work in future
Enduring connectivity	Impacts on the existence and strength of networks of people and organisations who understand and can make use of the research

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Rapport F, Braithwaite J. Are we on the cusp of a fourth research paradigm? Predicting the future for a new approach to methods-use in medical and health services research. *BMC Med Res Methodol* 2018;18:131.
2. Khanpour H, Caragea C. Fine-grained information identification in health related posts. In: The 41st International ACM SIGIR Conference on Research & Development in Information Retrieval; 2018. p. 1001-4.
3. Health Foundation. Person-Centred Care Made Simple: What Everyone should Know about Person-Centred Care. Health Foundation; 2014.
4. Kirkevold M. Integrative nursing research – An important strategy to further the development of nursing science and nursing practice. *J Adv Nurs* 1997;25:977-84.
5. Hinshaw AS, Feetham SL, Shaver J, editors. *Handbook of Clinical Nursing Research*. London: Sage; 1999.
6. Weaver K, Olson JK. Understanding paradigms used for nursing research. *J Adv Nurs* 2006;53:459-69.
7. Kajermo KN, Boström AM, Thompson DS, Hutchinson AM, Estabrooks CA, Wallin L. The BARRIERS scale – The barriers to research utilization scale: A systematic review. *Implement Sci* 2010;5:32.
8. Björkström ME, Hamrin EK. Swedish nurses' attitudes towards research and development within nursing. *J Adv Nurs* 2001;34:706-14.
9. Boström AM, Kajermo KN, Nordström G, Wallin L. Barriers to research utilization and research use among registered nurses working in the care of older people: Does the BARRIERS scale discriminate between research users and non-research users on perceptions of barriers? *Implement Sci* 2008;3:24.
10. Rodgers SE. A study of the utilization of research in practice and the influence of education. *Nurse Educ Today* 2000;20:279-87.
11. Champion VL, Leach A. Variables related to research utilization in nursing: An empirical investigation. *J Adv Nurs* 1989;14:705-10.
12. Retsas A, Nolan M. Barriers to nurses' use of research: An Australian hospital study. *Int J Nurs Stud* 1999;36:335-43.
13. Tiwari RR, Sharma K, Zodpey SP. Situational analysis of nursing education and work force in India. *Nurs Outlook* 2013;61:129-36.
14. Parahoo K. *Nursing Research: Principles, Process and Issues*. Macmillan International Higher Education; 2014.
15. Arora NK, Swaminathan S, Mohapatra A, Gopalan HS, Katoch VM, Bhan MK, *et al*. Research priorities in maternal, newborn, & child health & nutrition for India: An Indian Council of Medical Research-INCLIN Initiative. *Indian J Med Res* 2017;145:611-22.
16. Macaden L. How can we enlarge and improve the Christian initiatives in Nursing Education? *CMJI* 2013;28:12-4.
17. Pearson-Stuttard J, Ezzati M, Gregg EW. Multimorbidity-a defining challenge for health systems. *Lancet Public Health* 2019;4:e599-600.
18. Hollis C, Morriss R, Martin J, Amani S, Cotton R, Denis M, *et al*. Technological innovations in mental healthcare: Harnessing the digital revolution. *Br J Psychiatry* 2015;206:263-5.
19. Saracci R. The World Health Organisation needs to reconsider its definition of health. *BMJ* 1997;314:1409-10.
20. Okamura K. Interdisciplinarity revisited: Evidence for research impact and dynamism. *Palgrave Commun* 2019;5:1-9.
21. Committee on Facilitating Interdisciplinary Research, National Academy of Sciences, National Academy of Engineering. *Facilitating Interdisciplinary Research*. National Academies Press; 1900.
22. Tobi H, Kampen JK. Research design: The methodology for interdisciplinary research framework. *Qual Quant* 2018;52:1209-25.
23. General A. Transforming Our World: The 2030 Agenda for Sustainable Development. UN; 2015. Available from: <https://www.refworld.org/docid/57b6e3e/44.html>. [Last accessed on 2020 May 25].
24. Brett J, Staniszewska S, Simera I, Seers K, Mockford C, Goodlad S, *et al*. Reaching consensus on reporting patient and public involvement (PPI) in research: Methods and lessons learned from the development of reporting guidelines. *BMJ Open* 2017;7:e016948.
25. Adishiah M. Effective care of patients with type 2 diabetes and dyslipidemia: A nurse's perspective. *Diabetes Res Clin Pract* 2005;68 Suppl 2:S23-7.
26. NIHR. What is Public Involvement in Research?; 1996. Available from: <https://www.invo.org.uk/find-out-more/what-is-public-involvement-in-research-2/>. [Last accessed on 2020 May 25].
27. Bagley HJ, Short H, Harman NL, Hickey HR, Gamble CL, Woolfall K, *et al*. A patient and public involvement (PPI) toolkit for meaningful and flexible involvement in clinical trials-a work in progress. *Res Involv Engagem* 2016;2:15.
28. Connelly S, Vanderhoven D, Durose C, Richardson L, Matthews P, Rutherford R. Translation across borders: Exploring the use, relevance and impact of Academic Research in the Policy Process. *After Urban Regeneration: Communities, Policy and Place*. New York: Taylor & Francis Publishing group; 2015. p. 181-98.
29. Oliver K, Kothari A, Mays N. The dark side of coproduction: Do the costs outweigh the benefits for health research? *Health Res Policy Syst* 2019;17:33.
30. Oliver K, Lorenc T, Innvær S. New directions in evidence-based policy research: A critical analysis of the literature. *Health Res Policy Syst* 2014;12:34.
31. Oliver S, Duncan S. The challenges of sharing different ways of knowing. *Research for All*. 2018;2:1-5. DOI 10.18546/RFA.02.1.01.
32. Economic and Social Research Council. *Developing a Communications and Impact Strategy*; 2017. Available from: <http://www.esrc.ac.uk/research/impact-toolkit/developing-a-communications-and-impact-strategy/>. [Last accessed on 2020 May 25].
33. Tilley H, Ball L, Cassidy C. *Research Excellence Framework (REF) Impact Toolkit*. Overseas Development Institute; 2018.
34. Penfield T, Baker MJ, Scoble R, Wykes MC. Assessment, evaluations, and definitions of research impact: A review. *Res Eval* 2014;23:21-32.
35. Georgalakis J, Jessani N, Oronje R, Ramalingam B. *The Social Realities of Knowledge for Development*. Brighton: IDS. Impact Initiative; 2017.