



## Implementation of person-centredness under structural constraints: a case of HPV vaccination

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Received 13 December 2022, accepted 5 April 2023, available online 18 August 2023

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**Abstract.** Person-centredness is claimed to be one of the aims of healthcare, placing the person at the centre of healthcare (services). However, individual responsibility is expected and stressed in the implementation with limited structural support. This has led to the situation where despite the availability of HPV vaccination as the most beneficial preventive method, the coverage for girls aged 12–14 is below the recommended (>70%) rate. The objective of the research was to analyse structural constraints experienced by parents and service providers of the target group of girls regarding HPV vaccination under the circumstances of a global pandemic. Qualitative methods were used, namely in-depth interviews (n = 18) with nurses and midwives and three focus group interviews (n = 13) with parents of girls aged 12–14 years, as well as thematic textual analysis with the combination of inductive and deductive analysis methods. The research was granted ethical permission. The results outline that for parents the main challenge is the ability to find relevant supportive information for decision-making. For nurses, the challenge is to find appropriate ways to counsel and support parents and girls. The study revealed the lack of a country-wide strategy as one of the weak links in supporting the continuation of necessary preventive activities despite the external situation. Also, the skills of counselling and development of innovative communicative and educational digital tools that are target group specific yet also country- and culture-specific should be improved, as this may lead to more person-centred healthcare service for cervical cancer prevention.

**Keywords:** medical sociology, person-centred healthcare, cancer prevention, cervical cancer, vaccination, human papilloma virus (HPV).

### INTRODUCTION

#### Theoretical framework

Person-centred<sup>1</sup> healthcare is one of the core objectives outlined in the Public Health Development Plan of Estonia 2020–2030 (Ministry of Social Affairs 2021). The main aim of the person-centred approach is to provide a meaningful life for patients (Håkansson Eklund et al. 2019); the

approach not only considers the medical condition but also individual preferences, wellbeing and the wider social and cultural background enabling dignity, compassion, respect and an independent and fulfilling life (Health Foundation (Great Britain) 2014). Although these ideas are easy to relate to, their implementation might be challenging, as problems in the area of health(care) can be regarded as wicked problems. The term ‘wicked problem’ dates back to the 1970s, when Rittel and Webber de-

<sup>1</sup> Also the terms ‘human-centred care’ and ‘people-centred care’ are used as synonyms. Some earlier sources use also ‘patient-centred’ as a synonym, but the latest approaches distinguish clearly between patient- and person-centred approaches.

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scribed that wicked problems are hard to define, they include ‘nearly all public policy issues’, and the complexity of these problems comes from their multi-layered nature and a lack of clear one-directional solution (Rittel and Webber 1973). Person-centred approach in the context of health is also a wicked problem, as the decision of taking a person-centred approach depends on different stakeholders (e.g. patients, their relatives, healthcare service providers, policy makers, etc.) and the meanings they give to it. Therefore, the ‘wickedness’ of the person-centred approach itself makes it challenging to reach this strategic goal.

The theoretical structure-agency concept is much debated in medical sociology and there is no consensus on the superiority of one or the other (Cockerham 2013). In order to make person-centredness work in real life, there is a need to consider both agential (i.e. derived from individuals, their habits, practices, socio-demographic background, etc.) and structural (i.e. the organization of the healthcare system, including service provision and other aspects of health and education policy) influences. Together with the structural goal for person-centred healthcare, the Western neoliberal approach to governance intervention results in an expectation that people should take individual responsibility for their own health. In this article, neoliberalism is handled according to a medico-sociological meaning reflecting a growing number of individuals who take responsibility for their health and seek or choose goods or services to improve their health, limiting themselves to ‘correct’ goods or services according to biomedical understanding (Fries 2009; Nettleton 2013; Dutta 2015). An individual responsibility is expected in an area that requires a sufficient amount of specific knowledge to make informed decisions, but direct communicative paths (e.g. different sources, individual information seeking activity) might vary for different people, creating different background understandings and potentially undesired activity, as was shown previously in the case of chronically ill people (Lubi et al. 2014, 2016). The main criticism regarding an individual responsibility challenges the role of the individual in decision-making and questions whether the individual decision is actually pre-defined and pre-determined by structural influences (Cockerham 2013).

### **A case of the study**

The current article uses a case of cervical cancer prevention. Cervical cancer is the fourth most common cancer type in women worldwide and the third most common cancer in women aged 15–44 years in Europe (Bruni et al. 2023b); also, it is the second most common cancer among women of the same age group in Estonia (Bruni et al. 2023a). The main cause of the cervical cancer development is the presence of high-risk type human papilloma

virus (HPV) and the most effective preventive measure is immunization of girls aged 9–14 years before the beginning of their sexual life (Ministry of Social Affairs and National Institute for Health Development 2021), reaching over 90% efficacy for high-risk HPV types (Kamolratanakul and Pitisuttithum 2021). HPV vaccination among girls aged 12–14 years was included in the national immunization plan in 2018; however, the recommended target rate of 70% of coverage according to the Estonian Cancer Control Action Plan 2021–2030 (Ministry of Social Affairs and National Institute for Health Development 2021) has not been reached yet (Estonian Health Board 2021). Previous research has shown that the level of knowledge about HPV, its link to cervical cancer and HPV vaccination are rather low (Sherman et al. 2018; Trucchi et al. 2020). However, research on parents has shown that both healthcare professionals (Johnson-Mallard et al. 2019) and public campaigns (Waller et al. 2020) to raise awareness of HPV vaccination are key factors to support parents in the decision-making regarding HPV vaccination.

In Estonia, the organization of immunization differs from other childhood vaccinations, as HPV vaccination is conducted by school nurses in the school environment. Prior to the vaccination, an informed consent form (in paper format) with links to an informative webpage is sent to all parents (Estonian Health Board 2019). The vaccination takes place only after the signed informed consent has been returned to the school nurse; general practitioners (GPs) will conduct HPV immunization only on special occasions (Estonian Health Board 2019). As can be seen, the structural arrangements support easy access to the service, yet the communicative procedure is laconic, requires active involvement of several stakeholders and entails several potential errors (e.g. losing the consent form, not giving it to the parents for signing, etc.), thus a case of HPV vaccination can be represented as a case of a wicked problem. Moreover, when a sudden unexpected health event such as the global COVID-19 pandemic is added to this case, questions regarding structural and individual responsibilities as well as capabilities arise. Therefore, the aim of this research was to analyse the structural constraints experienced by parents and service providers of the target group of girls for HPV vaccination during the global COVID-19 pandemic as an additional distracting circumstance.

## **MATERIALS AND METHODS**

### **Sample**

The inclusion criteria were being a parent with a 12–14-year-old daughter who has not yet received HPV vaccination but has received a notification from the Estonian

Health Board via school nurse. The exclusion criterion was general rejection of vaccinations. The total number of parent participants was thirteen. Regionally, the sample was not representative, the parents involved were all from Tallinn or Harju County.

Participants for the focus group interviews and in-depth interviews were selected via Facebook post and by using convenience and snowball sampling methods, respectively. After obtaining an oral consent, the aim of the research was introduced, and a written consent was obtained via digital signature and email. The sample of nurses and midwives consisted of participants from Tallinn and Harju County, Tartu and Ida-Viru County. Interviews with service providers were individual and the inclusion criteria were the profession of nurse and working in this profession either at school or in primary care facilities.

### Method and data collection

The research had three different arms, based on which two master's theses (Varsamaa 2021; Rooden 2022) and one bachelor's thesis (Kala and Torop 2022) were compiled. This article used secondary data analysis to elaborate further on the data which was collected within this qualitative research. The data was collected by using two qualitative methods: semi-structured in-depth interviews and focus group interviews between January and June 2021. Three focus group interviews were conducted with the convenience sample of parents of girls aged 12–14 years. For conducting the research, two interview agendas were prepared – one for the parents' focus groups and the other for nurses and midwives. The focus of the interviews and focus groups was set on the knowledge, communication and micro-organizational aspects (e.g. directly related to the aspects of the organization of vaccination in the school environment, including counselling, the process per se, etc.) of HPV and related vaccination.

All data was collected by using electronic channels, including Zoom and Teams platforms, due to the outbreak of the COVID-19 pandemic and country-wide restrictions that were in force at the time of data collection. Focus group interviews were conducted by Merilin Varsamaa. The duration of focus groups was 1.5 hours, with four participants in two focus groups and five participants in one focus group. In-depth interviews were conducted with eighteen nurses and midwives working at GP practices and schools by Liis Kala, Agnessa Torop and Mare Rooden. The duration of individual interviews was 25–50 minutes, depending on the volume of given answers.

### Data analysis

All conversations were recorded (recordings were stored on an institutional password-protected cloud server),

transcribed verbatim and deleted immediately afterwards. All the interviews were initially transcribed by using an Estonian web-based transcription platform (Alumäe et al. 2018). After the initial transcription, the transcriptions were corrected manually. To maintain confidentiality, the participants were given codes, which are referred to in the 'Results' section. For parents, the code included their sequence number during the focus group interviews (1–3), and the age (in years) of their daughter (11–14). Although the authors turned to parents and would have also welcomed fathers as study participants, all the further participants were women, and thus, the specification of parents' gender was not added to the pseudonym. For healthcare professionals, the code included their specialty and the sequence number (1–14). For specialty, the main distinction was between midwife (M) and nurse (N); for nurses, an additional distinction was made based on their primary working environment (SN for school nurses and GPN for nurses working at GP clinics in primary healthcare). For data analysis, all transcriptions underwent repeated readings and initial coding (manually), as well as a thematic textual content analysis using the combination of deductive and inductive approaches. Although the analysis followed a pre-defined thematic interview guide for the deductive analysis approach, the inductive content analysis method was additionally used to identify new categories that were not previously foreseen but evolved explicitly during the interviews. These types of codes and categories were related to the structural problems of immunization-related aspects (see Fig. 1). After the process of initial coding and categorization, the entire analysis was discussed and agreed with the research team, followed by a secondary analysis and final agreements. The identified codes and categories are presented in detail in Fig. 1.

This research was approved by the Research Ethics Committee of the National Institute for Health Development (Decision No. 560 of 1 December 2020). The study was in line with the requirements of the Declaration of Helsinki and both EU and local data protection legislation.

## RESULTS

All participants of the research were women aged 25–57. Nurses and midwives had work experience between five months and 35 years. Three nurses were simultaneously practising as school nurses and primary care nurses. Also, two of the school nurses were practising in two different schools. The parent participants were aged between 38 and 44, had higher education and were technically advanced (for a detailed description of limitations, see 'Discussion' section).

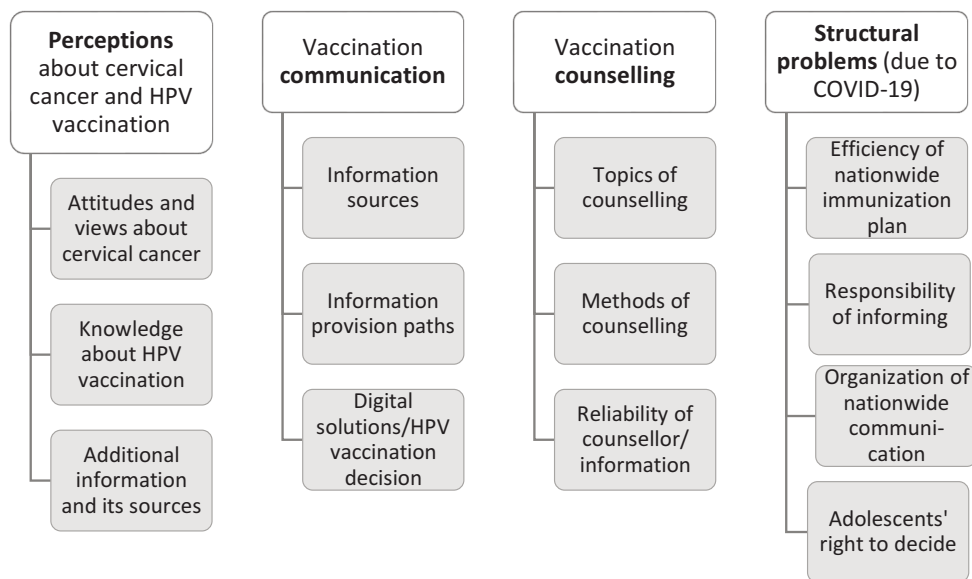


Fig. 1. Coding and categorization during data analysis.

As seen from Fig. 1, the analysis revealed four major themes regarding the perceptions and concerns about HPV vaccination and related service provision. All of the themes will be elaborated further in this chapter.

### Perceptions about cervical cancer and HPV vaccination

General knowledge among different groups of participants was good in the sense that both parents and healthcare professionals rated their knowledge about the main aspects of cervical cancer and its epidemiology as the same. However, it is important to note that since the convenience sampling was mainly used for the participant recruitment, these perceptions reflected the understandings and knowledge of more active and educated people. As one participant also noted:

*'I think people who are not healthcare professionals don't know the prevalence rate of cervical cancer and how cervical cancer develops and spreads.'* (7–11)

The excerpt indicates an important aspect that might play a crucial role at the stage of vaccination-related decision-making; since there might be a lack of knowledge regarding HPV, its role and the way of transmission, possibly, there might also be a lack of understanding about the role of vaccination and its necessity. Although both groups of participants admitted to know the main aspects, there were still participants, including healthcare professionals, who stated that there was a lack of knowledge about HPV and cervical cancer as *'it was not taught in college and I learned it at the workplace'*

(SN8); one of the nurse participants rated her knowledge as *'two out of five points'* (GPN2), indicating that there might be a significant gap in the knowledge among nurses as well, who should be one of the main contacts to educate and counsel people in this decision-making. When interpreting these findings, a few aspects should be kept in mind. Firstly, in terms of the workplace, it might be understandable because nurses working at the primary healthcare as GP nurses may not have top-level knowledge of these aspects, as HPV vaccination is organized in the school environment and carried out by school nurses. Secondly, the curricula for nurses and midwives are different; during the studies, nurses are trained to start working in diverse environments and part of the focused training takes place in the working environment. Thirdly, the curricula have been changed and refined, which means that even the participants who were healthcare professionals stated that they had a lack of knowledge in this area, although the situation might have changed by that time and the statement can be outdated. However, regardless of all potential reasons, it should be acknowledged that there are misconceptions among healthcare professionals, which were also directly revealed in this study when one of the participants claimed that the need for HPV vaccination is related to the *'volatile manners of the girl'* (SN12), referring to potentially liberal sexual habits and their relation to the likelihood of developing cervical cancer. Therefore, elective and complementary educational training should also be provided to healthcare professionals on a continuous basis.

Discussions also revealed that cervical cancer and its preventive measures are delicate topics that cannot be discussed within different social networks; one of the participants mentioned:

*'We've discussed this (HPV vaccination) in our family.'* (3–12)

Other participants added explicitly that *'it is a sensitive topic; therefore, I haven't had any? discussions with my friends /.../ it is like intruding into people's values and their decision.'* (12–12)

The sensitivity and delicacy of the topic is explicitly outlined in these excerpts, indicating a normality in not talking about the topic outside the close family circle. Another aspect noted both in excerpts and during the interviews was the tendency to use replacements for the name of the illness (cervical cancer) and its preventive measure (vaccination), indicating a potential sensitivity and a lack of comfort in dealing with this matter.

### Vaccination communication

The parent participants were aware of different campaigns organized by health authorities directed at raising awareness about cancer screening and a call to action. Since the patient's journey varies in terms of HPV vaccination, the main initial notification and source of information for parents is the consent letter sent by a school nurse for signing, and as noted by the participants, this information may not be sufficient:

*'the consent letter had a reference to the webpage www.vaktsineeri.ee, which in my opinion was not sufficient.'* (1–11)

As is evident from the quotation, the consent letter is rather laconic and shifts the responsibility to the parent by simply adding a web link. Albeit legally sufficient, such information provision does not take into consideration the questions from the recipient of the message (aka the parent), and since there is no easy situational feedback, parents may even decide to refuse vaccination rather than start an individual information search. Other sources of information, including printed materials from the doctor's office, may raise more questions than provide relevant answers:

*'I have received information /.../ in doctors' waiting room by reading brochures. /.../ there is so much information, and it is hard to distinguish evidence-based information from false (information).'* (6–12)

These quotations reveal a set of problems in the area of health communication in general. As the quotation indicates, the patient has to reach out to the clinic in order to get information. Of course, many participants also outlined the possibility of the Internet by stating that *'Doctor Google gives tasteful solutions for everyone'* (8–11) and that *'information is freely available /.../ finding cervical cancer related information should not be a problem in this*

*information age'* (M7). While information is freely available on the Internet, the participants acknowledged that the ability to make informed decisions based on individually searched information can be challenging, as stated in the excerpt, *'processing and understanding whether the information is correct or not is in itself challenging'*. The situation might get even more challenging for parents or society at large under the circumstances where there is a difference in opinion on the necessity and value of the vaccination among healthcare professionals. One of the parents referred to the discussion with her gynaecologist recommending *'to wait to have the vaccination until the start of menstruation'* (3–12), which is not a recommendation according to the local HPV vaccination management guidelines (Estonian Gynaecologists' Society; Estonian Health Board 2018). When these blurred discussions are accompanied by the attitude of not to *'question specialists' opinions'* (9–13), it can easily happen that the decision will be taken based on a personal discussion and not on the other information materials in the clinic's waiting room. The fact that decisions on vaccination may result from the healthcare professional's misconceptions were also observed in the previous sub-section. Thus, in terms of communication, it is crucial to ensure that healthcare professionals have the correct knowledge, which can convert the communicative messages directed at supporting parents' decision-making into the desired preventive health action.

One of the ways to empower and support people in their decision-making is conducting parental discussion meetings with specialists who can address the relevant concerns:

*'I think taking part in these kinds of (parents') group meetings is essential.'* (1–11)

Also, healthcare professionals felt that discussion meetings and information exchange in the school environment could support awareness raising:

*'I think a specialist could come to the school to talk to parents /.../ who could answer their questions, address the concerns.'* (M6)

As these quotations reiterate (albeit from another angle), despite abundant information that is freely available, people might need in-person meetings because they make a stronger impact on the final decision-making. It is also possible that the need for discussion meetings stems from the overall organization of HPV vaccination, which is conducted in schools rather than by primary healthcare providers, outlining potential problems in processing individual information in terms of understanding and making the desired decision based on that.

In order to provide comprehensive support, it was also suggested that midwives and school nurses should cooperate in such a way that *'a school nurse contacts me, I can educate and counsel and then I can refer them (girls) back to the school nurse.'* (M1)

Underutilized potential of digital solutions was also outlined as an opportunity to improve the communication and make it easily accessible to both target group girls and their parents:

*‘Digital channels seem a suitable choice for handing out information; consent forms should also be signed digitally /.../ it can send information or reminders automatically.’* (9–13)

As the quotation indicates, digital solutions can perform a variety of functions to support the communication, therefore, implementation of any existing tools should be considered.

### Vaccination counselling

The procedure of counselling on HPV vaccination was elaborately discussed with healthcare professionals, who considered their knowledge on the topic to be generally good; additionally, they reported themselves as competent in counselling both girls and parents:

*‘As much knowledge as is needed for my work, I am also able to explain to the child as well as counsel the parent.’* (SN9)

Similarly, school nurses also felt that they had sufficient knowledge to counsel on and support HPV vaccination. Healthcare professionals who were not among the frequent counselling contacts felt slightly more insecure due to self-evaluated insufficient knowledge. The main difference was therefore related to the initiative for counselling; while school nurses often have to take the initiative as part of their job, midwives and GP nurses admitted that the initiative for counselling on HPV vaccination mostly comes from parents:

*‘Our contacts are not so frequent (for HPV vaccination) and it (counselling) depends on the specific questions a person might have. Or maybe when we recommend having this vaccination as a preventive measure. But rather it comes from their initiative.’* (M7)

Apart from merely information provision, counselling skills were also highlighted as a relevant area for improvement:

*‘I am interested in how to influence a person, how to be able to explain the need and to guide them and not to pressurize /.../ so the skills of how to explain what I know.’* (SN10)

The quotation raises an interesting medico-sociological dilemma discussed earlier as well – how to structurally empower and support individual responsibility with expert knowledge. In other words, how to make people take the ‘right’ and desired actions as individual informed decisions and avoid these decisions as ‘hierarchical requirement’ to be obeyed? This task is challenging because it may also be related to the need for personalized approach. However, balancing between structural and agen-

tial aspects of vaccination related counselling might lead to better outcomes in the counselling process.

The latter also leads to ‘digression’ aspects of the content of the counselling process. While general aspects in the content of counselling are relatively easy to manage, the challenges related to explaining and disproving myths still remain:

*‘Regarding the myths /.../ how to reply nicely and counsel on this aspect and explain that vaccines are safe and so on.’* (M1)

The quotation reveals an interesting observation that in controversial topics it is necessary to adjust the counselling style, for example, remaining polite and/or correct.

### Structural problems

As seen in the previous sub-sections, there are several structural problems that may hinder parents’ positive decision to vaccinate their daughters. One of the issues discussed with healthcare professionals was related to the girl’s individual decision about her health. One of the scenarios is that the girl would like to get vaccinated, but the parents may not agree; in this case, the parent’s decision is likely to prevail. Although the majority of participating healthcare professionals considered that girls of a certain age group are competent to decide on their own, another thought was that possibly girls in the target group for HPV vaccination are too young and it is better that the parents decide on their behalf:

*‘In case we talk about 16-year-old girls, it would be different, then I would say yes (to the girl’s right to decide). A 12-year-old probably does not realize it all (what vaccination fully means).’* (M7)

Parental responsibility was seen as an advantage, especially when ‘a girl would refuse only because of the fear of injection’ (M4). These opinions indicate that the idea of vaccination is supported, but the need is foreseen to educate both girls as direct beneficiaries and parents as decision-makers.

In addition to routine structural problems, the global COVID-19 pandemic worsened the situation by intensifying the existing problems as well as revealing new gaps in structural support. One of the direct issues related to vaccination was the lack of the general organization of vaccination in the pre-COVID era; this means, if all schools were closed due to a country-wide emergency situation, how to manage vaccination then:

*‘Due to COVID-19, the child has been unable to receive the second dose, and the school does not provide any information about this.’* (11–14)

As the quotation outlines, there was no national strategic crisis plan available during the outbreak of the COVID-19 global pandemic. Although the situation was unpredictable, it highlighted the relevance and necessity

for such crisis plans to ensure smooth service provision. Another aspect to note here is related to the discussion regarding individual responsibility (or agency). In a situation of systemic failure, it is impossible for an individual to ignore or overcome structural constraints and fulfil the expectation and act responsibly by taking the expected preventive measures. Therefore, in order to support the agency and make ‘individual responsibility’ work, structural factors must function; furthermore, limitations or restrictions derived from the structure and its organization must be prevented or eliminated. Additionally, the excerpt outlines the shortcoming in organizing vaccination in the school environment in terms of communication; the participant held the school responsible for the lack of communication, although regular schoolwork and healthcare service provision (even within the school environment) are independent processes. This means that schools and their management are not responsible for the actual organization of vaccination and related communication or other healthcare activities. However, the current gap demands a potential solution to improve the overall perceptions and outcomes of HPV vaccination and its awareness.

During the more active period of the COVID-19 outbreak and the limited availability of information, people developed an increased hesitance about health-related matters in general due to the instability and uncertainty of the situation, and demanded more truthful information, as is evident by the quotation below:

*‘In relation to getting infected with COVID-19, people are more suspicious, really suspicious. When you see and can talk to them, then it is better. It is our responsibility to give them evidence-based information, explain and answer all questions, e.g. about complications, side effects...’* (SN10)

As the participant outlines, COVID-19 created a situation of distrust towards health messages, which contained rapidly changing and controversial information, and therefore any potentially negative nuance of a health matter should be avoided. In addition to the human-human interaction, which was highlighted in the excerpt, information materials (as one of the important sources of information for parents) could be of help. However, in this regard it was stated that *‘the situation with health-related information materials is poor’* (GPN2), indicating a lack of structural support.

## DISCUSSION

The findings outlined four important topics that indicate the potential areas of concern that may hinder the success of HPV vaccination and areas for improvements on structural and agential levels. As the inductive analysis outlined, there are several structural barriers that do not depend on the agency of an individual, either as a parent or

a service provider. Therefore, public health institutions have to ensure smooth service provision also in times of crises. Additionally, educational aspects that should support nurses and midwives in counselling or vaccination related communication should be revised to ensure the type of communication and information flow that would support favourable decisions about HPV vaccination and avoid misperceptions by service providers.

As the findings suggest, when talking about health-related topics with someone who is not a direct and close member of one’s community, cultural peculiarities play a role. This has been noted in previous research on chronically ill people (Lupton 2012; Lubi et al. 2013), indicating the need to consider cultural and social factors of health and illness besides biomedical aspects when redesigning health messages.

Another aspect outlined by the findings was the issue of health communication, which needs to be addressed in terms of the neoliberal expectation of active participation and individual responsibility of people. Taking a health-related decision often requires expert knowledge and there might be a lack of knowledge to process the received information in a way that can ensure the expected outcomes, as was seen in previous examples. Therefore, it has been stated that the individual decisions are not actually individual but are shaped down by the structure (Cockerham 2013) such as a group of experts, who regardless of their multiculturalism and diversity still remain elite teams (Dutta 2015). Thus, more than the expectations of individuals, the structural aspects of HPV vaccination related communication might need to be considered, especially when the information available on the topic is enormous and sometimes controversial.

The availability of controversial information raised an important discussion about alternative conceptions. Research on the use of complementary and alternative medicine has shown that ignoring or disparaging scientifically incompetent questions does not influence people to quit this practice but encourages them to simply hide it from healthcare professionals (Lupton 2012; Lubi et al. 2016). Evidence from previous research shows that healthcare professionals are important people to support or hinder HPV vaccination related decision-making (Johnson-Mallard et al. 2019). Therefore, in the case of myths, the notion of better counselling might be relevant to support the desired decision-making. On the other hand, as the findings underlined, there is a need to handle the issue delicately, yet with the expected outcome. These perceptions refer to the real challenges of the counselling process, which might need to be properly trained during nursing and midwifery studies in different simulation or internship settings.

Despite the pressure of individual responsibility, the findings outlined that structural readiness to continue pre-

ventive activities in the context of a sudden health crisis was rather low. Namely, this situation underlines the actual role and necessity of both the structure and the individual to take responsibility for health issues (Cockerham 2013; Vihalemm et al. 2015) – although individuals would have been ready to act, structural constraints (e.g. country-wide lockdown) influenced the situation without the individual's ability to change it. Thus, in order to improve the structural support, different factors contributing to raising awareness, making health-related preventive decisions and taking action should be in place and functioning. Previous research has also suggested the importance of awareness raising and the role of public campaigns in this regard (Waller et al. 2020). Otherwise, it will not be realistic to expect individual responsibility for making the desired decision and for improved health and/or prevention outcomes.

Some limitations of the research should be outlined. Firstly, although sufficient for the qualitative research to achieve data saturation, the number of participants was relatively low to extrapolate the outcomes to the total population of nurses and midwives or parents of girls in the target group. Secondly, there were several interviewers and since interviewing is a subjective skill that may depend on individual characteristics of the interviewer, this might have influenced the final results. Thirdly, the sample was not representative with regard to geographical locations. However, there were participants from different parts of Estonia, involving respondents from both mainly Estonian-speaking and mainly Russian-speaking areas. Fourthly, although the implementation of convenience sampling ensured the participation of more active, educated and technologically advanced people, they too perceived gaps and challenges in finding, processing and understanding the provided information. This means that the situation could be even worse for the people who are passive, less educated and have weaker technological skills, or live in rural areas or smaller towns of Estonia. Despite all these limitations, the authors still believe that this research provides valuable insights into the area of prevention and helps to understand and address potential barriers that might hinder the success of prevention in terms of health communication and actual decision-making based on the communication process.

## CONCLUSIONS

HPV vaccination represents a wicked problem with multiple dimensions in terms of vaccination organization and communication, as well as the involvement of several stakeholders who could be strongly influenced by their socio-demographic, educational and professional background. The findings outline several structural problems

in supporting the target group of girls aged 12–14 years and their parents in making HPV vaccination related decisions, and thereby hindering the strategic healthcare goal of developing and implementing the person-centred approach. One of the biggest problems is related to vaccination organization in school settings, which may restrict access to the service, particularly at times of unexpected events. Therefore, a proper crisis plan is needed to ensure smooth service provision during a public health crisis. The second critical area for improvement is continuous awareness of HPV, related vaccination and training to improve counselling skills of school nurses and midwives, as they play a crucial role in supporting girls and their parents in the final decision-making. Thirdly, there is a need for trustworthy yet target group specific innovative sources of information and communication, which could support the learning process about cervical cancer and its prevention, at the same time allowing flexible and individually suitable ways of learning and informed decision-making. Therefore, future research on this topic should focus on developing and testing new approaches, which have a practical implementation value.

## ACKNOWLEDGEMENTS

The authors are grateful to all the participants for their willingness to participate in the research during the demanding and challenging times of the COVID-19 pandemic. The publication costs of this article were partially covered by the Estonian Academy of Sciences.

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## **Inimkeskse tervishoiu rakendamine struktuursete piirangute kontekstis HVP-vaktsineerimise näitel**

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Inimkesksust peetakse üheks tervisekorralduse eesmärgiks, mis seab inimesed tervishoiuteenuste korralduses keskssele kohale. Samas eeldab ja rõhutab inimkesksuse rakendamine individuaalse vastutuse olulisust vähese struktuurse toetuse pakkumisega. See on viinud emakakaelavähi ennetuse kontekstis olukorrani, kus 12–14-aastaste tüdrukute HPV-vaktsineeritus on alla soovitusliku 70% vaatamata sellele, et vaktsineerimine on emakakaelavähi kõige tõhusam ennetamise viis, mis on sihtrühma tüdrukutele ka tasuta kättesaadav. Globaalne COVID-19 pandeemia on üleriigiliste piirangute tõttu esile toonud uusi väljakutseid tervishoiuteenustele, sh erinevate ennetustegevuste jätkusuutlikul osutamisel.

Selle uuringu eesmärk on analüüsida nii pandeemiaga seotud kui neist sõltumatu struktuursete piiranguid, mida sihtrühma kuuluvate tütarlaste vanemad ja teenust osutavad tervishoiutöötajad on kogunud seoses HPV vaktsineerimisega. Andmete kogumiseks kasutati kaht erinevat kvalitatiivset meetodit: süvaintervjuusid 14 tervishoiutöötajaga (õed ja ämmaemandad) ning kolme fookusgrupi intervjuud sihtrühma kuuluvate tütarlaste 13 vanemaga. Andmeid analüüsiti temaatilise tekstianalüüsi meetodil. Uuring on kooskõlastatud eetikakomitees.

Tulemused osutavad, et vanematele on peamiseks väljakutseks vaktsineerimisotsuse jaoks vajaliku asjakohase informatsiooni leidmine. Tervishoiutöötajate mure on erinevate sobivate nõustamisviiside valimine tüdrukute ja nende vanemate toetamiseks. Tulemused toovad esile riikliku strateegilise kriisiplaani vajaduse, mis tagaks jätkusuutliku ennetustegevuste pakkumise sõltumata välistest tingimustest. Samuti vajavad arendamist nõustamisoskused ja sihtrühmale sobivad ning riigi- ja kultuurispetsiifiliseks kohandatud innovaatilised kommunikatsiooni- ja tervisehariduse alased lahendused, et pakkuda inimkeskset tervishoiuteenust emakakaelavähi ennetuseks.